



National Toxicology Program

U.S. Department of Health and Human Services

SUPPLEMENTARY MATERIAL: REFERENCE LISTS

**IDENTIFYING RESEARCH NEEDS FOR ASSESSING
SAFE USE OF HIGH INTAKES OF FOLIC ACID**

April 2, 2015

Office of Health Assessment and Translation

Division of the National Toxicology Program

National Institute of Environmental Health Sciences

National Institutes of Health

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

TABLE OF CONTENTS

Table of Contents.....	ii
1.0 High Priority Health Effect Categories	1
1.1 Cancer.....	1
1.1.1 Cancer, Pooled or Meta-analyses (n=50).....	1
1.1.2 General Cancer (n=20), unspecified type or location	4
1.1.3 Bladder Cancer (n=21)	6
1.1.4 Brain Cancer (n=19), including medulloblastoma, glioma, neuroblastoma.....	7
1.1.5 Breast Cancer (n=100)	8
1.1.6 Cervical Cancer (n=46), including dysplasia and cytological abnormalities	14
1.1.7 Colorectal Cancer (n=203), including aberrant crypt foci and polyps	17
1.1.8 Esophageal Cancer (n=32), including Barrett's esophagus.....	29
1.1.9 Gastric or Stomach Cancer (n=34)	31
1.1.10 Head and Neck Cancer (n=29), including oral, laryngeal, pharyngeal.....	33
1.1.11 Kidney Cancer (n=12), including Wilm's tumor	35
1.1.12 Leukemia or lymphoma (n=36).....	36
1.1.13 Lung Cancer (n=37)	38
1.1.14 Ovarian, Uterine, or Endometrial Cancer (n=28).....	40
1.1.15 Pancreatic Cancer (n=15).....	42
1.1.16 Prostate Cancer (n=31), including PSA assay.....	43
1.1.17 Other Cancer (n=44), includes liver, skin, thyroid, and cancer-related endpoints	45
1.1.18 Cancer, Non-human Animal Studies (n=95)	48
1.1.19 Cancer, In Vitro Studies (n=62)	54
1.2 Cognition and Vitamin B ₁₂	58
1.2.1 Cognition, Meta-analyses (n=2).....	58
1.2.2 Cognition and Vitamin B ₁₂ , Human Studies (n=48).....	58
1.2.3 Cognition, Non-human Animal Studies (n=8)	61
1.2.4 Cognition, In Vitro Studies (n=7).....	62
1.3 Hypersensitivity-related Outcomes.....	63
1.3.1 Asthma in Children, Meta-analysis (n=1).....	63
1.3.2 Hypersensitivity-related Outcomes – Human Studies (n=43)	63
1.3.3 Immunological Endpoints, Non-human Animal Studies (n=29)	65
1.3.4 Immunological Endpoints, In Vitro Studies (n=12)	67
1.4 Thyroid and Diabetes-related Disorders	69

1.4.1	Thyroid Disorders, Human Studies (n=12).....	69
1.4.2	Glycemic Control in Type 2 Diabetics, Meta-analysis (n=1)	69
1.4.3	Diabetes-related Disorders, Human Studies (n=100)	70
1.4.4	Thyroid and Diabetes-related Endpoints, Non-human Animal Studies (n=76).....	76
1.4.5	Thyroid and Diabetes-related Endpoints, In Vitro Studies (n=4).....	80
2.0	Other Health Effect Categories	81
2.1	Cardiovascular Outcomes – Human Studies (n=486).....	81
2.2	Twinning and Multiple Births – Human Studies (n=18)	110
2.3	Autism – Human Studies (n=11).....	111
2.4	Other Neurological Outcomes – Human Studies (n=481).....	112
2.5	Other Immunological Outcomes – Human Studies (n=103)	140
2.6	Other Endocrine and Metabolic Disease Outcomes – Human Studies (n=95).....	146
2.7	Other Reproductive Outcomes – Human Studies (n=272).....	152
2.8	Mortality – Human Studies (n=104)	167
2.9	Other Pooled or Meta-analyses (n=65).....	174

1.0 HIGH PRIORITY HEALTH EFFECT CATEGORIES

All studies captured and included in the literature search (see Figure 3 of the Monograph) are listed by health effect categories. References indicated by * were selected for data extraction and are included in web-based tool Health Assessment Workspace Collaborative (HAWC, hawcproject.org). Studies indicate by ^x did not contain relevant data.

1.1 Cancer

1.1.1 Cancer, Pooled or Meta-analyses (n=50)

* - In HAWC (n=43); ^x - Not Data Extracted (n=7)

- * Bao Y, Michaud DS, Spiegelman D, Albanes D, Anderson KE, Bernstein L, van den Brandt PA, English DR, Freudenheim JL, Fuchs CS, Giles GG, Giovannucci E, Goldbohm RA, Hakansson N, Horn-Ross PL, Jacobs EJ, Kitahara CM, Marshall JR, Miller AB, Robien K, Rohan TE, Schatzkin A, Stevens VL, Stolzenberg-Solomon RZ, Virtamo J, Wolk A, Ziegler RG, Smith-Warner SA. 2011. Folate intake and risk of pancreatic cancer: pooled analysis of prospective cohort studies. *J Natl Cancer Inst* 103(24): 1840-1850.
- * Carroll C, Cooper K, Papaioannou D, Hind D, Tappenden P, Pilgrim H, Booth A. 2010. Meta-analysis: folic acid in the chemoprevention of colorectal adenomas and colorectal cancer. *Aliment Pharmacol Ther* 31(7): 708-718.
- * Chan AL, Leung HW, Wang SF. 2011. Multivitamin supplement use and risk of breast cancer: a meta-analysis. *Ann Pharmacother* 45(4): 476-484.
- * Chen P, Li C, Li X, Li J, Chu R, Wang H. 2014. Higher dietary folate intake reduces the breast cancer risk: a systematic review and meta-analysis. *Br J Cancer* 110(9): 2327-2338.
- * Cho E, Hunter DJ, Spiegelman D, Albanes D, Beeson WL, van den Brandt PA, Colditz GA, Feskanich D, Folsom AR, Fraser GE, Freudenheim JL, Giovannucci E, Goldbohm RA, Graham S, Miller AB, Rohan TE, Sellers TA, Virtamo J, Willett WC, Smith-Warner SA. 2006. Intakes of vitamins A, C and E and folate and multivitamins and lung cancer: a pooled analysis of 8 prospective studies. *Int J Cancer* 118(4): 970-978.
- * Chuang SC, Rota M, Gunter MJ, Zeleniuch-Jacquotte A, Eussen SJ, Vollset SE, Ueland PM, Norat T, Ziegler RG, Vineis P. 2013. Quantifying the dose-response relationship between circulating folate concentrations and colorectal cancer in cohort studies: a meta-analysis based on a flexible meta-regression model. *Am J Epidemiol* 178(7): 1028-1037.
- * Clarke R, Halsey J, Lewington S, Lonn E, Armitage J, Manson JE, Bona KH, Spence JD, Nygard O, Jamison R, Gaziano JM, Guarino P, Bennett D, Mir F, Peto R, Collins R. 2010. Effects of lowering homocysteine levels with B vitamins on cardiovascular disease, cancer, and cause-specific mortality: Meta-analysis of 8 randomized trials involving 37 485 individuals. *Arch Intern Med* 170(18): 1622-1631.
- * Clarke R, Halsey J, Bennett D, Lewington S. 2011. Homocysteine and vascular disease: review of published results of the homocysteine-lowering trials. *J Inherit Metab Dis* 34(1): 83-91.
- * Collin SM, Metcalfe C, Refsum H, Lewis SJ, Zuccolo L, Smith GD, Chen L, Harris R, Davis M, Marsden G, Johnston C, Lane JA, Ebbing M, Bona KH, Nygard O, Ueland PM, Grau MV, Baron JA, Donovan JL, Neal DE, Hamdy FC, Smith AD, Martin RM. 2010. Circulating folate, vitamin B12, homocysteine, vitamin B12 transport proteins, and risk of prostate cancer: a case-control study, systematic review, and meta-analysis. *Cancer Epidemiol Biomarkers Prev* 19(6): 1632-1642.
- * Cooper K, Squires H, Carroll C, Papaioannou D, Booth A, Logan RF, Maguire C, Hind D, Tappenden P. 2010. Chemoprevention of colorectal cancer: systematic review and economic evaluation. *Health Technol Assess* 14(32): 1-206.

- ^x Crane TE, Khulpateea BR, Alberts DS, Basen-Engquist K, Thomson CA. 2014. Dietary intake and ovarian cancer risk: a systematic review. *Cancer Epidemiol Biomarkers Prev* 23(2): 255-273.
- * Dai WM, Yang B, Chu XY, Wang YQ, Zhao M, Chen L, Zhang GQ. 2013. Association between folate intake, serum folate levels and the risk of lung cancer: a systematic review and meta-analysis. *Chinese Medical Journal* 126(10): 1957-1964.
- ^x Deng SX, Hong SY, An W, Gao J, Cai QC. 2010. Folic acid supplementation in prevention of colorectal adenoma recurrence: A meta-analysis. *Academic Journal of Second Military Medical University* 31(9): 984-989.
- * Fife J, Raniga S, Hider PN, Frizelle FA. 2011. Folic acid supplementation and colorectal cancer risk: a meta-analysis. *Colorectal Dis* 13(2): 132-137.
- * Figueiredo JC, Mott LA, Giovannucci E, Wu K, Cole B, Grainge MJ, Logan RF, Baron JA. 2011. Folic acid and prevention of colorectal adenomas: a combined analysis of randomized clinical trials. *Int J Cancer* 129(1): 192-203.
- ^x Fortmann SP, Burda BU, Senger CA, Lin JS, Beil TL, O'Connor E, Whitlock EP. 2013. U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews. In: *Vitamin, Mineral, and Multivitamin Supplements for the Primary Prevention of Cardiovascular Disease and Cancer: A Systematic Evidence Review for the U.S. Preventive Services Task Force*. Rockville (MD): Agency for Healthcare Research and Quality (US). Available: <http://www.ncbi.nlm.nih.gov/24308073>.
- * Galeone C, Edefonti V, Parpinel M, Leoncini E, Matsuo K, Talamini R, Olshan AF, Zevallos JP, Winn DM, Jayaprakash V, Moysich K, Zhang ZF, Morgenstern H, Levi F, Bosetti C, Kelsey K, McClean M, Schantz S, Yu GP, Boffetta P, Lee YC, Hashibe M, La Vecchia C, Boccia S. 2015. Folate intake and the risk of oral cavity and pharyngeal cancer: a pooled analysis within the International Head and Neck Cancer Epidemiology Consortium. *Int J Cancer* 136(4): 904-914.
- * Goh YI, Bollano E, Einarson TR, Koren G. 2007. Prenatal multivitamin supplementation and rates of pediatric cancers: a meta-analysis. *Clin Pharmacol Ther* 81(5): 685-691.
- * He H, Shui B. 2014. Folate intake and risk of bladder cancer: a meta-analysis of epidemiological studies. *Int J Food Sci Nutr* 65(3): 286-292.
- * Heine-Broring RC, Winkels RM, Renkema JM, Kragt L, van Orten-Luiten AC, Tigchelaar EF, Chan DS, Norat T, Kampman E. 2015. Dietary supplement use and colorectal cancer risk: A systematic review and meta-analyses of prospective cohort studies. *Int J Cancer* 136(10): 2388-2401.
- * Hutter CM, Chang-Claude J, Slattery ML, Pflugeisen BM, Lin Y, Duggan D, Nan H, Lemire M, Rangrej J, Figueiredo JC, Jiao S, Harrison TA, Liu Y, Chen LS, Stelling DL, Warnick GS, Hoffmeister M, Kury S, Fuchs CS, Giovannucci E, Hazra A, Kraft P, Hunter DJ, Gallinger S, Zanke BW, Brenner H, Frank B, Ma J, Ulrich CM, White E, Newcomb PA, Kooperberg C, LaCroix AZ, Prentice RL, Jackson RD, Schoen RE, Chanock SJ, Berndt SI, Hayes RB, Caan BJ, Potter JD, Hsu L, Bezieau S, Chan AT, Hudson TJ, Peters U. 2012. Characterization of gene-environment interactions for colorectal cancer susceptibility loci. *Cancer Res* 72(8): 2036-2044.
- * Ibrahim EM, Zekri JM. 2010. Folic acid supplementation for the prevention of recurrence of colorectal adenomas: metaanalysis of interventional trials. *Med Oncol* 27(3): 915-918.
- * Kantor ED, Hutter CM, Minnier J, Berndt SI, Brenner H, Caan BJ, Campbell PT, Carlson CS, Casey G, Chan AT, Chang-Claude J, Chanock SJ, Cotterchio M, Du M, Duggan D, Fuchs CS, Giovannucci EL, Gong J, Harrison TA, Hayes RB, Henderson BE, Hoffmeister M, Hopper JL, Jenkins MA, Jiao S, Kolonel LN, Le Marchand L, Lemire M, Ma J, Newcomb PA, Ochs-Balcom HM, Pflugeisen BM, Potter JD, Rudolph A, Schoen RE, Seminara D, Slattery ML, Stelling DL, Thomas F, Thornquist M, Ulrich CM, Warnick GS, Zanke BW, Peters U, Hsu L, White E. 2014. Gene-environment interaction involving recently identified colorectal cancer susceptibility Loci. *Cancer Epidemiol Biomarkers Prev* 23(9): 1824-1833.
- * Kennedy DA, Stern SJ, Moretti M, Matok I, Sarkar M, Nickel C, Koren G. 2011. Folate intake and the risk of colorectal cancer: a systematic review and meta-analysis. *Cancer Epidemiol* 35(1): 2-10.

- ^x Kennedy DA, Stern SJ, Matok I, Moretti ME, Sarkar M, Adams-Webber T, Koren G. 2012. Folate Intake, MTHFR Polymorphisms, and the Risk of Colorectal Cancer: A Systematic Review and Meta-Analysis. *Journal of cancer epidemiology* 2012: 952508.
- * Kim DH, Smith-Warner SA, Spiegelman D, Yaun SS, Colditz GA, Freudenheim JL, Giovannucci E, Goldbohm RA, Graham S, Harnack L, Jacobs EJ, Leitzmann M, Mannisto S, Miller AB, Potter JD, Rohan TE, Schatzkin A, Speizer FE, Stevens VL, Stolzenberg-Solomon R, Terry P, Toniolo P, Weijenberg MP, Willett WC, Wolk A, Zeleniuch-Jacquotte A, Hunter DJ. 2010. Pooled analyses of 13 prospective cohort studies on folate intake and colon cancer. *Cancer Causes Control* 21(11): 1919-1930.
- * Larsson SC, Giovannucci E, Wolk A. 2006. Folate intake, MTHFR polymorphisms, and risk of esophageal, gastric, and pancreatic cancer: a meta-analysis. *Gastroenterology* 131(4): 1271-1283.
- * Larsson SC, Giovannucci E, Wolk A. 2007. Folate and risk of breast cancer: A meta-analysis. *Journal of the National Cancer Institute* 99(1): 64-76.
- * Lewis SJ, Harbord RM, Harris R, Smith GD. 2006. Meta-analyses of observational and genetic association studies of folate intakes or levels and breast cancer risk. *J Natl Cancer Inst* 98(22): 1607-1622.
- * Li C, Chen P, Hu P, Li M, Li X, Guo H, Li J, Chu R, Zhang W, Wang H. 2013. Folate intake and MTHFR polymorphism C677T is not associated with ovarian cancer risk: evidence from the meta-analysis. *Mol Biol Rep* 40(12): 6547-6560.
- * Lin HL, An QZ, Wang QZ, Liu CX. 2013. Folate intake and pancreatic cancer risk: an overall and dose-response meta-analysis. *Public Health* 127(7): 607-613.
- * Liu M, Cui LH, Ma AG, Li N, Piao JM. 2014. Lack of effects of dietary folate intake on risk of breast cancer: an updated meta-analysis of prospective studies. *Asian Pac J Cancer Prev* 15(5): 2323-2328.
- * Liu YX, Wang B, Wan MH, Tang WF, Huang FK, Li C. 2011. Meta-analysis of the Relationship between the Methylenetetrahydrofolate Reductase C677T Genetic Polymorphism, Folate Intake and Esophageal Cancer. *Asian Pac J Cancer Prev* 12(1): 247-252.
- * Marti-Carvajal AJ, Sola I, Lathyris D, Karakitsiou DE, Simancas-Racines D. 2013. Homocysteine-lowering interventions for preventing cardiovascular events. *Cochrane Database of Systematic Reviews* 1(1): CD006612.
- * Metayer C, Milne E, Dockerty JD, Clavel J, Pombo-de-Oliveira MS, Wesseling C, Spector LG, Schuz J, Petridou E, Ezzat S, Armstrong BK, Rudant J, Koifman S, Kaatsch P, Moschovi M, Rashed WM, Selvin S, McCauley K, Hung RJ, Kang AY, Infante-Rivard C. 2014. Maternal supplementation with folic acid and other vitamins and risk of leukemia in offspring: a childhood leukemia international consortium study. *Epidemiology* 25(6): 811-822.
- * Milne E, Royle JA, Miller M, Bower C, de Klerk NH, Bailey HD, van Bockxmeer F, Attia J, Scott RJ, Norris MD, Haber M, Thompson JR, Fritschi L, Marshall GM, Armstrong BK. 2010. Maternal folate and other vitamin supplementation during pregnancy and risk of acute lymphoblastic leukemia in the offspring. *Int J Cancer* 126(11): 2690-2699.
- * Myung SK, Ju W, Kim SC, Kim H, Korean Meta-analysis Study G. 2011. Vitamin or antioxidant intake (or serum level) and risk of cervical neoplasm: a meta-analysis. *BJOG* 118(11): 1285-1291.
- * Qin X, Cui Y, Shen L, Sun N, Zhang Y, Li J, Xu X, Wang B, Xu X, Huo Y, Wang X. 2013. Folic acid supplementation and cancer risk: A meta-analysis of randomized controlled trials. *Int J Cancer* 133(5): 1033-1041.
- * Sanjoaquin MA, Allen N, Couto E, Roddam AW, Key TJ. 2005. Folate intake and colorectal cancer risk: a meta-analytical approach. *Int J Cancer* 113(5): 825-828.
- ^x Sun D, Wang X, Fang J. 2006. Relevance of genetic polymorphism of methylene tetrahydrofolate reductase and susceptibility of colonic cancer: A meta-analysis. *Chinese Journal of Gastroenterology* 11(9): 516-521.

- * Tio M, Andrici J, Cox MR, Eslick GD. 2014a. Folate intake and the risk of upper gastrointestinal cancers: a systematic review and meta-analysis. *J Gastroenterol Hepatol* 29(2): 250-258.
- * Tio M, Andrici J, Cox MR, Eslick GD. 2014b. Folate intake and the risk of prostate cancer: a systematic review and meta-analysis. *Prostate cancer and prostatic diseases* 17(3): 213-219.
- * Tio M, Andrici J, Eslick GD. 2014c. Folate intake and the risk of breast cancer: a systematic review and meta-analysis. *Breast Cancer Res Treat* 145(2): 513-524.
- * Vollset SE, Clarke R, Lewington S, Ebbing M, Halsey J, Lonn E, Armitage J, Manson JE, Hankey GJ, Spence JD, Galan P, Bonaa KH, Jamison R, Gaziano JM, Guarino P, Baron JA, Logan RF, Giovannucci EL, den Heijer M, Ueland PM, Bennett D, Collins R, Peto R, Collaboration BVTT. 2013. Effects of folic acid supplementation on overall and site-specific cancer incidence during the randomised trials: meta-analyses of data on 50,000 individuals. *Lancet* 381(9871): 1029-1036.
- ^x Wen YY, Yang SJ, Zhang JX, Chen XY. 2013. Methylenetetrahydrofolate Reductase Genetic Polymorphisms and Esophageal Squamous Cell Carcinoma Susceptibility: A Meta-analysis of Case-control Studies. *Asian Pac J Cancer Prev* 14(1): 21-25.
- * Wien TN, Pike E, Wisloff T, Staff A, Smeland S, Klemp M. 2012. Cancer risk with folic acid supplements: a systematic review and meta-analysis. *BMJ open* 2(1): e000653.
- ^x Yang M, Deng SX, Fu XX, Zhang HG, Zhu W, Cai QC. 2011. Folate intake and risk of pancreatic cancer: A meta-analysis. *Academic Journal of Second Military Medical University* 32(5): 510-516.
- * Zhang YF, Shi WW, Gao HF, Zhou L, Hou AJ, Zhou YH. 2014a. Folate intake and the risk of breast cancer: a dose-response meta-analysis of prospective studies. *PLoS One* 9(6): e100044.
- * Zhang YF, Zhou L, Zhang HW, Hou AJ, Gao HF, Zhou YH. 2014b. Association between folate intake and the risk of lung cancer: a dose-response meta-analysis of prospective studies. *PLoS One* 9(4): e93465.
- * Zhou YH, Tang JY, Wu MJ, Lu J, Wei X, Qin YY, Wang C, Xu JF, He J. 2011. Effect of folic acid supplementation on cardiovascular outcomes: a systematic review and meta-analysis. *PLoS One* 6(9): e25142.

Cancer, Human Studies (n=604)

All subtypes with more than 10 references are listed separately. A single reference might be listed under multiple categories if it included results on multiple subtypes, so the subtype n's will not add up to the overall n.

1.1.2 General Cancer (n=20), unspecified type or location

- Andreeva VA, Touvier M, Kesse-Guyot E, Julia C, Galan P, Hercberg S. 2012. B vitamin and/or (omega)-3 fatty acid supplementation and cancer: Ancillary findings from the supplementation with folate, vitamins B6 and B12, and/or omega-3 fatty acids (SU.FOL.OM3) randomized trial. *Archives of Internal Medicine* 172(7): 540-547.
- Bonaa KH, Njolstad I, Ueland PM, Schirmer H, Tverdal A, Steigen T, Wang H, Nordrehaug JE, Arnesen E, Rasmussen K, Investigators NT. 2006. Homocysteine lowering and cardiovascular events after acute myocardial infarction. *New England Journal of Medicine* 354(15): 1578-1588.
- Cole BF, Baron JA, Sandler RS, Haile RW, Ahnen DJ, Bresalier RS, McKeown-Eyssen G, Summers RW, Rothstein RI, Burke CA, Snover DC, Church TR, Allen JI, Robertson DJ, Beck GJ, Bond JH, Byers T, Mandel JS, Mott LA, Pearson LH, Barry EL, Rees JR, Marcon N, Saibil F, Ueland PM, Greenberg ER, Polyp Prevention Study G. 2007. Folic acid for the prevention of colorectal adenomas: a randomized clinical trial. *JAMA* 297(21): 2351-2359.

- Ebbing M, Bleie O, Ueland PM, Nordrehaug JE, Nilsen DW, Vollset SE, Refsum H, Pedersen EK, Nygard O. 2008. Mortality and cardiovascular events in patients treated with homocysteine-lowering B vitamins after coronary angiography: a randomized controlled trial. *JAMA* 300(7): 795-804.
- Ebbing M, Bona KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Galan P, Kesse-Guyot E, Czernichow S, Briancon S, Blacher J, Hercberg S. 2010. Effects of B vitamins and omega 3 fatty acids on cardiovascular diseases: a randomised placebo controlled trial. *BMJ* 341: c6273.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Heijmans BT, Boer JM, Suchiman HE, Cornelisse CJ, Westendorp RG, Kromhout D, Feskens EJ, Slagboom PE. 2003. A common variant of the methylenetetrahydrofolate reductase gene (1p36) is associated with an increased risk of cancer. *Cancer Res* 63(6): 1249-1253.
- Hodis HN, Mack WJ, Dustin L, Mahrer PR, Azen SP, Detrano R, Selhub J, Alaupovic P, Liu CR, Liu CH, Hwang J, Wilcox AG, Selzer RH. 2009. High-dose B vitamin supplementation and progression of subclinical atherosclerosis: a randomized controlled trial. *Stroke* 40(3): 730-736.
- Jiang R, Hu FB, Giovannucci EL, Rimm EB, Stampfer MJ, Spiegelman D, Rosner BA, Willett WC. 2003. Joint association of alcohol and folate intake with risk of major chronic disease in women. *Am J Epidemiol* 158(8): 760-771.
- Linabery AM, Johnson KJ, Ross JA. 2012. Childhood cancer incidence trends in association with US folic acid fortification (1986-2008). *Pediatrics* 129(6): 1125-1133.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Rossi E, Hung J, Beilby JP, Knuiman MW, Divitini ML, Bartholomew H. 2006. Folate levels and cancer morbidity and mortality: prospective cohort study from Busselton, Western Australia. *Ann Epidemiol* 16(3): 206-212.
- Selby JV, Friedman GD, Fireman BH. 1989. Screening prescription drugs for possible carcinogenicity: eleven to fifteen years of follow-up. *Cancer Res* 49(20): 5736-5747.
- Spada RS, Stella G, Calabrese S, Bosco P, Anello G, Gueant-Rodriguez RM, Romano A, Benamghar L, Fontaine T, Gueant JL. 2007. Association of vitamin B12, folate and homocysteine with functional and pathological characteristics of the elderly in a mountainous village in Sicily. *Clin Chem Lab Med* 45(2): 136-142.
- Study of the Effectiveness of Additional Reductions in Cholesterol Homocysteine Collaborative, Armitage JM, Bowman L, Clarke RJ, Wallendszus K, Bulbulia R, Rahimi K, Haynes R, Parish S, Sleight P, Peto R, Collins R. 2010. Effects of homocysteine-lowering with folic acid plus vitamin B12 vs placebo on mortality and major morbidity in myocardial infarction survivors: a randomized trial. *JAMA* 303(24): 2486-2494.
- Tebi A, Belbraouet S, Chau N, Debry G. 2000. Plasma vitamin, beta-carotene, and alpha-tocopherol status according to age and disease in hospitalized elderly. *Nutrition Research* 20(10): 1395-1408.
- van Wijngaarden JP, Swart KM, Enneman AW, Dhonukshe-Rutten RA, van Dijk SC, Ham AC, Brouwer-Brolsma EM, van der Zwaluw NL, Sohl E, van Meurs JB, Zillikens MC, van Schoor NM, van der Velde N, Brug J, Uitterlinden AG, Lips P, de Groot LC. 2014. Effect of daily vitamin B-12 and folic acid supplementation on fracture incidence in elderly individuals with an elevated plasma homocysteine concentration: B-PROOF, a randomized controlled trial. *Am J Clin Nutr* 100(6): 1578-1586.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.

Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.3 Bladder Cancer (n=21)

Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.

Brinkman MT, Karagas MR, Zens MS, Schned A, Reulen RC, Zeegers MP. 2010. Minerals and vitamins and the risk of bladder cancer: results from the New Hampshire Study. *Cancer Causes & Control* 21(4): 609-619.

Bruemmer B, White E, Vaughan TL, Cheney CL. 1996. Nutrient intake in relation to bladder cancer among middle-aged men and women. *Am J Epidemiol* 144(5): 485-495.

Garcia-Closas R, Garcia-Closas M, Kogevinas M, Malats N, Silverman D, Serra C, Tardon A, Carrato A, Castano-Vinyals G, Dosemeci M, Moore L, Rothman N, Sinha R. 2007. Food, nutrient and heterocyclic amine intake and the risk of bladder cancer. *Eur J Cancer* 43(11): 1731-1740.

Holick CN, De Vivo I, Feskanich D, Giovannucci E, Stampfer M, Michaud DS. 2005. Intake of fruits and vegetables, carotenoids, folate, and vitamins A, C, E and risk of bladder cancer among women (United States). *Cancer Causes Control* 16(10): 1135-1145.

Hotaling JM, Wright JL, Pocobelli G, Bhatti P, Porter MP, White E. 2011. Long-term use of supplemental vitamins and minerals does not reduce the risk of urothelial cell carcinoma of the bladder in the VITamins And Lifestyle study. *J Urol* 185(4): 1210-1215.

Huang YK, Pu YS, Chung CJ, Shiue HS, Yang MH, Chen CJ, Hsueh YM. 2008. Plasma folate level, urinary arsenic methylation profiles, and urothelial carcinoma susceptibility. *Food and Chemical Toxicology* 46(3): 929-938.

Kinn AC, Lantz B. 1984. Vitamin B12 deficiency after irradiation for bladder carcinoma. *J Urol* 131(5): 888-890.

Lin J, Spitz MR, Wang Y, Schabath MB, Gorlov IP, Hernandez LM, Pillow PC, Grossman HB, Wu X. 2004. Polymorphisms of folate metabolic genes and susceptibility to bladder cancer: a case-control study. *Carcinogenesis* 25(9): 1639-1647.

Michaud DS, Spiegelman D, Clinton SK, Rimm EB, Willett WC, Giovannucci E. 2000. Prospective study of dietary supplements, macronutrients, micronutrients, and risk of bladder cancer in US men. *Am J Epidemiol* 152(12): 1145-1153.

Michaud DS, Pietinen P, Taylor PR, Virtanen M, Virtamo J, Albanes D. 2002. Intakes of fruits and vegetables, carotenoids and vitamins A, E, C in relation to the risk of bladder cancer in the ATBC cohort study. *Br J Cancer* 87(9): 960-965.

Moore LE, Pfeiffer RM, Poscablo C, Real FX, Kogevinas M, Silverman D, Garcia-Closas R, Chanock S, Tardon A, Serra C, Carrato A, Dosemeci M, Garcia-Closas M, Esteller M, Fraga M, Rothman N, Malats N. 2008. Genomic DNA hypomethylation as a biomarker for bladder cancer susceptibility in the Spanish Bladder Cancer Study: a case-control study. *Lancet Oncol* 9(4): 359-366.

Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.

Park SY, Ollberding NJ, Woolcott CG, Wilkens LR, Henderson BE, Kolonel LN. 2013. Fruit and vegetable intakes are associated with lower risk of bladder cancer among women in the Multiethnic Cohort Study. *J Nutr* 143(8): 1283-1292.

- Roswall N, Olsen A, Christensen J, Dragsted LO, Overvad K, Tjønneland A. 2009. Micronutrient intake and risk of urothelial carcinoma in a prospective Danish cohort. *Eur Urol* 56(5): 764-770.
- Safarinejad MR, Shafiei N, Safarinejad S. 2010. Genetic susceptibility of methylenetetrahydrofolate reductase (MTHFR) gene C677T, A1298C, and G1793A polymorphisms with risk for bladder transitional cell carcinoma in men. *Med Oncol*.
- Schabath MB, Spitz MR, Lerner SP, Pillow PC, Hernandez LM, Delclos GL, Grossman HB, Wu X. 2005. Case-control analysis of dietary folate and risk of bladder cancer. *Nutr Cancer* 53(2): 144-151.
- Selby JV, Friedman GD, Fireman BH. 1989. Screening prescription drugs for possible carcinogenicity: eleven to fifteen years of follow-up. *Cancer Res* 49(20): 5736-5747.
- Wu JW, Cross AJ, Baris D, Ward MH, Karagas MR, Johnson A, Schwenn M, Cherala S, Colt JS, Cantor KP, Rothman N, Silverman DT, Sinha R. 2012. Dietary intake of meat, fruits, vegetables, and selective micronutrients and risk of bladder cancer in the New England region of the United States. *Br J Cancer* 106(11): 1891-1898.
- Zeegers MP, Goldbohm RA, van den Brandt PA. 2001. Are retinol, vitamin C, vitamin E, folate and carotenoids intake associated with bladder cancer risk? Results from the Netherlands Cohort Study. *Br J Cancer* 85(7): 977-983.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.4 Brain Cancer (n=19), including medulloblastoma, glioma, neuroblastoma

- Bunin GR, Kuijten RR, Buckley JD, Rorke LB, Meadows AT. 1993. Relation between maternal diet and subsequent primitive neuroectodermal brain tumors in young children. *N Engl J Med* 329(8): 536-541.
- Bunin GR, Kushi LH, Gallagher PR, Rorke-Adams LB, McBride ML, Cnaan A. 2005. Maternal diet during pregnancy and its association with medulloblastoma in children: a children's oncology group study (United States). *Cancer Causes Control* 16(7): 877-891.
- Bunin GR, Gallagher PR, Rorke-Adams LB, Robison LL, Cnaan A. 2006. Maternal supplement, micronutrient, and cured meat intake during pregnancy and risk of medulloblastoma during childhood: a children's oncology group study. *Cancer Epidemiol Biomarkers Prev* 15(9): 1660-1667.
- Bunin GR, Li YM, Ganguly A, Meadows AT, Tseng M. 2013. Parental nutrient intake and risk of retinoblastoma resulting from new germline RB1 mutation. *Cancer Causes & Control* 24(2): 343-355.
- French AE, Grant R, Weitzman S, Ray JG, Vermeulen MJ, Sung L, Greenberg M, Koren G. 2003. Folic acid food fortification is associated with a decline in neuroblastoma. *Clin Pharmacol Ther* 74(3): 288-294.
- Grupp SG, Greenberg ML, Ray JG, Busto U, Lanctot KL, Nulman I, Koren G. 2011. Pediatric cancer rates after universal folic acid flour fortification in Ontario. *J Clin Pharmacol* 51(1): 60-65.
- Linabery AM, Johnson KJ, Ross JA. 2012. Childhood cancer incidence trends in association with US folic acid fortification (1986-2008). *Pediatrics* 129(6): 1125-1133.
- Milne E, Greenop KR, Bower C, Miller M, van Bockxmeer FM, Scott RJ, de Klerk NH, Ashton LJ, Gottardo NG, Armstrong BK. 2012. Maternal use of folic acid and other supplements and risk of childhood brain tumors. *Cancer Epidemiol Biomarkers Prev* 21(11): 1933-1941.
- Orjuela MA, Cabrera-Munoz L, Paul L, Ramirez-Ortiz MA, Liu X, Chen J, Mejia-Rodriguez F, Medina-Sanson A, Diaz-Carreno S, Suen IH, Selhub J, Ponce-Castaneda MV. 2012. Risk of retinoblastoma is associated with a maternal polymorphism in dihydrofolatereductase (DHFR) and prenatal folic acid intake. *Cancer* 118(23): 5912-5919.

- Ortega-Garcia JA, Ferris-Tortajada J, Claudio L, Soldin OP, Sanchez-Sauco MF, Fuster-Soler JL, Martinez-Lage JF. 2010. Case control study of periconceptional folic acid intake and nervous system tumors in children. *Childs Nerv Syst* 26(12): 1727-1733.
- Papageorgiou C, Mavrikakis M, Kesse-Elias M, Anastasiou-Nana M, Germanides J. 1983. Radioisotopic determination of cerebrospinal fluid (CSF) folic acid and vitamin B12 in neurological disorders. *Experientia* 39(4): 432-433.
- Preston-Martin S, Pogoda JM, Mueller BA, Lubin F, Modan B, Holly EA, Filippini G, Cordier S, Peris-Bonet R, Choi W, Little J, Arslan A. 1998a. Prenatal vitamin supplementation and pediatric brain tumors: huge international variation in use and possible reduction in risk. *Childs Nerv Syst* 14(10): 551-557.
- Preston-Martin S, Pogoda JM, Mueller BA, Lubin F, Modan B, Holly EA, Filippini G, Cordier S, Peris-Bonet R, Choi W, Little J, Arslan A. 1998b. Results from an international case-control study of childhood brain tumors: the role of prenatal vitamin supplementation. *Environ Health Perspect* 106 Suppl 3: 887-892.
- Schuz J, Weihkopf T, Kaatsch P. 2007. Medication use during pregnancy and the risk of childhood cancer in the offspring. *Eur J Pediatr* 166(5): 433-441.
- Stalberg K, Haglund B, Stromberg B, Kieler H. 2010. Prenatal exposure to medicines and the risk of childhood brain tumor. *Cancer Epidemiol* 34(4): 400-404.

1.1.5 Breast Cancer (n=100)

- Adzersen KH, Jess P, Freivogel KW, Gerhard I, Bastert G. 2003. Raw and cooked vegetables, fruits, selected micronutrients, and breast cancer risk: a case-control study in Germany. *Nutr Cancer* 46(2): 131-137.
- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Baglietto L, English DR, Gertig DM, Hopper JL, Giles GG. 2005. Does dietary folate intake modify effect of alcohol consumption on breast cancer risk? Prospective cohort study. *BMJ* 331(7520): 807.
- Bassett JK, Baglietto L, Hodge AM, Severi G, Hopper JL, English DR, Giles GG. 2013. Dietary intake of B vitamins and methionine and breast cancer risk. *Cancer Causes Control* 24(8): 1555-1563.
- Beasley JM, Coronado GD, Livaudais J, Angeles-Llerenas A, Ortega-Olvera C, Romieu I, Lazcano-Ponce E, Torres-Mejia G. 2010. Alcohol and risk of breast cancer in Mexican women. *Cancer Causes Control* 21(6): 863-870.
- Beilby J, Ingram D, Hahnel R, Rossi E. 2004. Reduced breast cancer risk with increasing serum folate in a case-control study of the C677T genotype of the methylenetetrahydrofolate reductase gene. *Eur J Cancer* 40(8): 1250-1254.
- Bradshaw PT, Khankari NK, Teitelbaum SL, Xu X, Fink BN, Steck SE, Gaudet MM, Kabat GC, Wolff MS, Neugut AI, Chen J, Gammon MD. 2013. Nutrient pathways and breast cancer risk: the Long Island Breast Cancer Study Project. *Nutr Cancer* 65(3): 345-354.
- Branda RF, O'Neill JP, Jacobson-Kram D, Albertini RJ. 1992. Factors influencing mutation at the hprt locus in T-lymphocytes: studies in normal women and women with benign and malignant breast masses. *Environ Mol Mutagen* 19(4): 274-281.
- Chen J, Gammon MD, Chan W, Palomeque C, Wetmur JG, Kabat GC, Teitelbaum SL, Britton JA, Terry MB, Neugut AI, Santella RM. 2005. One-carbon metabolism, MTHFR polymorphisms, and risk of breast cancer. *Cancer Res* 65(4): 1606-1614.
- Cho E, Spiegelman D, Hunter DJ, Chen WY, Zhang SM, Colditz GA, Willett WC. 2003. Premenopausal intakes of vitamins A, C, and E, folate, and carotenoids, and risk of breast cancer. *Cancer Epidemiol Biomarkers Prev* 12(8): 713-720.

- Cho E, Holmes M, Hankinson SE, Willett WC. 2007. Nutrients involved in one-carbon metabolism and risk of breast cancer among premenopausal women. *Cancer Epidemiol Biomarkers Prev* 16(12): 2787-2790.
- Chou YC, Wu MH, Yu JC, Lee MS, Yang T, Shih HL, Wu TY, Sun CA. 2006. Genetic polymorphisms of the methylenetetrahydrofolate reductase gene, plasma folate levels and breast cancer susceptibility: a case-control study in Taiwan. *Carcinogenesis* 27(11): 2295-2300.
- Chou YC, Lee MS, Wu MH, Shih HL, Yang T, Yu CP, Yu JC, Sun CA. 2007. Plasma homocysteine as a metabolic risk factor for breast cancer: findings from a case-control study in Taiwan. *Breast Cancer Res Treat* 101(2): 199-205.
- Cui Y, Page DL, Chlebowski RT, Beresford SA, Hendrix SL, Lane DS, Rohan TE. 2007. Alcohol and folate consumption and risk of benign proliferative epithelial disorders of the breast. *Int J Cancer* 121(6): 1346-1351.
- Duffy CM, Assaf A, Cyr M, Burkholder G, Coccio E, Rohan T, McTiernan A, Paskett E, Lane D, Chetty VK. 2009. Alcohol and folate intake and breast cancer risk in the WHI Observational Study. *Breast Cancer Res Treat* 116(3): 551-562.
- Ericson U, Sonestedt E, Gullberg B, Olsson H, Wirfalt E. 2007. High folate intake is associated with lower breast cancer incidence in postmenopausal women in the Malmo Diet and Cancer cohort. *Am J Clin Nutr* 86(2): 434-443.
- Ericson U, Sonestedt E, Ivarsson MI, Gullberg B, Carlson J, Olsson H, Wirfalt E. 2009a. Folate intake, methylenetetrahydrofolate reductase polymorphisms, and breast cancer risk in women from the Malmo Diet and Cancer cohort. *Cancer Epidemiol Biomarkers Prev* 18(4): 1101-1110.
- Ericson U, Borgquist S, Ivarsson MI, Sonestedt E, Gullberg B, Carlson J, Olsson H, Jirstrom K, Wirfalt E. 2010. Plasma folate concentrations are positively associated with risk of estrogen receptor beta negative breast cancer in a Swedish nested case control study. *J Nutr* 140(9): 1661-1668.
- Ericson UC, Ivarsson MI, Sonestedt E, Gullberg B, Carlson J, Olsson H, Wirfalt E. 2009b. Increased breast cancer risk at high plasma folate concentrations among women with the MTHFR 677T allele. *Am J Clin Nutr* 90(5): 1380-1389.
- Feigelson HS, Jonas CR, Robertson AS, McCullough ML, Thun MJ, Calle EE. 2003. Alcohol, folate, methionine, and risk of incident breast cancer in the American Cancer Society Cancer Prevention Study II Nutrition Cohort. *Cancer Epidemiol Biomarkers Prev* 12(2): 161-164.
- Fidan E, Yildiz B, Ozdemir F, Ucar U, Kavgaci H, Morem A, Aydin F. 2011. Serum levels of 25-OH vitamin D, folic acid and testosterone in patients with breast cancer: A case control study. *Asian Biomedicine* 5(5): 663-667.
- Freudenheim JL, Marshall JR, Vena JE, Laughlin R, Brasure JR, Swanson MK, Nemoto T, Graham S. 1996. Premenopausal breast cancer risk and intake of vegetables, fruits, and related nutrients. *J Natl Cancer Inst* 88(6): 340-348.
- Freudenheim JL, Bonner M, Krishnan S, Ambrosone CB, Graham S, McCann SE, Moysich KB, Bowman E, Nemoto T, Shields PG. 2004. Diet and alcohol consumption in relation to p53 mutations in breast tumors. *Carcinogenesis* 25(6): 931-939.
- Gao CM, Tang JH, Cao HX, Ding JH, Wu JZ, Wang J, Liu YT, Li SP, Su P, Matsuo K, Takezaki T, Tajima K. 2009. MTHFR polymorphisms, dietary folate intake and breast cancer risk in Chinese women. *J Hum Genet* 54(7): 414-418.
- Gong Z, Ambrosone CB, McCann SE, Zirpoli G, Chandran U, Hong CC, Bovbjerg DH, Jandorf L, Ciupak G, Pawlish K, Lu Q, Hwang H, Khoury T, Wiam B, Bandera EV. 2014. Associations of dietary folate, Vitamins B6 and B12 and methionine intake with risk of breast cancer among African American and European American women. *Int J Cancer* 134(6): 1422-1435.
- Goodman JE, Lavigne JA, Wu K, Helzlsouer KJ, Strickland PT, Selhub J, Yager JD. 2001. COMT genotype, micronutrients in the folate metabolic pathway and breast cancer risk. *Carcinogenesis* 22(10): 1661-1665.

- Graham S, Hellmann R, Marshall J, Freudenheim J, Vena J, Swanson M, Zielezny M, Nemoto T, Stubbe N, Raimondo T. 1991. Nutritional epidemiology of postmenopausal breast cancer in western New York. *Am J Epidemiol* 134(6): 552-566.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Harris HR, Bergkvist L, Wolk A. 2012. Folate intake and breast cancer mortality in a cohort of Swedish women. *Breast Cancer Res Treat* 132(1): 243-250.
- He JM, Pu YD, Wu YJ, Qin R, Zhang QJ, Sun YS, Zheng WW, Chen LP. 2014. Association between dietary intake of folate and MTHFR and MTR genotype with risk of breast cancer. *Genet Mol Res* 13(4): 8925-8931.
- Hirsch S, Sanchez H, Albala C, de la Maza MP, Barrera G, Leiva L, Bunout D. 2009. Colon cancer in Chile before and after the start of the flour fortification program with folic acid. *Eur J Gastroenterol Hepatol* 21(4): 436-439.
- Hussien MM, McNulty H, Armstrong N, Johnston PG, Spence RA, Barnett Y. 2005. Investigation of systemic folate status, impact of alcohol intake and levels of DNA damage in mononuclear cells of breast cancer patients. *Br J Cancer* 92(8): 1524-1530.
- Inoue-Choi M, Ward MH, Cerhan JR, Weyer PJ, Anderson KE, Robien K. 2012. Interaction of nitrate and folate on the risk of breast cancer among postmenopausal women. *Nutr Cancer* 64(5): 685-694.
- Inoue M, Robien K, Wang R, Van Den Berg DJ, Koh WP, Yu MC. 2008. Green tea intake, MTHFR/TYMS genotype and breast cancer risk: the Singapore Chinese Health Study. *Carcinogenesis* 29(10): 1967-1972.
- Ishitani K, Lin J, Manson JE, Buring JE, Zhang SM. 2008. A prospective study of multivitamin supplement use and risk of breast cancer. *American Journal of Epidemiology* 167(10): 1197-1206.
- Islam T, Ito H, Sueta A, Hosono S, Hirose K, Watanabe M, Iwata H, Tajima K, Tanaka H, Matsuo K. 2013. Alcohol and dietary folate intake and the risk of breast cancer: a case-control study in Japan. *Eur J Cancer Prev* 22(4): 358-366.
- Jiang-Hua Q, De-Chuang J, Zhen-Duo L, Shu-de C, Zhenzhen L. 2014. Association of methylenetetrahydrofolate reductase and methionine synthase polymorphisms with breast cancer risk and interaction with folate, vitamin B6, and vitamin B12 intakes. *Tumour biology : the journal of the International Society for Oncodevelopmental Biology and Medicine* 35(12): 11895-11901.
- Kabat GC, Miller AB, Jain M, Rohan TE. 2008. Dietary intake of selected B vitamins in relation to risk of major cancers in women. *Br J Cancer* 99(5): 816-821.
- Kawai M, Minami Y, Kakizaki M, Kakugawa Y, Nishino Y, Fukao A, Tsuji I, Ohuchi N. 2011. Alcohol consumption and breast cancer risk in Japanese women: the Miyagi Cohort study. *Breast Cancer Res Treat* 128(3): 817-825.
- Kotsopoulos J, Sukiennicki G, Muszynska M, Gackowski D, Kaklewski K, Durda K, Jaworska K, Huzarski T, Gronwald J, Byrski T, Ashuryk O, Debniak T, Toloczko-Grabarek A, Stawicka M, Godlewski D, Olinski R, Jakubowska A, Narod SA, Lubinski J. 2012. Plasma micronutrients, trace elements, and breast cancer in BRCA1 mutation carriers: an exploratory study. *Cancer Causes & Control* 23(7): 1065-1074.
- Lajous M, Lazcano-Ponce E, Hernandez-Avila M, Willett W, Romieu I. 2006a. Folate, vitamin B(6), and vitamin B(12) intake and the risk of breast cancer among Mexican women. *Cancer Epidemiol Biomarkers Prev* 15(3): 443-448.
- Lajous M, Romieu I, Sabia S, Boutron-Ruault MC, Clavel-Chapelon F. 2006b. Folate, vitamin B12 and postmenopausal breast cancer in a prospective study of French women. *Cancer Causes Control* 17(9): 1209-1213.
- Larsson SC, Bergkvist L, Wolk A. 2008. Folate intake and risk of breast cancer by estrogen and progesterone receptor status in a Swedish cohort. *Cancer Epidemiol Biomarkers Prev* 17(12): 3444-3449.

- Larsson SC, Akesson A, Bergkvist L, Wolk A. 2010. Multivitamin use and breast cancer incidence in a prospective cohort of Swedish women. *American Journal of Clinical Nutrition* 91(5): 1268-1272.
- Le Marchand L, Haiman CA, Wilkens LR, Kolonel LN, Henderson BE. 2004. MTHFR polymorphisms, diet, HRT, and breast cancer risk: The multiethnic cohort study. *Cancer Epidemiology Biomarkers and Prevention* 13(12): 2071-2077.
- Lee SA, Lee KM, Lee SJ, Yoo KY, Park SK, Noh DY, Ahn SH, Kang D. 2010. Antioxidant vitamins intake, ataxia telangiectasia mutated (ATM) genetic polymorphisms, and breast cancer risk. *Nutr Cancer* 62(8): 1087-1094.
- Lee SA, Lee KM, Yoo KY, Noh DY, Ahn SH, Kang D. 2012a. Combined effects of antioxidant vitamin and NOS3 genetic polymorphisms on breast cancer risk in women. *Clin Nutr* 31(1): 93-98.
- Lee Y, Lee SA, Choi JY, Song M, Sung H, Jeon S, Park SK, Yoo KY, Noh DY, Ahn SH, Kang D. 2012b. Prognosis of breast cancer is associated with one-carbon metabolism related nutrients among Korean women. *Nutr J* 11: 59.
- Levi F, Pasche C, Lucchini F, La Vecchia C. 2001. Dietary intake of selected micronutrients and breast-cancer risk. *Int J Cancer* 91(2): 260-263.
- Lin J, Lee IM, Cook NR, Selhub J, Manson JE, Buring JE, Zhang SM. 2008. Plasma folate, vitamin B-6, vitamin B-12, and risk of breast cancer in women. *Am J Clin Nutr* 87(3): 734-743.
- Liu Y, Tamimi RM, Berkey CS, Willett WC, Collins LC, Schnitt SJ, Connolly JL, Colditz GA. 2012. Intakes of alcohol and folate during adolescence and risk of proliferative benign breast disease. *Pediatrics* 129(5): e1192-1198.
- Liu Y, Zhou LS, Xu XM, Deng LQ, Xiao QK. 2013. Association of Dietary Intake of Folate, Vitamin B-6 and B-12 and MTHFR Genotype with Breast Cancer Risk. *Asian Pac. J. Cancer Prev.* 14(9): 5189-5192.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Ma E, Iwasaki M, Junko I, Hamada GS, Nishimoto IN, Carvalho SM, Motola J, Jr., Laginha FM, Tsugane S. 2009a. Dietary intake of folate, vitamin B6, and vitamin B12, genetic polymorphism of related enzymes, and risk of breast cancer: a case-control study in Brazilian women. *BMC Cancer* 9: 122.
- Ma E, Iwasaki M, Kobayashi M, Kasuga Y, Yokoyama S, Onuma H, Nishimura H, Kusama R, Tsugane S. 2009b. Dietary intake of folate, vitamin B2, vitamin B6, vitamin B12, genetic polymorphism of related enzymes, and risk of breast cancer: a case-control study in Japan. *Nutr Cancer* 61(4): 447-456.
- Marian C, Tao M, Mason JB, Goerlitz DS, Nie J, Chanson A, Freudenheim JL, Shields PG. 2011. Single nucleotide polymorphisms in uracil-processing genes, intake of one-carbon nutrients and breast cancer risk. *Eur J Clin Nutr* 65(6): 683-689.
- Maruti SS, Ulrich CM, Jupe ER, White E. 2009a. MTHFR C677T and postmenopausal breast cancer risk by intakes of one-carbon metabolism nutrients: a nested case-control study. *Breast Cancer Res* 11(6): R91.
- Maruti SS, Ulrich CM, White E. 2009b. Folate and one-carbon metabolism nutrients from supplements and diet in relation to breast cancer risk. *Am J Clin Nutr* 89(2): 624-633.
- Meulepas JM, Newcomb PA, Burnett-Hartman AN, Hampton JM, Trentham-Dietz A. 2010. Multivitamin supplement use and risk of invasive breast cancer. *Public Health Nutrition* 13(10): 1540-1545.
- Mohammad NS, Yedluri R, Addepalli P, Gottumukkala SR, Digumarti RR, Kutala VK. 2011. Aberrations in one-carbon metabolism induce oxidative DNA damage in sporadic breast cancer. *Mol Cell Biochem* 349(1-2): 159-167.
- Moorman PG, Ricciuti MF, Millikan RC, Newman B. 2001. Vitamin supplement use and breast cancer in a North Carolina population. *Public Health Nutr* 4(3): 821-827.
- Naushad SM, Pavani A, Digumarti RR, Gottumukkala SR, Kutala VK. 2011a. Epistatic interactions between loci of one-carbon metabolism modulate susceptibility to breast cancer. *Mol Biol Rep* 38(8): 4893-4901.

- Naushad SM, Reddy CA, Rupasree Y, Pavani A, Digumarti RR, Gottumukkala SR, Kuppusamy P, Kutala VK. 2011b. Cross-talk between one-carbon metabolism and xenobiotic metabolism: implications on oxidative DNA damage and susceptibility to breast cancer. *Cell Biochem Biophys* 61(3): 715-723.
- Negri E, La Vecchia C, Franceschi S. 2000. Re: dietary folate consumption and breast cancer risk. *J Natl Cancer Inst* 92(15): 1270-1271.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Potischman N, Swanson CA, Coates RJ, Gammon MD, Brogan DR, Curtin J, Brinton LA. 1999. Intake of food groups and associated micronutrients in relation to risk of early-stage breast cancer. *Int J Cancer* 82(3): 315-321.
- Rohan TE, Jain MG, Howe GR, Miller AB. 2000. Dietary folate consumption and breast cancer risk. *Journal of the National Cancer Institute* 92(3): 266-269.
- Ronco A, De Stefani E, Boffetta P, Deneo-Pellegrini H, Mendilaharsu M, Leborgne F. 1999. Vegetables, fruits, and related nutrients and risk of breast cancer: a case-control study in Uruguay. *Nutr Cancer* 35(2): 111-119.
- Rosato V, Bertuccio P, Bosetti C, Negri E, Edefonti V, Ferraroni M, Decarli A, Talamini R, Dal Maso L, Falcini F, Montella M, Franceschi S, La Vecchia C. 2013. Nutritional factors, physical activity, and breast cancer by hormonal receptor status. *Breast* 22(5): 887-893.
- Rossi E, Hung J, Beilby JP, Knuiam MW, Divitini ML, Bartholomew H. 2006. Folate levels and cancer morbidity and mortality: prospective cohort study from Busselton, Western Australia. *Ann Epidemiol* 16(3): 206-212.
- Roswall N, Olsen A, Christensen J, Dragsted LO, Overvad K, Tjonneland A. 2010. Micronutrient intake and breast cancer characteristics among postmenopausal women. *Eur J Cancer Prev* 19(5): 360-365.
- Rukundo G, Galukande M, Ongom P, Fualal JO. 2014. Red blood cell folate as a risk factor for breast cancer among patients at a tertiary hospital in Uganda: a case control study. *World journal of surgical oncology* 12: 260.
- Sellers TA, Kushi LH, Cerhan JR, Vierkant RA, Gapstur SM, Vachon CM, Olson JE, Therneau TM, Folsom AR. 2001. Dietary folate intake, alcohol, and risk of breast cancer in a prospective study of postmenopausal women. *Epidemiology* 12(4): 420-428.
- Sellers TA, Vierkant RA, Cerhan JR, Gapstur SM, Vachon CM, Olson JE, Pankratz VS, Kushi LH, Folsom AR. 2002. Interaction of dietary folate intake, alcohol, and risk of hormone receptor-defined breast cancer in a prospective study of postmenopausal women. *Cancer Epidemiol Biomarkers Prev* 11(10 Pt 1): 1104-1107.
- Sellers TA, Grabrick DM, Vierkant RA, Harnack L, Olson JE, Vachon CM, Cerhan JR. 2004. Does folate intake decrease risk of postmenopausal breast cancer among women with a family history? *Cancer Causes Control* 15(2): 113-120.
- Sharp L, Little J, Schofield AC, Pavlidou E, Cotton SC, Miedzybrodzka Z, Baird JO, Haites NE, Heys SD, Grubb DA. 2002. Folate and breast cancer: the role of polymorphisms in methylenetetrahydrofolate reductase (MTHFR). *Cancer Lett* 181(1): 65-71.
- Shrubsole MJ, Jin F, Dai Q, Shu XO, Potter JD, Hebert JR, Gao YT, Zheng W. 2001. Dietary folate intake and breast cancer risk: results from the Shanghai Breast Cancer Study. *Cancer Res* 61(19): 7136-7141.
- Shrubsole MJ, Gao YT, Cai Q, Shu XO, Dai Q, Hebert JR, Jin F, Zheng W. 2004. MTHFR polymorphisms, dietary folate intake, and breast cancer risk: results from the Shanghai Breast Cancer Study. *Cancer Epidemiol Biomarkers Prev* 13(2): 190-196.
- Shrubsole MJ, Shu XO, Li HL, Cai H, Yang G, Gao YT, Gao J, Zheng W. 2011. Dietary B vitamin and methionine intakes and breast cancer risk among Chinese women. *Am J Epidemiol* 173(10): 1171-1182.

- Stevens VL, McCullough ML, Sun J, Gapstur SM. 2010. Folate and other one-carbon metabolism-related nutrients and risk of postmenopausal breast cancer in the Cancer Prevention Study II Nutrition Cohort. *Am J Clin Nutr* 91(6): 1708-1715.
- Stolzenberg-Solomon RZ, Chang SC, Leitzmann MF, Johnson KA, Johnson C, Buys SS, Hoover RN, Ziegler RG. 2006. Folate intake, alcohol use, and postmenopausal breast cancer risk in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial. *Am J Clin Nutr* 83(4): 895-904.
- Suzuki T, Matsuo K, Hirose K, Hiraki A, Kawase T, Watanabe M, Yamashita T, Iwata H, Tajima K. 2008. One-carbon metabolism-related gene polymorphisms and risk of breast cancer. *Carcinogenesis* 29(2): 356-362.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zamboni A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- Thorand B, Kohlmeier L, Simonsen N, Croghan C, Thamm M. 1998. Intake of fruits, vegetables, folic acid and related nutrients and risk of breast cancer in postmenopausal women. *Public Health Nutr* 1(3): 147-156.
- Tjonneland A, Christensen J, Olsen A, Stripp C, Nissen SB, Overvad K, Thomsen BL. 2006. Folate intake, alcohol and risk of breast cancer among postmenopausal women in Denmark. *Eur J Clin Nutr* 60(2): 280-286.
- Wang ZG, Cui W, Yang LF, Zhu YQ, Wei WH. 2014. Association of dietary intake of folate and MTHFR genotype with breast cancer risk. *Genet Mol Res* 13(3): 5446-5451.
- Weiwei Z, Liping C, Dequan L. 2014. Association between dietary intake of folate, vitamin B6, B12 & MTHFR, MTR Genotype and breast cancer risk. *Pak J Med Sci* 30(1): 106-110.
- Wu K, Helzlsouer KJ, Comstock GW, Hoffman SC, Nadeau MR, Selhub J. 1999. A prospective study on folate, B12, and pyridoxal 5'-phosphate (B6) and breast cancer. *Cancer Epidemiol Biomarkers Prev* 8(3): 209-217.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.
- Xu X, Gammon MD, Wetmur JG, Rao M, Gaudet MM, Teitelbaum SL, Britton JA, Neugut AI, Santella RM, Chen J. 2007. A functional 19-base pair deletion polymorphism of dihydrofolate reductase (DHFR) and risk of breast cancer in multivitamin users. *Am J Clin Nutr* 85(4): 1098-1102.
- Xu XR, Gammon MD, Jefferson E, Zhang YJ, Cho YH, Wetmur JG, Teitelbaum SL, Bradshaw PT, Terry MB, Garbowski G, Hibshoosh H, Neugut AI, Santella RM, Chen J. 2011. The influence of one-carbon metabolism on gene promoter methylation in a population-based breast cancer study. *Epigenetics* 6(11): 1276-1283.
- Yang D, Baumgartner RN, Slattery ML, Wang C, Giuliano AR, Murtaugh MA, Risendal BC, Byers T, Baumgartner KB. 2013. Dietary intake of folate, B-vitamins and methionine and breast cancer risk among Hispanic and non-Hispanic white women. *PLoS One* 8(2): e54495.
- Yang YJ, Hwang SH, Kim HJ, Nam SJ, Kong G, Kim MK. 2010. Dietary intake of nitrate relative to antioxidant vitamin in relation to breast cancer risk: a case-control study. *Nutr Cancer* 62(5): 555-566.
- Zhang CX, Ho SC, Chen YM, Lin FY, Fu JH, Cheng SZ. 2011. Dietary folate, vitamin B6, vitamin B12 and methionine intake and the risk of breast cancer by oestrogen and progesterone receptor status. *Br J Nutr* 106(6): 936-943.
- Zhang CX, Pan MX, Li B, Wang L, Mo XF, Chen YM, Lin FY, Ho SC. 2013. Choline and betaine intake is inversely associated with breast cancer risk: a two-stage case-control study in China. *Cancer Sci* 104(2): 250-258.
- Zhang S, Hunter DJ, Hankinson SE, Giovannucci EL, Rosner BA, Colditz GA, Speizer FE, Willett WC. 1999. A prospective study of folate intake and the risk of breast cancer. *JAMA* 281(17): 1632-1637.
- Zhang SM, Willett WC, Selhub J, Hunter DJ, Giovannucci EL, Holmes MD, Colditz GA, Hankinson SE. 2003. Plasma folate, vitamin B6, vitamin B12, homocysteine, and risk of breast cancer. *J Natl Cancer Inst* 95(5): 373-380.

- Zhang SM, Hankinson SE, Hunter DJ, Giovannucci EL, Colditz GA, Willett WC. 2005. Folate intake and risk of breast cancer characterized by hormone receptor status. *Cancer Epidemiol Biomarkers Prev* 14(8): 2004-2008.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.
- Zhu K, Davidson NE, Hunter S, Yang X, Payne-Wilks K, Roland CL, Phillips D, Bentley C, Dai M, Williams SM. 2003. Methyl-group dietary intake and risk of breast cancer among African-American women: a case-control study by methylation status of the estrogen receptor alpha genes. *Cancer Causes Control* 14(9): 827-836.

1.1.6 Cervical Cancer (n=46), including dysplasia and cytological abnormalities

- Abike F, Engin AB, Dunder I, Tapisiz OL, Aslan C, Kutluay L. 2011. Human papilloma virus persistence and neopterin, folate and homocysteine levels in cervical dysplasias. *Arch Gynecol Obstet* 284(1): 209-214.
- Alberg AJ, Selhub J, Shah KV, Viscidi RP, Comstock GW, Helzlsouer KJ. 2000. The risk of cervical cancer in relation to serum concentrations of folate, vitamin B12, and homocysteine. *Cancer Epidemiol Biomarkers Prev* 9(7): 761-764.
- Badiga S, Johanning GL, Macaluso M, Azuero A, Chambers MM, Siddiqui NR, Piyathilake CJ. 2014. A Lower Degree of PBMC L1 Methylation in Women with Lower Folate Status May Explain the MTHFR C677T Polymorphism Associated Higher Risk of CIN in the US Post Folic Acid Fortification Era. *PLoS One* 9(10): e110093.
- Bai LX, Wang JT, Ding L, Jiang SW, Kang HJ, Gao CF, Chen X, Chen C, Zhou Q. 2014. Folate Deficiency and FHIT Hypermethylation and HPV 16 Infection Promote Cervical Cancerization. *Asian Pac J Cancer Prev* 15(21): 9313-9317.
- Buckley DI, McPherson RS, North CQ, Becker TM. 1992. Dietary micronutrients and cervical dysplasia in southwestern American Indian women. *Nutr Cancer* 17(2): 179-185.
- Butterworth CE, Hatch KD, Soong SJ, Cole P, Tamura T, Sauberlich HE, Borst M, Macaluso M, Baker V. 1992. ORAL FOLIC-ACID SUPPLEMENTATION FOR CERVICAL DYSPLASIA - A CLINICAL INTERVENTION TRIAL. *American Journal of Obstetrics and Gynecology* 166(3): 803-809.
- Butterworth CE, Jr., Hatch KD, Gore H, Mueller H, Krumdieck CL. 1982. Improvement in cervical dysplasia associated with folic acid therapy in users of oral contraceptives. *Am J Clin Nutr* 35(1): 73-82.
- Childers JM, Chu J, Voigt LF, Feigl P, Tamimi HK, Franklin EW, Alberts DS, Meyskens FL. 1995. CHEMOPREVENTION OF CERVICAL-CANCER WITH FOLIC-ACID - A PHASE-III SOUTHWEST-ONCOLOGY-GROUP INTERGROUP STUDY. *Cancer Epidemiol. Biomarkers Prev.* 4(2): 155-159.
- Ghosh C, Baker JA, Moysich KB, Rivera R, Brasure JR, McCann SE. 2008. Dietary intakes of selected nutrients and food groups and risk of cervical cancer. *Nutr Cancer* 60(3): 331-341.
- Gonzalez CA, Travier N, Lujan-Barroso L, Castellsague X, Bosch FX, Roura E, Bueno-de-Mesquita HB, Palli D, Boeing H, Pala V, Sacerdote C, Tumino R, Panico S, Manjer J, Dillner J, Hallmans G, Kjellberg L, Sanchez MJ, Altzibar JM, Barricarte A, Navarro C, Rodriguez L, Allen N, Key TJ, Kaaks R, Rohrmann S, Overvad K, Olsen A, Tjonneland A, Munk C, Kjaer SK, Peeters PH, van Duijnhoven FJ, Clavel-Chapelon F, Boutron-Ruault MC, Trichopoulou A, Benetou V, Naska A, Lund E, Engeset D, Skeie G, Franceschi S, Slimani N, Rinaldi S, Riboli E. 2011. Dietary factors and in situ and invasive cervical cancer risk in the European prospective investigation into cancer and nutrition study. *Int J Cancer* 129(2): 449-459.
- Goodman MT, McDuffie K, Hernandez B, Wilkens LR, Selhub J. 2000. Case-control study of plasma folate, homocysteine, vitamin B(12), and cysteine as markers of cervical dysplasia. *Cancer* 89(2): 376-382.
- Goodman MT, McDuffie K, Hernandez B, Wilkens LR, Bertram CC, Killeen J, Le Marchand L, Selhub J, Murphy S, Donlon TA. 2001. Association of methylenetetrahydrofolate reductase polymorphism C677T and dietary folate with the risk of cervical dysplasia. *Cancer Epidemiol Biomarkers Prev* 10(12): 1275-1280.

- Grio R, Piacentino R, Marchino GL, Navone R. 1993. Antineoplastic activity of antioxidant vitamins: the role of folic acid in the prevention of cervical dysplasia. *Panminerva Med* 35(4): 193-196.
- Henao OL, Piyathilake CJ, Waterbor JW, Funkhouser E, Johanning GL, Heimbürger DC, Partridge EE. 2005. Women with polymorphisms of methylenetetrahydrofolate reductase (MTHFR) and methionine synthase (MS) are less likely to have cervical intraepithelial neoplasia (CIN) 2 or 3. *Int J Cancer* 113(6): 991-997.
- Hernandez BY, McDuffie K, Wilkens LR, Kamemoto L, Goodman MT. 2003. Diet and premalignant lesions of the cervix: evidence of a protective role for folate, riboflavin, thiamin, and vitamin B12. *Cancer Causes Control* 14(9): 859-870.
- Herrero R, Potischman N, Brinton LA, Reeves WC, Brenes MM, Tenorio F, de Britton RC, Gaitan E. 1991. A case-control study of nutrient status and invasive cervical cancer. I. Dietary indicators. *Am J Epidemiol* 134(11): 1335-1346.
- Kanetsky PA, Gammon MD, Mandelblatt J, Zhang ZF, Ramsey E, Dnistrian A, Norkus EP, Wright TC. 1998. Dietary intake and blood levels of lycopene: Association with cervical dysplasia among non-Hispanic, black women. *Nutr. Cancer* 31(1): 31-40.
- Kwasniewska A, Tukendorf A, Semczuk M. 1997. Folate deficiency and cervical intraepithelial neoplasia. *Eur J Gynaecol Oncol* 18(6): 526-530.
- Lantz B, Einhorn N. 1984. Intestinal damage and malabsorption after treatment for cervical carcinoma. *Acta Radiol Oncol* 23(1): 33-36.
- Liu T, Soong SJ, Wilson NP, Craig CB, Cole P, Macaluso M, Butterworth CE, Jr. 1993. A case control study of nutritional factors and cervical dysplasia. *Cancer Epidemiol Biomarkers Prev* 2(6): 525-530.
- Orr JW, Jr., Wilson K, Bodiford C, Cornwell A, Soong SJ, Honea KL, Hatch KD, Shingleton HM. 1985. Corpus and cervix cancer: a nutritional comparison. *Am J Obstet Gynecol* 153(7): 775-779.
- Pathak S, Bhatla N, Singh N. 2012. Cervical cancer pathogenesis is associated with one-carbon metabolism. *Mol Cell Biochem* 369(1-2): 1-7.
- Pathak S, Bajpai D, Banerjee A, Bhatla N, Jain SK, Jayaram HN, Singh N. 2014. Serum one-carbon metabolites and risk of cervical cancer. *Nutr Cancer* 66(5): 818-824.
- Piyathilake CJ, Henao OL, Macaluso M, Cornwell PE, Meleth S, Heimbürger DC, Partridge EE. 2004. Folate is associated with the natural history of high-risk human papillomaviruses. *Cancer Res* 64(23): 8788-8793.
- Piyathilake CJ, Azrad M, Jhala D, Macaluso M, Kabagambe EK, Brill I, Niveleau A, Jhala N, Grizzle WE. 2006. Mandatory fortification with folic acid in the United States is not associated with changes in the degree or the pattern of global DNA methylation in cells involved in cervical carcinogenesis. *Cancer Biomark* 2(6): 259-266.
- Piyathilake CJ, Azrad M, Macaluso M, Johanning GL, Cornwell PE, Partridge EE, Heimbürger DC. 2007a. Protective association of MTHFR polymorphism on cervical intraepithelial neoplasia is modified by riboflavin status. *Nutrition* 23(3): 229-235.
- Piyathilake CJ, Macaluso M, Brill I, Heimbürger DC, Partridge EE. 2007b. Lower red blood cell folate enhances the HPV-16-associated risk of cervical intraepithelial neoplasia. *Nutrition* 23(3): 203-210.
- Piyathilake CJ, Celedonio JE, Macaluso M, Bell WC, Azrad M, Grizzle WE. 2008. Mandatory fortification with folic acid in the United States is associated with increased expression of DNA methyltransferase-1 in the cervix. *Nutrition* 24(1): 94-99.
- Piyathilake CJ, Macaluso M, Alvarez RD, Bell WC, Heimbürger DC, Partridge EE. 2009. Lower risk of cervical intraepithelial neoplasia in women with high plasma folate and sufficient vitamin B12 in the post-folic acid fortification era. *Cancer Prev Res (Phila)* 2(7): 658-664.

- Piyathilake CJ, Badiga S, Paul P, Vijayaraghavan K, Vedantham H, Sudula M, Sowjanya P, Ramakrishna G, Shah KV, Partridge EE, Gravitt PE. 2010. Indian women with higher serum concentrations of folate and vitamin B12 are significantly less likely to be infected with carcinogenic or high-risk (HR) types of human papillomaviruses (HPVs). *Int J Womens Health* 2: 7-12.
- Potischman N, Brinton LA, Laiming VA, Reeves WC, Brenes MM, Herrero R, Tenorio F, de Britton RC, Gaitan E. 1991. A case-control study of serum folate levels and invasive cervical cancer. *Cancer Res* 51(18): 4785-4789.
- Sedjo RL, Inserra P, Abrahamsen M, Harris RB, Roe DJ, Baldwin S, Giuliano AR. 2002. Human papillomavirus persistence and nutrients involved in the methylation pathway among a cohort of young women. *Cancer Epidemiol Biomarkers Prev* 11(4): 353-359.
- Sedjo RL, Fowler BM, Schneider A, Henning SM, Hatch K, Giuliano AR. 2003. Folate, vitamin B12, and homocysteine status. findings of no relation between human papillomavirus persistence and cervical dysplasia. *Nutrition* 19(6): 497-502.
- Shannon J, Thomas DB, Ray RM, Kestin M, Koetsawang A, Koetsawang S, Chitnarong K, Kiviat N, Kuypers J. 2002. Dietary risk factors for invasive and in-situ cervical carcinomas in Bangkok, Thailand. *Cancer Causes Control* 13(8): 691-699.
- Thomson SW, Heimbürger DC, Cornwell PE, Turner ME, Sauberlich HE, Fox LM, Butterworth CE. 2000. Correlates of total plasma homocysteine: folic acid, copper, and cervical dysplasia. *Nutrition* 16(6): 411-416.
- Tomita LY, D'Almeida V, Villa LL, Franco EL, Cardoso MA. 2013. Polymorphisms in genes involved in folate metabolism modify the association of dietary and circulating folate and vitamin B-6 with cervical neoplasia. *J Nutr* 143(12): 2007-2014.
- Tong SY, Kim MK, Lee JK, Lee JM, Choi SW, Friso S, Song ES, Lee KB, Lee JP. 2011. Common polymorphisms in methylenetetrahydrofolate reductase gene are associated with risks of cervical intraepithelial neoplasia and cervical cancer in women with low serum folate and vitamin B12. *Cancer Causes Control* 22(1): 63-72.
- VanEenwyk J, Davis FG, Colman N. 1992. Folate, vitamin C, and cervical intraepithelial neoplasia. *Cancer Epidemiol Biomarkers Prev* 1(2): 119-124.
- Verreault R, Chu J, Mandelson M, Shy K. 1989. A case-control study of diet and invasive cervical cancer. *Int J Cancer* 43(6): 1050-1054.
- Wang JT, Ma XC, Cheng YY, Ding L, Zhou Q. 2006. [A case-control study on the association between folate and cervical cancer]. *Zhonghua Liu Xing Bing Xue Za Zhi* 27(5): 424-427.
- Weinstein SJ, Ziegler RG, Frongillo EA, Jr., Colman N, Sauberlich HE, Brinton LA, Hamman RF, Levine RS, Mallin K, Stolley PD, Bisogni CA. 2001. Low serum and red blood cell folate are moderately, but nonsignificantly associated with increased risk of invasive cervical cancer in U.S. women. *J Nutr* 131(7): 2040-2048.
- Wideroff L, Potischman N, Glass AG, Greer CE, Manos MM, Scott DR, Burk RD, Sherman ME, Wacholder S, Schiffman M. 1998. A nested case-control study of dietary factors and the risk of incident cytological abnormalities of the cervix. *Nutr Cancer* 30(2): 130-136.
- Yeo AS, Schiff MA, Montoya G, Masuk M, van Asselt-King L, Becker TM. 2000. Serum micronutrients and cervical dysplasia in Southwestern American Indian women. *Nutr Cancer* 38(2): 141-150.
- Yuksel H, Odabasi AR, Cetin G, Eben M, Nergiz S, Onur E. 2007. Folate and vitamin B12 levels in abnormal pap smears: a case control study. *Eur J Gynaecol Oncol* 28(6): 526-530.
- Ziegler RG, Brinton LA, Hamman RF, Lehman HF, Levine RS, Mallin K, Norman SA, Rosenthal JF, Trumble AC, Hoover RN. 1990. Diet and the risk of invasive cervical cancer among white women in the United States. *Am J Epidemiol* 132(3): 432-445.

Ziegler RG, Jones CJ, Brinton LA, Norman SA, Mallin K, Levine RS, Lehman HF, Hamman RF, Trumble AC, Rosenthal JF, et al. 1991. Diet and the risk of in situ cervical cancer among white women in the United States. *Cancer Causes Control* 2(1): 17-29.

1.1.7 Colorectal Cancer (n=203), including aberrant crypt foci and polyps

Al-Ghnamem Abbadi R, Emery P, Pufulete M. 2012. Short-term folate supplementation in physiological doses has no effect on ESR1 and MLH1 methylation in colonic mucosa of individuals with adenoma. *J Nutrigenet Nutrigenomics* 5(6): 327-338.

Alonso-Aperte E, Gonzalez MP, Poo-Prieto R, Varela-Moreiras G. 2008. Folate status and S-adenosylmethionine/S-adenosylhomocysteine ratio in colorectal adenocarcinoma in humans. *Eur J Clin Nutr* 62(2): 295-298.

Arafa MA, Waly MI, Jriesat S, Al Khafajei A, Sallam S. 2011. Dietary and Lifestyle Characteristics of Colorectal Cancer in Jordan: a Case-control Study. *Asian Pac. J. Cancer Prev.* 12(8): 1931-1936.

Ashktorab H, Begum R, Akhgar A, Smoot DT, Elbedawi M, Daremipouran M, Zhao A, Momen B, Giardiello FM. 2007. Folate status and risk of colorectal polyps in African Americans. *Dig Dis Sci* 52(6): 1462-1470.

Ashmore JH, Lesko SM, Muscat JE, Gallagher CJ, Berg AS, Miller PE, Hartman TJ, Lazarus P. 2013. Association of dietary and supplemental folate intake and polymorphisms in three FOCM pathway genes with colorectal cancer in a population-based case-control study. *Genes, chromosomes & cancer* 52(10): 945-953.

Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.

Baron JA, Sandler RS, Haile RW, Mandel JS, Mott LA, Greenberg ER. 1998. Folate intake, alcohol consumption, cigarette smoking, and risk of colorectal adenomas. *Journal of the National Cancer Institute* 90(1): 57-62.

Bassett JK, Severi G, Hodge AM, Baglietto L, Hopper JL, English DR, Giles GG. 2013. Dietary intake of B vitamins and methionine and colorectal cancer risk. *Nutr Cancer* 65(5): 659-667.

Benito E, Stiggelbout A, Bosch FX, Obrador A, Kaldor J, Mulet M, Munoz N. 1991. Nutritional factors in colorectal cancer risk: a case-control study in Majorca. *Int J Cancer* 49(2): 161-167.

Benito E, Cabeza E, Moreno V, Obrador A, Bosch FX. 1993. Diet and colorectal adenomas: a case-control study in Majorca. *Int J Cancer* 55(2): 213-219.

Bird CL, Swendseid ME, Witte JS, Shikany JM, Hunt IF, Frankl HD, Lee ER, Longnecker MP, Haile RW. 1995. Red cell and plasma folate, folate consumption, and the risk of colorectal adenomatous polyps. *Cancer Epidemiol Biomarkers Prev* 4(7): 709-714.

Boutron-Ruault MC, Senesse P, Faivre J, Couillaud C, Belghiti C. 1996. Folate and alcohol intakes: related or independent roles in the adenoma-carcinoma sequence? *Nutr Cancer* 26(3): 337-346.

Boyapati SM, Bostick RM, McGlynn KA, Fina MF, Roufail WM, Geisinger KR, Hebert JR, Coker A, Wargovich M. 2004. Folate intake, MTHFR C677T polymorphism, alcohol consumption, and risk for sporadic colorectal adenoma (United States). *Cancer Causes Control* 15(5): 493-501.

Brink M, Weijenberg MP, de Goeij AF, Roemen GM, Lentjes MH, de Bruine AP, van Engeland M, Goldbohm RA, van den Brandt PA. 2005. Dietary folate intake and k-ras mutations in sporadic colon and rectal cancer in The Netherlands Cohort Study. *Int J Cancer* 114(5): 824-830.

Bruce WR, Cirocco M, Giacca A, Kim YI, Marcon N, Minkin S. 2005. A pilot randomised controlled trial to reduce colorectal cancer risk markers associated with B-vitamin deficiency, insulin resistance and colonic inflammation. *Br J Cancer* 93(6): 639-646.

Bukin YUV, Draudin-Krylenko VA, Levchuk AA, Poddubniy BK, Mazurov ST. 2001. The effect of high doses of folic acid on the overexpression of ornithine decarboxylase and S-adenosylmethionine content in human colon adenomatous polyps. *Ann N Y Acad Sci* 952: 175-176.

- Carmona B, Guerreiro C, Cravo M, Nobre-Leitao C, Brito M. 2008. 5' and 3' UTR thymidylate synthase polymorphisms modulate the risk of colorectal cancer independently of the intake of methyl group donors. *Mol Med Report* 1(5): 747-752.
- Chandy S, Adiga MNS, Ramaswamy G, Ramachandra C, Krishnamoorthy L. 2008. Effect of vitamin B12 and folate on homocysteine levels in colorectal cancer. *Indian Journal of Clinical Biochemistry* 23(3): 258-261.
- Chang SC, Lin PC, Lin JK, Yang SH, Wang HS, Li AF. 2007. Role of MTHFR polymorphisms and folate levels in different phenotypes of sporadic colorectal cancers. *Int J Colorectal Dis* 22(5): 483-489.
- Chen FP, Lin CC, Chen TH, Tsai MC, Huang YC. 2013. Higher plasma homocysteine is associated with increased risk of developing colorectal polyps. *Nutr Cancer* 65(2): 195-201.
- Chen J, Giovannucci E, Kelsey K, Rimm EB, Stampfer MJ, Colditz GA, Spiegelman D, Willett WC, Hunter DJ. 1996. A methylenetetrahydrofolate reductase polymorphism and the risk of colorectal cancer. *Cancer Res* 56(21): 4862-4864.
- Chen J, Giovannucci E, Hankinson SE, Ma J, Willett WC, Spiegelman D, Kelsey KT, Hunter DJ. 1998. A prospective study of methylenetetrahydrofolate reductase and methionine synthase gene polymorphisms, and risk of colorectal adenoma. *Carcinogenesis* 19(12): 2129-2132.
- Clapin HF, Fritschi L, Iacopetta B, Heyworth JS. 2012. Dietary and supplemental folate and the risk of left- and right-sided colorectal cancer. *Nutr Cancer* 64(7): 937-945.
- Cole BF, Baron JA, Sandler RS, Haile RW, Ahnen DJ, Bresalier RS, McKeown-Eyssen G, Summers RW, Rothstein RI, Burke CA, Snover DC, Church TR, Allen JI, Robertson DJ, Beck GJ, Bond JH, Byers T, Mandel JS, Mott LA, Pearson LH, Barry EL, Rees JR, Marcon N, Saibil F, Ueland PM, Greenberg ER, Polyp Prevention Study G. 2007. Folic acid for the prevention of colorectal adenomas: a randomized clinical trial. *JAMA* 297(21): 2351-2359.
- Connelly-Frost A, Poole C, Satia JA, Kupper LL, Millikan RC, Sandler RS. 2009. Selenium, folate, and colon cancer. *Nutr Cancer* 61(2): 165-178.
- Coogan PF, Rosenberg L. 2007. The use of folic acid antagonists and the risk of colorectal cancer. *Pharmacoepidemiol Drug Saf* 16(10): 1111-1119.
- Corral R, Lewinger JP, Joshi AD, Levine AJ, Vandenberg DJ, Haile RW, Stern MC. 2013. Genetic variation in the base excision repair pathway, environmental risk factors, and colorectal adenoma risk. *PLoS One* 8(8): e71211.
- Curtin K, Bigler J, Slattery ML, Caan B, Potter JD, Ulrich CM. 2004. MTHFR C677T and A1298C Polymorphisms: Diet, Estrogen, and Risk of Colon Cancer. *Cancer Epidemiology Biomarkers and Prevention* 13(2): 285-292.
- Curtin K, Samowitz WS, Ulrich CM, Wolff RK, Herrick JS, Caan BJ, Slattery ML. 2011a. Nutrients in folate-mediated, one-carbon metabolism and the risk of rectal tumors in men and women. *Nutr Cancer* 63(3): 357-366.
- Curtin K, Ulrich CM, Samowitz WS, Wolff RK, Duggan DJ, Makar KW, Caan BJ, Slattery ML. 2011b. Candidate pathway polymorphisms in one-carbon metabolism and risk of rectal tumor mutations. *Int J Mol Epidemiol Genet* 2(1): 1-8.
- Dahlin AM, Van Guelpen B, Hultdin J, Johansson I, Hallmans G, Palmqvist R. 2008. Plasma vitamin B12 concentrations and the risk of colorectal cancer: a nested case-referent study. *Int J Cancer* 122(9): 2057-2061.
- de Vogel S, van Engeland M, Luchtenborg M, de Bruine AP, Roemen GM, Lentjes MH, Goldbohm RA, van den Brandt PA, de Goeij AF, Weijenberg MP. 2006. Dietary folate and APC mutations in sporadic colorectal cancer. *J Nutr* 136(12): 3015-3021.
- de Vogel S, Bongaerts BW, Wouters KA, Kester AD, Schouten LJ, de Goeij AF, de Bruine AP, Goldbohm RA, van den Brandt PA, van Engeland M, Weijenberg MP. 2008a. Associations of dietary methyl donor intake with MLH1 promoter hypermethylation and related molecular phenotypes in sporadic colorectal cancer. *Carcinogenesis* 29(9): 1765-1773.

- de Vogel S, Dindore V, van Engeland M, Goldbohm RA, van den Brandt PA, Weijnenberg MP. 2008b. Dietary folate, methionine, riboflavin, and vitamin B-6 and risk of sporadic colorectal cancer. *J Nutr* 138(12): 2372-2378.
- de Vogel S, Schneede J, Ueland PM, Vollset SE, Meyer K, Fredriksen A, Midttun O, Bjorge T, Kampman E, Bretthauer M, Hoff G. 2011a. Biomarkers related to one-carbon metabolism as potential risk factors for distal colorectal adenomas. *Cancer Epidemiol Biomarkers Prev* 20(8): 1726-1735.
- de Vogel S, Wouters KA, Gottschalk RW, van Schooten FJ, de Goeij AF, de Bruine AP, Goldbohm RA, van den Brandt PA, van Engeland M, Weijnenberg MP. 2011b. Dietary methyl donors, methyl metabolizing enzymes, and epigenetic regulators: diet-gene interactions and promoter CpG island hypermethylation in colorectal cancer. *Cancer Causes Control* 22(1): 1-12.
- Eaton AM, Sandler R, Carethers JM, Millikan RC, Galanko J, Keku TO. 2005. 5,10-methylenetetrahydrofolate reductase 677 and 1298 polymorphisms, folate intake, and microsatellite instability in colon cancer. *Cancer Epidemiol Biomarkers Prev* 14(8): 2023-2029.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Eklof V, Van Guelpen B, Hultdin J, Johansson I, Hallmans G, Palmqvist R. 2008. The reduced folate carrier (RFC1) 80G > A and folate hydrolase 1 (FOLH1) 1561C > T polymorphisms and the risk of colorectal cancer: a nested case-referent study. *Scand J Clin Lab Invest* 68(5): 393-401.
- Eussen SJ, Vollset SE, Igland J, Meyer K, Fredriksen A, Ueland PM, Jenab M, Slimani N, Boffetta P, Overvad K, Tjonneland A, Olsen A, Clavel-Chapelon F, Boutron-Ruault MC, Morois S, Weikert C, Pischon T, Linseisen J, Kaaks R, Trichopoulou A, Zilis D, Katsoulis M, Palli D, Berrino F, Vineis P, Tumino R, Panico S, Peeters PH, Bueno-de-Mesquita HB, van Duijnhoven FJ, Gram IT, Skeie G, Lund E, Gonzalez CA, Martinez C, Dorronsoro M, Ardanaz E, Navarro C, Rodriguez L, Van Guelpen B, Palmqvist R, Manjer J, Ericson U, Bingham S, Khaw KT, Norat T, Riboli E. 2010. Plasma folate, related genetic variants, and colorectal cancer risk in EPIC. *Cancer Epidemiol Biomarkers Prev* 19(5): 1328-1340.
- Ferraroni M, La Vecchia C, D'Avanzo B, Negri E, Franceschi S, Decarli A. 1994a. Selected micronutrient intake and the risk of colorectal cancer. *Br J Cancer* 70(6): 1150-1155.
- Ferraroni M, Lavecchia C, Davanzo B, Negri E, Franceschi S, Decarli A. 1994b. SELECTED MICRONUTRIENT INTAKE AND THE RISK OF COLORECTAL-CANCER. *British Journal of Cancer* 70(6): 1150-1155.
- Figueiredo JC, Levine AJ, Grau MV, Barry EL, Ueland PM, Ahnen DJ, Byers T, Bresalier RS, Summers RW, Bond J, McKeown-Eyssen GE, Sandler RS, Haile RW, Baron JA. 2008a. Colorectal adenomas in a randomized folate trial: the role of baseline dietary and circulating folate levels. *Cancer Epidemiol Biomarkers Prev* 17(10): 2625-2631.
- Figueiredo JC, Levine AJ, Grau MV, Midttun Ø, Ueland PM, Ahnen DJ, Barry EL, Tsang S, Munroe D, Ali I, Haile RW, Sandler RS, Baron JA. 2008b. Vitamins B2, B6, and B12 and risk of new colorectal adenomas in a randomized trial of aspirin use and folic acid supplementation. *Cancer Epidemiology Biomarkers and Prevention* 17(8): 2136-2145.
- Figueiredo JC, Grau MV, Wallace K, Levine AJ, Shen LL, Hamdan R, Chen XL, Bresalier RS, McKeown-Eyssen G, Haile RW, Baron JA, Issa JPJ. 2009. Global DNA Hypomethylation (LINE-1) in the Normal Colon and Lifestyle Characteristics and Dietary and Genetic Factors. *Cancer Epidemiol. Biomarkers Prev.* 18(4): 1041-1049.
- Flood A, Caprario L, Chatterjee N, Lacey JV, Jr., Schairer C, Schatzkin A. 2002. Folate, methionine, alcohol, and colorectal cancer in a prospective study of women in the United States. *Cancer Causes Control* 13(6): 551-561.
- Freudenheim JL, Graham S, Marshall JR, Haughey BP, Cholewinski S, Wilkinson G. 1991. Folate intake and carcinogenesis of the colon and rectum. *Int J Epidemiol* 20(2): 368-374.

- Fuchs CS, Willett WC, Colditz GA, Hunter DJ, Stampfer MJ, Speizer FE, Giovannucci EL. 2002. The influence of folate and multivitamin use on the familial risk of colon cancer in women. *Cancer Epidemiol Biomarkers Prev* 11(3): 227-234.
- Fujimori S, Gudis K, Takahashi Y, Kotoyori M, Tatsuguchi A, Ohaki Y, Sakamoto C. 2011. Determination of the minimal essential serum folate concentration for reduced risk of colorectal adenoma. *Clin Nutr* 30(5): 653-658.
- Gao QY, Chen HM, Chen YX, Wang YC, Wang ZH, Tang JT, Ge ZZ, Chen XY, Sheng JQ, Fang DC, Yu CG, Zheng P, Fang JY. 2013. Folic acid prevents the initial occurrence of sporadic colorectal adenoma in Chinese older than 50 years of age: a randomized clinical trial. *Cancer Prev Res (Phila)* 6(7): 744-752.
- Gay LJ, Mitrou PN, Keen J, Bowman R, Naguib A, Cooke J, Kuhnle GG, Burns PA, Luben R, Lentjes M, Khaw KT, Ball RY, Ibrahim AE, Arends MJ. 2012. Dietary, lifestyle and clinicopathological factors associated with APC mutations and promoter methylation in colorectal cancers from the EPIC-Norfolk study. *J Pathol* 228(3): 405-415.
- Gibson TM, Weinstein SJ, Mayne ST, Pfeiffer RM, Selhub J, Taylor PR, Virtamo J, Albanes D, Stolzenberg-Solomon R. 2010. A prospective study of one-carbon metabolism biomarkers and risk of renal cell carcinoma. *Cancer Causes Control* 21(7): 1061-1069.
- Gibson TM, Weinstein SJ, Pfeiffer RM, Hollenbeck AR, Subar AF, Schatzkin A, Mayne ST, Stolzenberg-Solomon R. 2011. Pre- and postfortification intake of folate and risk of colorectal cancer in a large prospective cohort study in the United States. *Am J Clin Nutr* 94(4): 1053-1062.
- Giovannucci E, Stampfer MJ, Colditz GA, Rimm EB, Trichopoulos D, Rosner BA, Speizer FE, Willett WC. 1993. Folate, methionine, and alcohol intake and risk of colorectal adenoma. *J Natl Cancer Inst* 85(11): 875-884.
- Giovannucci E, Rimm EB, Ascherio A, Stampfer MJ, Colditz GA, Willett WC. 1995. Alcohol, low-methionine--low-folate diets, and risk of colon cancer in men. *J Natl Cancer Inst* 87(4): 265-273.
- Giovannucci E, Stampfer MJ, Colditz GA, Hunter DJ, Fuchs C, Rosner BA, Speizer FE, Willett WC. 1998. Multivitamin use, folate, and colon cancer in women in the Nurses' Health Study. *Ann Intern Med* 129(7): 517-524.
- Giovannucci E, Chen J, Smith-Warner SA, Rimm EB, Fuchs CS, Palomeque C, Willett WC, Hunter DJ. 2003. Methylene tetrahydrofolate reductase, alcohol dehydrogenase, diet, and risk of colorectal adenomas. *Cancer Epidemiol Biomarkers Prev* 12(10): 970-979.
- Glynn SA, Albanes D, Pietinen P, Brown CC, Rautalahti M, Tangrea JA, Gunter EW, Barrett MJ, Virtamo J, Taylor PR. 1996. Colorectal cancer and folate status: a nested case-control study among male smokers. *Cancer Epidemiol Biomarkers Prev* 5(7): 487-494.
- Goode EL, Potter JD, Bigler J, Ulrich CM. 2004. Methionine synthase D919G polymorphism, folate metabolism, and colorectal adenoma risk. *Cancer Epidemiol Biomarkers Prev* 13(1): 157-162.
- Guerreiro CS, Cravo ML, Brito M, Vidal PM, Fidalgo PO, Leitao CN. 2007. The D1822V APC polymorphism interacts with fat, calcium, and fiber intakes in modulating the risk of colorectal cancer in Portuguese persons. *Am J Clin Nutr* 85(6): 1592-1597.
- Guerreiro CS, Carmona B, Goncalves S, Carolino E, Fidalgo P, Brito M, Leitao CN, Cravo M. 2008. Risk of colorectal cancer associated with the C677T polymorphism in 5,10-methylene tetrahydrofolate reductase in Portuguese patients depends on the intake of methyl-donor nutrients. *Am J Clin Nutr* 88(5): 1413-1418.
- Gylling B, Van Guelpen B, Schneede J, Hultdin J, Ueland PM, Hallmans G, Johansson I, Palmqvist R. 2014. Low folate levels are associated with reduced risk of colorectal cancer in a population with low folate status. *Cancer Epidemiol Biomarkers Prev* 23(10): 2136-2144.
- Haghighi MM, Mohebbi SR, Sadeghi RN, Vahedi M, Ghiasi S, Zali MR. 2008. Association between the 1793G> A MTHFR polymorphism and sporadic colorectal cancer in Iran. *Asian Pac J Cancer Prev* 9(4): 659-662.

- Haghighi MM, Radpour R, Mahmoudi T, Mohebbsi SR, Vahedi M, Zali MR. 2009. Association between MTHFR polymorphism (C677T) with nonfamilial colorectal cancer. *Oncol Res* 18(2-3): 57-63.
- Han SS, Sue LY, Berndt SI, Selhub J, Burdette LA, Rosenberg PS, Ziegler RG. 2012. Associations between genes in the one-carbon metabolism pathway and advanced colorectal adenoma risk in individuals with low folate intake. *Cancer Epidemiol Biomarkers Prev* 21(3): 417-427.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Harnack L, Jacobs DR, Jr., Nicodemus K, Lazovich D, Anderson K, Folsom AR. 2002. Relationship of folate, vitamin B-6, vitamin B-12, and methionine intake to incidence of colorectal cancers. *Nutr Cancer* 43(2): 152-158.
- Hazra A, Wu K, Kraft P, Fuchs CS, Giovannucci EL, Hunter DJ. 2007. Twenty-four non-synonymous polymorphisms in the one-carbon metabolic pathway and risk of colorectal adenoma in the Nurses' Health Study. *Carcinogenesis* 28(7): 1510-1519.
- Heine-Broring RC, Winkels RM, Botma A, Wahab PJ, Tan A, Nagengast FM, Witteman BJM, Kampman E. 2013. Dietary supplement use is not associated with recurrence of colorectal adenomas: A prospective cohort study. *International Journal of Cancer* 132(3): 666-675.
- Hermann S, Rohrmann S, Linseisen J. 2009. Lifestyle factors, obesity and the risk of colorectal adenomas in EPIC-Heidelberg. *Cancer Causes Control* 20(8): 1397-1408.
- Hirsch S, Sanchez H, Albala C, de la Maza MP, Barrera G, Leiva L, Bunout D. 2009. Colon cancer in Chile before and after the start of the flour fortification program with folic acid. *Eur J Gastroenterol Hepatol* 21(4): 436-439.
- Ho GYF, Xue XN, Cushman M, McKeown-Eyssen G, Sandler RS, Ahnen DJ, Barry EL, Saibil F, Bresalier RS, Rohan TE, Baron JA. 2009. Antagonistic Effects of Aspirin and Folic Acid on Inflammation Markers and Subsequent Risk of Recurrent Colorectal Adenomas. *Journal of the National Cancer Institute* 101(23): 1650-1654.
- Huang WY, Su LJ, Hayes RB, Moore LE, Katki HA, Berndt SI, Weissfeld JL, Yegnasubramanian S, Purdue MP. 2012. Prospective study of genomic hypomethylation of leukocyte DNA and colorectal cancer risk. *Cancer Epidemiol Biomarkers Prev* 21(11): 2014-2021.
- Hubner RA, Liu JF, Sellick GS, Logan RF, Houlston RS, Muir KR. 2007. Thymidylate synthase polymorphisms, folate and B-vitamin intake, and risk of colorectal adenoma. *Br J Cancer* 97(10): 1449-1456.
- Ishihara J, Otani T, Inoue M, Iwasaki M, Sasazuki S, Tsugane S. 2007. Low intake of vitamin B-6 is associated with increased risk of colorectal cancer in Japanese men. *J Nutr* 137(7): 1808-1814.
- Jacobs EJ, Connell CJ, Patel AV, Chao A, Rodriguez C, Seymour J, McCullough ML, Calle EE, Thun MJ. 2001. Multivitamin use and colon cancer mortality in the Cancer Prevention Study II cohort (United States). *Cancer Causes Control* 12(10): 927-934.
- Jarosz M, Sekula W, Rychlik E. 2013. Trends in dietary patterns, alcohol intake, tobacco smoking, and colorectal cancer in Polish population in 1960-2008. *BioMed research international* 2013: 183204.
- Jaszewski R, Millar B, Hatfield JS, Nogothu K, Finkenauer R, Rishi AK, Naumoff JA, Kucuk O, Axelrod BN, Majumdar AP. 2004. Folic acid reduces nuclear translocation of beta-catenin in rectal mucosal crypts of patients with colorectal adenomas. *Cancer Lett* 206(1): 27-33.
- Jaszewski R, Misra S, Tobi M, Ullah N, Naumoff JA, Kucuk O, Levi E, Axelrod BN, Patel BB, Majumdar AP. 2008. Folic acid supplementation inhibits recurrence of colorectal adenomas: a randomized chemoprevention trial. *World J Gastroenterol* 14(28): 4492-4498.
- Jensen LH, Lindbjerg J, Cruger DG, Brandslund I, Jakobsen A, Kolvraa S, Nielsen JN. 2008. Microsatellite instability and the association with plasma homocysteine and thymidylate synthase in colorectal cancer. *Cancer Invest* 26(6): 583-589.

- Jiang Q, Chen K, Ma X, Li Q, Yu W, Shu G, Yao K. 2005. Diets, polymorphisms of methylenetetrahydrofolate reductase, and the susceptibility of colon cancer and rectal cancer. *Cancer Detect Prev* 29(2): 146-154.
- Jung AY, Poole EM, Bigler J, Whitton J, Potter JD, Ulrich CM. 2008. DNA methyltransferase and alcohol dehydrogenase: gene-nutrient interactions in relation to risk of colorectal polyps. *Cancer Epidemiol Biomarkers Prev* 17(2): 330-338.
- Jung AY, Botma A, Lute C, Blom HJ, Ueland PM, Kvalheim G, Midttun O, Nagengast F, Steegenga W, Kampman E. 2013. Plasma B vitamins and LINE-1 DNA methylation in leukocytes of patients with a history of colorectal adenomas. *Mol Nutr Food Res* 57(4): 698-708.
- Jung AY, van Duijnhoven FJ, Nagengast FM, Botma A, Heine-Broring RC, Kleibeuker JH, Vasen HF, Harryvan JL, Winkels RM, Kampman E. 2014. Dietary B vitamin and methionine intake and MTHFR C677T genotype on risk of colorectal tumors in Lynch syndrome: the GEOLynch cohort study. *Cancer Causes Control* 25(9): 1119-1129.
- Kabat GC, Miller AB, Jain M, Rohan TE. 2008. Dietary intake of selected B vitamins in relation to risk of major cancers in women. *Br J Cancer* 99(5): 816-821.
- Kato I, Dnistrian AM, Schwartz M, Toniolo P, Koenig K, Shore RE, Akhmedkhanov A, Zeleniuch-Jacquotte A, Riboli E. 1999. Serum folate, homocysteine and colorectal cancer risk in women: a nested case-control study. *Br J Cancer* 79(11-12): 1917-1922.
- Kearney J, Giovannucci E, Rimm EB, Stampfer MJ, Colditz GA, Ascherio A, Bleday R, Willett WC. 1995. Diet, alcohol, and smoking and the occurrence of hyperplastic polyps of the colon and rectum (United States). *Cancer Causes Control* 6(1): 45-56.
- Keku T, Millikan R, Worley K, Winkel S, Eaton A, Biscocho L, Martin C, Sandler R. 2002. 5,10-Methylenetetrahydrofolate reductase codon 677 and 1298 polymorphisms and colon cancer in African Americans and whites. *Cancer Epidemiol Biomarkers Prev* 11(12): 1611-1621.
- Key TJ, Appleby PN, Masset G, Brunner EJ, Cade JE, Greenwood DC, Stephen AM, Kuh D, Bhaniani A, Powell N, Khaw KT. 2012. Vitamins, minerals, essential fatty acids and colorectal cancer risk in the United Kingdom Dietary Cohort Consortium. *Int J Cancer* 131(3): E320-325.
- Khosraviani K, Weir HP, Hamilton P, Moorehead J, Williamson K. 2002. Effect of folate supplementation on mucosal cell proliferation in high risk patients for colon cancer. *Gut* 51(2): 195-199.
- Kim DH, Smith-Warner SA, Spiegelman D, Yaun SS, Colditz GA, Freudenheim JL, Giovannucci E, Goldbohm RA, Graham S, Harnack L, Jacobs EJ, Leitzmann M, Mannisto S, Miller AB, Potter JD, Rohan TE, Schatzkin A, Speizer FE, Stevens VL, Stolzenberg-Solomon R, Terry P, Toniolo P, Weijenberg MP, Willett WC, Wolk A, Zeleniuch-Jacquotte A, Hunter DJ. 2010. Pooled analyses of 13 prospective cohort studies on folate intake and colon cancer. *Cancer Causes Control* 21(11): 1919-1930.
- Kim J, Kim DH, Lee BH, Kang SH, Lee HJ, Lim SY, Suh YK, Ahn YO. 2009. Folate intake and the risk of colorectal cancer in a Korean population. *Eur J Clin Nutr* 63(9): 1057-1064.
- Kim J, Cho YA, Kim DH, Lee BH, Hwang DY, Jeong J, Lee HJ, Matsuo K, Tajima K, Ahn YO. 2012. Dietary intake of folate and alcohol, MTHFR C677T polymorphism, and colorectal cancer risk in Korea. *Am J Clin Nutr* 95(2): 405-412.
- Kim YI, Fawaz K, Knox T, Lee YM, Norton R, Arora S, Paiva L, Mason JB. 1998. Colonic mucosal concentrations of folate correlate well with blood measurements of folate status in persons with colorectal polyps. *Am J Clin Nutr* 68(4): 866-872.
- Kim YI, Baik HW, Fawaz K, Knox T, Lee YM, Norton R, Libby E, Mason JB. 2001. Effects of folate supplementation on two provisional molecular markers of colon cancer: a prospective, randomized trial. *Am J Gastroenterol* 96(1): 184-195.

- Konings EJ, Goldbohm RA, Brants HA, Saris WH, van den Brandt PA. 2002. Intake of dietary folate vitamers and risk of colorectal carcinoma: results from The Netherlands Cohort Study. *Cancer* 95(7): 1421-1433.
- Kune G, Watson L. 2006. Colorectal cancer protective effects and the dietary micronutrients folate, methionine, vitamins B6, B12, C, E, selenium, and lycopene. *Nutr Cancer* 56(1): 11-21.
- Kune G, Watson L. 2011. Lowering the Risk of Rectal Cancer among Habitual Beer Drinkers by Dietary Means. *Adv Prev Med* 2011: 874048.
- La Vecchia C, Negri E, Pelucchi C, Franceschi S. 2002. Dietary folate and colorectal cancer. *Int J Cancer* 102(5): 545-547.
- Larsson SC, Giovannucci E, Wolk A. 2005. A prospective study of dietary folate intake and risk of colorectal cancer: modification by caffeine intake and cigarette smoking. *Cancer Epidemiol Biomarkers Prev* 14(3): 740-743.
- Lashner BA, Heidenreich PA, Su GL, Kane SV, Hanauer SB. 1989. Effect of folate supplementation on the incidence of dysplasia and cancer in chronic ulcerative colitis. A case-control study. *Gastroenterology* 97(2): 255-259.
- Lashner BA. 1993. Red blood cell folate is associated with the development of dysplasia and cancer in ulcerative colitis. *J Cancer Res Clin Oncol* 119(9): 549-554.
- Lashner BA, Provencher KS, Seidner DL, Knesebeck A, Brzezinski A. 1997. The effect of folic acid supplementation on the risk for cancer or dysplasia in ulcerative colitis. *Gastroenterology* 112(1): 29-32.
- Laso N, Mas S, Jose Lafuente M, Casterad X, Trias M, Ballesta A, Molina R, Salas J, Ascaso C, Zheng S, Wiencke JK, Lafuente A. 2004. Decrease in specific micronutrient intake in colorectal cancer patients with tumors presenting Ki-ras mutation. *Anticancer Res* 24(3b): 2011-2020.
- LaVecchia C, Braga C, Negri E, Franceschi S, Russo A, Conti E, Falcini F, Giacosa A, Montella M, Decarli A. 1997. Intake of selected micronutrients and risk of colorectal cancer. *International Journal of Cancer* 73(4): 525-530.
- Le Marchand L, Donlon T, Hankin JH, Kolonel LN, Wilkens LR, Seifried A. 2002. B-vitamin intake, metabolic genes, and colorectal cancer risk (United States). *Cancer Causes Control* 13(3): 239-248.
- Le Marchand L, Wilkens LR, Kolonel LN, Henderson BE. 2005. The MTHFR C677T polymorphism and colorectal cancer: the multiethnic cohort study. *Cancer Epidemiol Biomarkers Prev* 14(5): 1198-1203.
- Le Marchand L, White KK, Nomura AM, Wilkens LR, Selhub JS, Tiirikainen M, Goodman MT, Murphy SP, Henderson BE, Kolonel LN. 2009. Plasma levels of B vitamins and colorectal cancer risk: the multiethnic cohort study. *Cancer Epidemiol Biomarkers Prev* 18(8): 2195-2201.
- Le Marchand L, Wang H, Selhub J, Vogt TM, Yokochi L, Decker R. 2011. Association of plasma vitamin B6 with risk of colorectal adenoma in a multiethnic case-control study. *Cancer Causes Control* 22(6): 929-936.
- Lee JE, Willett WC, Fuchs CS, Smith-Warner SA, Wu K, Ma J, Giovannucci E. 2011. Folate intake and risk of colorectal cancer and adenoma: modification by time. *Am J Clin Nutr* 93(4): 817-825.
- Lee JE, Wei EK, Fuchs CS, Hunter DJ, Lee IM, Selhub J, Stampfer MJ, Willett WC, Ma J, Giovannucci E. 2012. Plasma folate, methylenetetrahydrofolate reductase (MTHFR), and colorectal cancer risk in three large nested case-control studies. *Cancer Causes Control* 23(4): 537-545.
- Levi F, Pasche C, Lucchini F, La Vecchia C. 2000. Selected micronutrients and colorectal cancer. a case-control study from the canton of Vaud, Switzerland. *Eur J Cancer* 36(16): 2115-2119.
- Levine AJ, Wallace K, Tsang S, Haile RW, Saibil F, Ahnen D, Cole BF, Barry EL, Munroe DJ, Ali IU, Ueland P, Baron JA. 2008. MTHFR genotype and colorectal adenoma recurrence: data from a double-blind placebo-controlled clinical trial. *Cancer Epidemiol Biomarkers Prev* 17(9): 2409-2415.

- Levine AJ, Grau MV, Mott LA, Ueland PM, Baron JA. 2010. Baseline plasma total homocysteine and adenoma recurrence: results from a double blind randomized clinical trial of aspirin and folate supplementation. *Cancer Epidemiol Biomarkers Prev* 19(10): 2541-2548.
- Lightfoot TJ, Barrett JH, Bishop T, Northwood EL, Smith G, Wilkie MJ, Steele RJ, Carey FA, Key TJ, Wolf R, Forman D. 2008. Methylene tetrahydrofolate reductase genotype modifies the chemopreventive effect of folate in colorectal adenoma, but not colorectal cancer. *Cancer Epidemiol Biomarkers Prev* 17(9): 2421-2430.
- Lim U, Flood A, Choi S, Albanes D, Cross AJ, Schatzkin A, Sinha R, Katki HA, Cash B, Schoenfeld P, Stolzenberg-Solomon R. 2008. Genomic Methylation of Leukocyte DNA in Relation to Colorectal Adenoma Among Asymptomatic Women. *Gastroenterology* 134(1): 47-55.
- Liu AY, Scherer D, Poole E, Potter JD, Curtin K, Makar K, Slattery ML, Caan BJ, Ulrich CM. 2013. Gene-diet-interactions in folate-mediated one-carbon metabolism modify colon cancer risk. *Mol Nutr Food Res* 57(4): 721-734.
- Logan RFA, Grainge MJ, Shepherd VC, Armitage NC, Muir KR, UK CAPTG. 2008. Aspirin and folic acid for the prevention of recurrent colorectal adenomas. *Gastroenterology* 134(1): 29-38.
- Lombardi M, Scattina I, Sardella C, Urbani C, Marciano E, Signori S, Ruocco L, Pellegrini G, Martino E, Bogazzi F. 2013. Serum factors associated with precancerous colonic lesions in acromegaly. *J Endocrinol Invest* 36(8): 545-549.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Ma J, Stampfer MJ, Giovannucci E, Artigas C, Hunter DJ, Fuchs C, Willett WC, Selhub J, Hennekens CH, Rozen R. 1997. Methylene tetrahydrofolate reductase polymorphism, dietary interactions, and risk of colorectal cancer. *Cancer Res* 57(6): 1098-1102.
- Ma J, Stampfer MJ, Christensen B, Giovannucci E, Hunter DJ, Chen J, Willett WC, Selhub J, Hennekens CH, Gravel R, Rozen R. 1999. A polymorphism of the methionine synthase gene: association with plasma folate, vitamin B12, homocyst(e)ine, and colorectal cancer risk. *Cancer Epidemiol Biomarkers Prev* 8(9): 825-829.
- Martinez ME, Maltzman T, Marshall JR, Einspahr J, Reid ME, Sampliner R, Ahnen DJ, Hamilton SR, Alberts DS. 1999. Risk factors for Ki-ras protooncogene mutation in sporadic colorectal adenomas. *Cancer Res* 59(20): 5181-5185.
- Martinez ME, Henning SM, Alberts DS. 2004. Folate and colorectal neoplasia: relation between plasma and dietary markers of folate and adenoma recurrence. *Am J Clin Nutr* 79(4): 691-697.
- Martinez ME, Giovannucci E, Jiang R, Henning SM, Jacobs ET, Thompson P, Smith-Warner SA, Alberts DS. 2006. Folate fortification, plasma folate, homocysteine and colorectal adenoma recurrence. *Int J Cancer* 119(6): 1440-1446.
- Marugame T, Tsuji E, Kiyohara C, Eguchi H, Oda T, Shinchi K, Kono S. 2003. Relation of plasma folate and methylenetetrahydrofolate reductase C677T polymorphism to colorectal adenomas. *Int J Epidemiol* 32(1): 64-66.
- Massa J, Cho E, Orav EJ, Willett WC, Wu K, Giovannucci EL. 2014. Long-term use of multivitamins and risk of colorectal adenoma in women. *British Journal of Cancer* 110(1): 249-255.
- Matsuo K, Ito H, Wakai K, Hirose K, Saito T, Suzuki T, Kato T, Hirai T, Kanemitsu Y, Hamajima H, Tajima K. 2005. One-carbon metabolism related gene polymorphisms interact with alcohol drinking to influence the risk of colorectal cancer in Japan. *Carcinogenesis* 26(12): 2164-2171.
- Matsuo K, Wakai K, Hirose K, Ito H, Saito T, Suzuki T, Kato T, Hirai T, Kanemitsu Y, Hamajima H, Tajima K. 2006. A gene-gene interaction between ALDH2 Glu487Lys and ADH2 His47Arg polymorphisms regarding the risk of colorectal cancer in Japan. *Carcinogenesis* 27(5): 1018-1023.

- Morita M, Yin G, Yoshimitsu S, Ohnaka K, Toyomura K, Kono S, Ueki T, Tanaka M, Kakeji Y, Maehara Y, Okamura T, Ikejiri K, Futami K, Maekawa T, Yasunami Y, Takenaka K, Ichimiya H, Terasaka R. 2013. Folate-related nutrients, genetic polymorphisms, and colorectal cancer risk: the fukuoka colorectal cancer study. *Asian Pac J Cancer Prev* 14(11): 6249-6256.
- Moxon D, Raza M, Kenney R, Ewing R, Arozullah A, Mason JB, Carroll RE. 2005. Relationship of aging and tobacco use with the development of aberrant crypt foci in a predominantly African-American population. *Clin Gastroenterol Hepatol* 3(3): 271-278.
- Murphy G, Sansbury LB, Cross AJ, Stolzenberg-Solomon R, Laiyemo A, Albert PS, Wang Z, Schatzkin A, Lehman T, Kalidindi A, Modali R, Lanza E. 2008. Folate and MTHFR: risk of adenoma recurrence in the Polyp Prevention Trial. *Cancer Causes Control* 19(7): 751-758.
- Murtaugh MA, Curtin K, Sweeney C, Wolff RK, Holubkov R, Caan BJ, Slattery ML. 2007. Dietary intake of folate and co-factors in folate metabolism, MTHFR polymorphisms, and reduced rectal cancer. *Cancer Causes Control* 18(2): 153-163.
- Nagothu KK, Jaszewski R, Moragoda L, Rishi AK, Finkenauer R, Tobi M, Naumoff JA, Dhar R, Ehrinpreis M, Kucuk O, Majumdar APN. 2003. Folic acid mediated attenuation of loss of heterozygosity of DCC tumor suppressor gene in the colonic mucosa of patients with colorectal adenomas. *Cancer Detection and Prevention* 27(4): 297-304.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Nishihara R, Wang M, Qian ZR, Baba Y, Yamauchi M, Mima K, Sukawa Y, Kim SA, Inamura K, Zhang X, Wu K, Giovannucci EL, Chan AT, Fuchs CS, Ogino S, Schernhammer ES. 2014. Alcohol, one-carbon nutrient intake, and risk of colorectal cancer according to tumor methylation level of IGF2 differentially methylated region. *Am J Clin Nutr* 100(6): 1479-1488.
- Odin E, Wettergren Y, Carlsson G, Gustavsson B. 2013. Determination of reduced folates in tumor and adjacent mucosa of colorectal cancer patients using LC-MS/MS. *Biomedical Chromatography* 27(4): 487-495.
- Otani T, Iwasaki M, Hanaoka T, Kobayashi M, Ishihara J, Natsukawa S, Shaura K, Koizumi Y, Kasuga Y, Yoshimura K, Yoshida T, Tsugane S. 2005a. Folate, vitamin B-6, vitamin B-12, and vitamin B-2 intake, genetic polymorphisms of related enzymes, and risk of colorectal cancer in a hospital-based case-control study in Japan. *Nutr. Cancer* 53(1): 42-50.
- Otani T, Iwasaki M, Hanaoka T, Kobayashi M, Ishihara J, Natsukawa S, Shaura K, Koizumi Y, Kasuga Y, Yoshimura K, Yoshida T, Tsugane S. 2005b. Folate, vitamin B6, vitamin B12, and vitamin B2 intake, genetic polymorphisms of related enzymes, and risk of colorectal cancer in a hospital-based case-control study in Japan. *Nutr Cancer* 53(1): 42-50.
- Otani T, Iwasaki M, Sasazuki S, Inoue M, Tsugane S. 2008. Plasma folate and risk of colorectal cancer in a nested case-control study: the Japan Public Health Center-based prospective study. *Cancer Causes Control* 19(1): 67-74.
- Paspatis GA, Karamanolis DG. 1994. Folate supplementation and adenomatous colonic polyps. *Dis Colon Rectum* 37(12): 1340-1341.
- Phelip JM, Ducros V, Faucheron JL, Flourie B, Roblin X. 2008. Association of hyperhomocysteinemia and folate deficiency with colon tumors in patients with inflammatory bowel disease. *Inflamm Bowel Dis* 14(2): 242-248.
- Powers HJ, Hill MH, Welfare M, Spiers A, Bal W, Russell J, Duckworth Y, Gibney E, Williams EA, Mathers JC. 2007. Responses of biomarkers of folate and riboflavin status to folate and riboflavin supplementation in

- healthy and colorectal polyp patients (the FAB2 study). *Cancer Epidemiology Biomarkers and Prevention* 16(10): 2128-2135.
- Protiva P, Mason JB, Liu Z, Hopkins ME, Nelson C, Marshall JR, Lambrecht RW, Pendyala S, Kopelovich L, Kim M, Kleinstein SH, Laird PW, Lipkin M, Holt PR. 2011. Altered folate availability modifies the molecular environment of the human colorectum: implications for colorectal carcinogenesis. *Cancer Prev Res (Phila)* 4(4): 530-543.
- Pufulete M, Al-Ghnam R, Leather AJ, Appleby P, Gout S, Terry C, Emery PW, Sanders TA. 2003. Folate status, genomic DNA hypomethylation, and risk of colorectal adenoma and cancer: a case control study. *Gastroenterology* 124(5): 1240-1248.
- Pufulete M, Abbadi RA, Arno M, Ewins M, Green C, Astarloa EA, Sanders T, Emery P. 2013. The influence of folate supplementation on global gene expression in normal colonic mucosa of subjects with colorectal adenoma. *Mol Nutr Food Res* 57(4): 709-720.
- Ramadas A, Kandiah M. 2010. Nutritional status and the risk for colorectal adenomas: A case-control study in Hospital Kuala Lumpur, Malaysia. *Pakistan Journal of Nutrition* 9(3): 269-278.
- Ravasco P, Monteiro-Grillo I, Marques Vidal P, Camilo ME. 2005. Nutritional risks and colorectal cancer in a Portuguese population. *Nutr Hosp* 20(3): 165-172.
- Razzak AA, Oxentenko AS, Vierkant RA, Tillmans LS, Wang AH, Weisenberger DJ, Laird PW, Lynch CF, Anderson KE, French AJ, Haile RW, Harnack LJ, Potter JD, Slager SL, Smyrk TC, Thibodeau SN, Cerhan JR, Limburg PJ. 2012. Associations between intake of folate and related micronutrients with molecularly defined colorectal cancer risks in the Iowa Women's Health Study. *Nutr Cancer* 64(7): 899-910.
- Regoly-Merei A, Bereczky M, Arato G, Telek G, Pallai Z, Lugasi A, Antal M. 2007. [Nutritional and antioxidant status of colorectal cancer patients]. *Orv Hetil* 148(32): 1505-1509.
- Rosato V, Bosetti C, Levi F, Polesel J, Zucchetto A, Negri E, La Vecchia C. 2013. Risk factors for young-onset colorectal cancer. *Cancer Causes Control* 24(2): 335-341.
- Rossi E, Hung J, Beilby JP, Knuiman MW, Divitini ML, Bartholomew H. 2006. Folate levels and cancer morbidity and mortality: prospective cohort study from Busselton, Western Australia. *Ann Epidemiol* 16(3): 206-212.
- Roswall N, Olsen A, Christensen J, Dragsted LO, Overvad K, Tjønneland A. 2010. Micronutrient intake and risk of colon and rectal cancer in a Danish cohort. *Cancer Epidemiol* 34(1): 40-46.
- Satia-Abouta J, Galanko JA, Martin CF, Potter JD, Ammerman A, Sandler RS. 2003. Associations of micronutrients with colon cancer risk in African Americans and whites: results from the North Carolina Colon Cancer Study. *Cancer Epidemiol Biomarkers Prev* 12(8): 747-754.
- Schernhammer ES, Giovannucci E, Fuchs CS, Ogino S. 2008a. A prospective study of dietary folate and vitamin B and colon cancer according to microsatellite instability and KRAS mutational status. *Cancer Epidemiol Biomarkers Prev* 17(10): 2895-2898.
- Schernhammer ES, Ogino S, Fuchs CS. 2008b. Folate and vitamin B6 intake and risk of colon cancer in relation to p53 expression. *Gastroenterology* 135(3): 770-780.
- Schernhammer ES, Giovannucci E, Kawasaki T, Rosner B, Fuchs CS, Ogino S. 2010. Dietary folate, alcohol and B vitamins in relation to LINE-1 hypomethylation in colon cancer. *Gut* 59(6): 794-799.
- Schernhammer ES, Giovannucci E, Baba Y, Fuchs CS, Ogino S. 2011. B vitamins, methionine and alcohol intake and risk of colon cancer in relation to BRAF mutation and CpG island methylator phenotype (CIMP). *PLoS One* 6(6): e21102.
- Senesse P, Meance S, Cottet V, Faivre J, Boutron-Ruault MC. 2004. High dietary iron and copper and risk of colorectal cancer: a case-control study in Burgundy, France. *Nutr Cancer* 49(1): 66-71.

- Senesse P, Touvier M, Kesse E, Faivre J, Boutron-Ruault MC. 2005. Tobacco use and associations of beta-carotene and vitamin intakes with colorectal adenoma risk. *J Nutr* 135(10): 2468-2472.
- Sharp L, Little J, Brockton NT, Cotton SC, Masson LF, Haites NE, Cassidy J. 2008. Polymorphisms in the methylenetetrahydrofolate reductase (MTHFR) gene, intakes of folate and related B vitamins and colorectal cancer: a case-control study in a population with relatively low folate intake. *Br J Nutr* 99(2): 379-389.
- Shrubsole MJ, Yang G, Gao YT, Chow WH, Shu XO, Cai Q, Rothman N, Gao J, Wagner C, Zheng W. 2009. Dietary B vitamin and methionine intakes and plasma folate are not associated with colorectal cancer risk in Chinese women. *Cancer Epidemiol Biomarkers Prev* 18(3): 1003-1006.
- Sidelnikov E, Bostick RM, Flanders WD, Long Q, Cohen VL, Dash C, Seabrook ME, Fedirko V. 2009. MutL-homolog 1 expression and risk of incident, sporadic colorectal adenoma: search for prospective biomarkers of risk for colorectal cancer. *Cancer Epidemiol Biomarkers Prev* 18(5): 1599-1609.
- Slattery ML, Schaffer D, Edwards SL, Ma KN, Potter JD. 1997. Are dietary factors involved in DNA methylation associated with colon cancer? *Nutr Cancer* 28(1): 52-62.
- Slattery ML, Edwards SL, Samowitz W. 1998. Stage of colon cancer at diagnosis: implications for risk factor associations? *Int J Epidemiol* 27(3): 382-387.
- Slattery ML, Potter JD, Samowitz W, Schaffer D, Leppert M. 1999. Methylenetetrahydrofolate reductase, diet, and risk of colon cancer. *Cancer Epidemiol Biomarkers Prev* 8(6): 513-518.
- Slattery ML, Curtin K, Sweeney C, Levin TR, Potter J, Wolff RK, Albertsen H, Samowitz WS. 2007. Diet and lifestyle factor associations with CpG island methylator phenotype and BRAF mutations in colon cancer. *Int J Cancer* 120(3): 656-663.
- Slattery ML, Lundgreen A, Wolff RK. 2013. Dietary influence on MAPK-signaling pathways and risk of colon and rectal cancer. *Nutr Cancer* 65(5): 729-738.
- Song YQ, Manson JE, Lee IM, Cook NR, Paul L, Selhub J, Giovannucci E, Zhang SMM. 2012. Effect of Combined Folic Acid, Vitamin B-6, and Vitamin B-12 on Colorectal Adenoma. *Journal of the National Cancer Institute* 104(20): 1562-1575.
- Steck SE, Keku T, Butler LM, Galanko J, Massa B, Millikan RC, Sandler RS. 2008. Polymorphisms in methionine synthase, methionine synthase reductase and serine hydroxymethyltransferase, folate and alcohol intake, and colon cancer risk. *J Nutrigenet Nutrigenomics* 1(4): 196-204.
- Stevens VL, McCullough ML, Sun J, Jacobs EJ, Campbell PT, Gapstur SM. 2011. High levels of folate from supplements and fortification are not associated with increased risk of colorectal cancer. *Gastroenterology* 141(1): 98-105, 105 e101.
- Su LJ, Arab L. 2001. Nutritional status of folate and colon cancer risk: evidence from NHANES I epidemiologic follow-up study. *Ann Epidemiol* 11(1): 65-72.
- Sun Z, Zhu Y, Wang PP, Roebathan B, Zhao J, Zhao J, Dicks E, Cotterchio M, Buehler S, Campbell PT, McLaughlin JR, Parfrey PS. 2012. Reported intake of selected micronutrients and risk of colorectal cancer: results from a large population-based case-control study in Newfoundland, Labrador and Ontario, Canada. *Anticancer Res* 32(2): 687-696.
- Takata Y, Shrubsole MJ, Li H, Cai Q, Gao J, Wagner C, Wu J, Zheng W, Xiang YB, Shu XO. 2014. Plasma folate concentrations and colorectal cancer risk: a case-control study nested within the Shanghai Men's Health Study. *Int J Cancer* 135(9): 2191-2198.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zamboni A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.

- Terry P, Jain M, Miller AB, Howe GR, Rohan TE. 2002a. Dietary intake of folic acid and colorectal cancer risk in a cohort of women. *Int J Cancer* 97(6): 864-867.
- Terry P, Jain M, Miller AB, Howe GR, Rohan TE. 2002b. Dietary carotenoid intake and colorectal cancer risk. *Nutr Cancer* 42(2): 167-172.
- Terry P, Jain M, Miller AB, Howe GR, Rohan TE. 2002c. Dietary carotenoids and risk of breast cancer. *Am J Clin Nutr* 76(4): 883-888.
- Tillmans LS, Vierkant RA, Wang AH, Jewel Samadder N, Lynch CF, Anderson KE, French AJ, Haile RW, Harnack LJ, Potter JD, Slager SL, Smyrk TC, Thibodeau SN, Cerhan JR, Limburg PJ. 2014. Associations between cigarette smoking, hormone therapy, and folate intake with incident colorectal cancer by TP53 protein expression level in a population-based cohort of older women. *Cancer Epidemiol Biomarkers Prev* 23(2): 350-355.
- Torre ML, Russo GT, Ragonese M, Giandalia A, De Menis E, Arnaldi G, Alibrandi A, Buda C, Romanello G, Romeo EL, Cucinotta D, Trimarchi F, Cannavo S. 2014. MTHFR C677T polymorphism, folate status and colon cancer risk in acromegalic patients. *Pituitary* 17(3): 257-266.
- Tseng M, Murray SC, Kupper LL, Sandler RS. 1996. Micronutrients and the risk of colorectal adenomas. *Am J Epidemiol* 144(11): 1005-1014.
- Ulrich CM, Kampman E, Bigler J, Schwartz SM, Chen C, Bostick R, Fosdick L, Beresford SA, Yasui Y, Potter JD. 1999. Colorectal adenomas and the C677T MTHFR polymorphism: evidence for gene-environment interaction? *Cancer Epidemiol Biomarkers Prev* 8(8): 659-668.
- Ulrich CM, Kampman E, Bigler J, Schwartz SM, Chen C, Bostick R, Fosdick L, Beresford SA, Yasui Y, Potter JD. 2000. Lack of association between the C677T MTHFR polymorphism and colorectal hyperplastic polyps. *Cancer Epidemiol Biomarkers Prev* 9(4): 427-433.
- van den Donk M, Buijsse B, van den Berg SW, Ocke MC, Harryvan JL, Nagengast FM, Kok FJ, Kampman E. 2005. Dietary intake of folate and riboflavin, MTHFR C677T genotype, and colorectal adenoma risk: a Dutch case-control study. *Cancer Epidemiol Biomarkers Prev* 14(6): 1562-1566.
- van den Donk M, van Engeland M, Pellis L, Witteman BJ, Kok FJ, Keijer J, Kampman E. 2007a. Dietary folate intake in combination with MTHFR C677T genotype and promoter methylation of tumor suppressor and DNA repair genes in sporadic colorectal adenomas. *Cancer Epidemiol Biomarkers Prev* 16(2): 327-333.
- van den Donk M, Visker MH, Harryvan JL, Kok FJ, Kampman E. 2007b. Dietary intake of B-vitamins, polymorphisms in thymidylate synthase and serine hydroxymethyltransferase 1, and colorectal adenoma risk: a Dutch case-control study. *Cancer Lett* 250(1): 146-153.
- Van Guelpen B, Hultdin J, Johansson I, Hallmans G, Stenling R, Riboli E, Winkvist A, Palmqvist R. 2006. Low folate levels may protect against colorectal cancer. *Gut* 55(10): 1461-1466.
- Wallace K, Grau MV, Ahnen D, Snover DC, Robertson DJ, Mahnke D, Gui J, Barry EL, Summers RW, McKeown-Eyssen G, Haile RW, Baron JA. 2009. The association of lifestyle and dietary factors with the risk for serrated polyps of the colorectum. *Cancer Epidemiol Biomarkers Prev* 18(8): 2310-2317.
- Wark PA, Weijenberg MP, van 't Veer P, van Wijhe G, Luchtenborg M, van Muijen GN, de Goeij AF, Goldbohm RA, van den Brandt PA. 2005. Fruits, vegetables, and hMLH1 protein-deficient and -proficient colon cancer: The Netherlands cohort study. *Cancer Epidemiol Biomarkers Prev* 14(7): 1619-1625.
- Wei EK, Giovannucci E, Wu K, Rosner B, Fuchs CS, Willett WC, Colditz GA. 2004. Comparison of risk factors for colon and rectal cancer. *Int J Cancer* 108(3): 433-442.
- Wei EK, Colditz GA, Giovannucci EL, Fuchs CS, Rosner BA. 2009. Cumulative risk of colon cancer up to age 70 years by risk factor status using data from the Nurses' Health Study. *Am J Epidemiol* 170(7): 863-872.
- Weinstein SJ, Albanes D, Selhub J, Graubard B, Lim U, Taylor PR, Virtamo J, Stolzenberg-Solomon R. 2008. One-carbon metabolism biomarkers and risk of colon and rectal cancers. *Cancer Epidemiol Biomarkers Prev* 17(11): 3233-3240.

- White E, Shannon JS, Patterson RE. 1997. Relationship between vitamin and calcium supplement use and colon cancer. *Cancer Epidemiol Biomarkers Prev* 6(10): 769-774.
- Williams CD, Satia JA, Adair LS, Stevens J, Galanko J, Keku TO, Sandler RS. 2010. Antioxidant and DNA methylation-related nutrients and risk of distal colorectal cancer. *Cancer Causes Control* 21(8): 1171-1181.
- Williams EA, Welfare M, Spiers A, Hill MH, Bal W, Gibney ER, Duckworth Y, Powers HJ, Mathers JC. 2013. Systemic folate status, rectal mucosal folate concentration and dietary intake in patients at differential risk of bowel cancer (The FAB2 Study). *Eur J Nutr* 52(7): 1801-1810.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.
- Yamaji T, Iwasaki M, Sasazuki S, Sakamoto H, Yoshida T, Tsugane S. 2009. Methionine synthase A2756G polymorphism interacts with alcohol and folate intake to influence the risk of colorectal adenoma. *Cancer Epidemiol Biomarkers Prev* 18(1): 267-274.
- Yang B, Thyagarajan B, Gross MD, Fedirko V, Goodman M, Bostick RM. 2014. No evidence that associations of incident, sporadic colorectal adenoma with its major modifiable risk factors differ by chromosome 8q24 region rs6983267 genotype. *Mol Carcinog* 53 Suppl 1: E193-200.
- Zhang SM, Moore SC, Lin J, Cook NR, Manson JE, Lee IM, Buring JE. 2006. Folate, vitamin B6, multivitamin supplements, and colorectal cancer risk in women. *Am J Epidemiol* 163(2): 108-115.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.
- Zhu SS, Mason J, Shi Y, Hu YB, Li RG, Wahg M, Zhou YH, Jin GQ, Xie YY, Wu GQ, Xia DH, Qian ZH, Sohng HL, Tu BQ, Zhang LD, Russell R, Xiao SD. 2003. The effect of folic acid on the development of stomach and other gastrointestinal cancers. *Chinese Medical Journal* 116(1): 15-19.
- Zschabitz S, Cheng TY, Neuhauser ML, Zheng Y, Ray RM, Miller JW, Song X, Maneval DR, Beresford SA, Lane D, Shikany JM, Ulrich CM. 2013. B vitamin intakes and incidence of colorectal cancer: results from the Women's Health Initiative Observational Study cohort. *Am J Clin Nutr* 97(2): 332-343.

1.1.8 Esophageal Cancer (n=32), including Barrett's esophagus

- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Balbuena L, Casson AG. 2010. Dietary folate and vitamin B6 are not associated with p53 mutations in esophageal adenocarcinoma. *Mol Carcinog* 49(3): 211-214.
- Bollschweiler E, Wolfgarten E, Nowroth T, Rosendahl U, Monig SP, Holscher AH. 2002. Vitamin intake and risk of subtypes of esophageal cancer in Germany. *J Cancer Res Clin Oncol* 128(10): 575-580.
- Brown LM, Blot WJ, Schuman SH, Smith VM, Ershow AG, Marks RD, Fraumeni JF, Jr. 1988. Environmental factors and high risk of esophageal cancer among men in coastal South Carolina. *J Natl Cancer Inst* 80(20): 1620-1625.
- Chen H, Tucker KL, Graubard BI, Heineman EF, Markin RS, Potischman NA, Russell RM, Weisenburger DD, Ward MH. 2002. Nutrient intakes and adenocarcinoma of the esophagus and distal stomach. *Nutr Cancer* 42(1): 33-40.
- Chen J, Huang ZJ, Duan YQ, Xiao XR, Jiang JQ, Zhang R. 2012. Aberrant DNA methylation of P16, MGMT, and hMLH1 genes in combination with MTHFR C677T genetic polymorphism and folate intake in esophageal squamous cell carcinoma. *Asian Pac J Cancer Prev* 13(10): 5303-5306.
- De Stefani E, Ronco A, Mendilaharsu M, Deneo-Pellegrini H. 1999. Diet and risk of cancer of the upper aerodigestive tract--II. Nutrients. *Oral Oncol* 35(1): 22-26.

- De Stefani E, Ronco AL, Boffetta P, Deneo-Pellegrini H, Acosta G, Correa P, Mendilaharsu M. 2006. Nutrient intake and risk of squamous cell carcinoma of the esophagus: A case-control study in Uruguay. *Nutr. Cancer* 56(2): 149-157.
- Fanidi A, Relton C, Ueland PM, Midttun O, Vollset SE, Travis RC, Trichopoulou A, Lagiou P, Trichopoulos D, Bueno-de-Mesquita HB, Ros M, Boeing H, Tumino R, Panico S, Palli D, Sieri S, Vineis P, Sanchez MJ, Huerta JM, Barricarte Gurrea A, Lujan-Barroso L, Quiros JR, Tjonneland A, Halkjaer J, Boutron-Ruault MC, Clavel-Chapelon F, Cadeau C, Weiderpass E, Johansson M, Riboli E, Brennan P, Johansson M. 2015. A prospective study of one-carbon metabolism biomarkers and cancer of the head and neck and esophagus. *Int J Cancer* 136(4): 915-927.
- Freng A, Daae LN, Engeland A, Norum KR, Sander J, Solvoll K, Tretli S. 1998. Malignant epithelial tumours in the upper digestive tract: a dietary and socio-medical case-control and survival study. *Eur J Clin Nutr* 52(4): 271-278.
- Galeone C, Pelucchi C, Levi F, Negri E, Talamini R, Franceschi S, La Vecchia C. 2006. Folate intake and squamous-cell carcinoma of the oesophagus in Italian and Swiss men. *Ann Oncol* 17(3): 521-525.
- Hung RJ, Hashibe M, McKay J, Gaborieau V, Szeszenia-Dabrowska N, Zaridze D, Lissowska J, Rudnai P, Fabianova E, Mates I, Foretova L, Janout V, Bencko V, Chabrier A, Moullan N, Canzian F, Hall J, Boffetta P, Brennan P. 2007. Folate-related genes and the risk of tobacco-related cancers in Central Europe. *Carcinogenesis* 28(6): 1334-1340.
- Ibibebe TI, Hughes MC, Pandeya N, Zhao Z, Montgomery G, Hayward N, Green AC, Whiteman DC, Webb PM. 2011. High intake of folate from food sources is associated with reduced risk of esophageal cancer in an Australian population. *J Nutr* 141(2): 274-283.
- Jaskiewicz K, Marasas WF, Lazarus C, Beyers AD, Van Helden PD. 1988. Association of esophageal cytological abnormalities with vitamin and lipotrope deficiencies in populations at risk for esophageal cancer. *Anticancer Res* 8(4): 711-715.
- Jaskiewicz K. 1989. Oesophageal carcinoma: cytopathology and nutritional aspects in aetiology. *Anticancer Res* 9(6): 1847-1852.
- Jessri M, Rashidkhani B, Hajizadeh B, Jessri M, Gotay C. 2011. Macronutrients, vitamins and minerals intake and risk of esophageal squamous cell carcinoma: a case-control study in Iran. *Nutr J* 10: 137.
- Jiao L, Kramer JR, Ruge M, Parente P, Verstovsek G, Alsarraj A, El-Serag HB. 2013. Dietary intake of vegetables, folate, and antioxidants and the risk of Barrett's esophagus. *Cancer Causes Control* 24(5): 1005-1014.
- Jing C, Huang Z, Duan Y, Xiao X, Zhang R, Jiang J. 2012. Folate intake, methylenetetrahydrofolate reductase polymorphisms in association with the prognosis of esophageal squamous cell carcinoma. *Asian Pac J Cancer Prev* 13(2): 647-651.
- Keld R, Thian M, Hau C, Sajid J, Kumar N, Ang Y. 2014. Polymorphisms of MTHFR and susceptibility to oesophageal adenocarcinoma in a Caucasian United Kingdom population. *World J Gastroenterol* 20(34): 12212-12216.
- Lu C, Xie H, Wang F, Shen H, Wang J. 2011. Diet folate, DNA methylation and genetic polymorphisms of MTHFR C677T in association with the prognosis of esophageal squamous cell carcinoma. *BMC Cancer* 11: 91.
- Mayne ST, Risch HA, Dubrow R, Chow WH, Gammon MD, Vaughan TL, Farrow DC, Schoenberg JB, Stanford JL, Ahsan H, West AB, Rotterdam H, Blot WJ, Fraumeni JF, Jr. 2001. Nutrient intake and risk of subtypes of esophageal and gastric cancer. *Cancer Epidemiol Biomarkers Prev* 10(10): 1055-1062.
- Prasad MP, Krishna TP, Pasricha S, Krishnaswamy K, Quereshi MA. 1992. Esophageal cancer and diet--a case-control study. *Nutr Cancer* 18(1): 85-93.
- Qin JM, Wang XM, Chen B, Yang L, Li F, He L, Liao PH. 2008. [Study on the ingestion of folate and polymorphism of MTHFR C677T with esophageal cancer in Xinjiang Kazakh]. *Zhonghua Liu Xing Bing Xue Za Zhi* 29(1): 30-33.

- Sharp L, Carsin AE, Cantwell MM, Anderson LA, Murray LJ. 2013. Intakes of dietary folate and other B vitamins are associated with risks of esophageal adenocarcinoma, Barrett's esophagus, and reflux esophagitis. *J Nutr* 143(12): 1966-1973.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zambon A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- van Helden PD, Beyers AD, Bester AJ, Jaskiewicz K. 1987. Esophageal cancer: vitamin and lipotrope deficiencies in an at-risk South African population. *Nutr Cancer* 10(4): 247-255.
- Xiao Q, Freedman ND, Ren J, Hollenbeck AR, Abnet CC, Park Y. 2014. Intakes of folate, methionine, vitamin B6, and vitamin B12 with risk of esophageal and gastric cancer in a large cohort study. *Br J Cancer* 110(5): 1328-1333.
- Yang CX, Matsuo K, Ito H, Shinoda M, Hatooka S, Hirose K, Wakai K, Saito T, Suzuki T, Maeda T, Tajima K. 2005. Gene-environment interactions between alcohol drinking and the MTHFR C677T polymorphism impact on esophageal cancer risk: results of a case-control study in Japan. *Carcinogenesis* 26(7): 1285-1290.
- Zhang ZF, Kurtz RC, Yu GP, Sun M, Gargon N, Karpeh M, Jr., Fein JS, Harlap S. 1997. Adenocarcinomas of the esophagus and gastric cardia: the role of diet. *Nutr Cancer* 27(3): 298-309.
- Zhao P, Lin F, Li Z, Lin B, Lin J, Luo R. 2011. Folate intake, methylenetetrahydrofolate reductase polymorphisms, and risk of esophageal cancer. *Asian Pac. J. Cancer Prev.* 12(8): 2019-2023.
- Zhu SS, Mason J, Shi Y, Hu YB, Li RG, Wahg M, Zhou YH, Jin GQ, Xie YY, Wu GQ, Xia DH, Qian ZH, Sohng HL, Tu BQ, Zhang LD, Russell R, Xiao SD. 2003. The effect of folic acid on the development of stomach and other gastrointestinal cancers. *Chinese Medical Journal* 116(1): 15-19.

1.1.9 Gastric or Stomach Cancer (n=34)

- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Botterweck AAM, Van Den Brandt PA, Goldbohm RA. 2000. Vitamins, carotenoids, dietary fiber, and the risk of gastric carcinoma: Results from a prospective study after 6.3 years of follow-up. *Cancer* 88(4): 737-748.
- Chen H, Tucker KL, Graubard BI, Heineman EF, Markin RS, Potischman NA, Russell RM, Weisenburger DD, Ward MH. 2002. Nutrient intakes and adenocarcinoma of the esophagus and distal stomach. *Nutr Cancer* 42(1): 33-40.
- Chen J, Yuan L, Duan YQ, Jiang JQ, Zhang R, Huang ZJ, Xiao XR. 2014. Impact of methylenetetrahydrofolate reductase polymorphisms and folate intake on the risk of gastric cancer and their association with *Helicobacter pylori* infection and tumor site. *Genet Mol Res* 13(Aop).
- Epplein M, Shu XO, Xiang YB, Chow WH, Yang G, Li HL, Ji BT, Cai H, Gao YT, Zheng W. 2010. Fruit and vegetable consumption and risk of distal gastric cancer in the Shanghai Women's and Men's Health studies. *Am J Epidemiol* 172(4): 397-406.
- Galvan-Portillo MV, Cantoral A, Onate-Ocana LF, Chen J, Herrera-Goepfert R, Torres-Sanchez L, Hernandez-Ramirez RU, Palma-Coca O, Lopez-Carrillo L. 2009. Gastric cancer in relation to the intake of nutrients involved in one-carbon metabolism among MTHFR 677 TT carriers. *Eur J Nutr* 48(5): 269-276.
- Gao S, Ding LH, Wang JW, Li CB, Wang ZY. 2013. Diet folate, DNA methylation and polymorphisms in methylenetetrahydrofolate reductase in association with the susceptibility to gastric cancer. *Asian Pac J Cancer Prev* 14(1): 299-302.
- Gonzalez CA, Riboli E, Badosa J, Batiste E, Cardona T, Pita S, Sanz JM, Torrent M, Agudo A. 1994. Nutritional factors and gastric cancer in Spain. *Am J Epidemiol* 139(5): 466-473.

- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Harrison LE, Zhang ZF, Karpeh MS, Sun M, Kurtz RC. 1997. The role of dietary factors in the intestinal and diffuse histologic subtypes of gastric adenocarcinoma: a case-control study in the U.S. *Cancer* 80(6): 1021-1028.
- Hirsch S, Sanchez H, Albala C, de la Maza MP, Barrera G, Leiva L, Bunout D. 2009. Colon cancer in Chile before and after the start of the flour fortification program with folic acid. *Eur J Gastroenterol Hepatol* 21(4): 436-439.
- Hou L, Wang H, Sartori S, Gawron A, Lissowska J, Bollati V, Tarantini L, Zhang FF, Zatonski W, Chow WH, Baccarelli A. 2010. Blood leukocyte DNA hypomethylation and gastric cancer risk in a high-risk Polish population. *Int J Cancer* 127(8): 1866-1874.
- Jaskiewicz K, Labadarios D, Van Helden PD, Jaskiewicz IB, Heine EWP, Van Wyk JM, Wiid IJF. 1990. Chronic atrophic gastritis and micronutrients in a population at risk for gastric carcinoma. *Cancer Journal* 3(3): 143-146.
- Kim HJ, Kim MK, Chang WK, Choi HS, Choi BY, Lee SS. 2005. Effect of nutrient intake and *Helicobacter pylori* infection on gastric cancer in Korea: a case-control study. *Nutr Cancer* 52(2): 138-146.
- Kim HJ, Lee SS, Choi BY, Kim MK. 2007. Nitrate intake relative to antioxidant vitamin intake affects gastric cancer risk: a case-control study in Korea. *Nutr Cancer* 59(2): 185-191.
- Kweon SS, Shu XO, Xiang Y, Yang G, Ji BT, Li H, Gao YT, Zheng W, Shrubsole MJ. 2014. One-carbon metabolism dietary factors and distal gastric cancer risk in Chinese women. *Cancer Epidemiol Biomarkers Prev* 23(7): 1374-1382.
- La Vecchia C, Ferraroni M, D'Avanzo B, Decarli A, Franceschi S. 1994. Selected micronutrient intake and the risk of gastric cancer. *Cancer Epidemiol Biomarkers Prev* 3(5): 393-398.
- Larsson SC, Giovannucci E, Wolk A. 2006. Folate intake and stomach cancer incidence in a prospective cohort of Swedish women. *Cancer Epidemiol Biomarkers Prev* 15(7): 1409-1412.
- Lazarevic K, Nagorni A, Bogdanovic D, Rancic N, Stosic L, Milutinovic S. 2011. Dietary micronutrients and gastric cancer: Hospital based study. *Central European Journal of Medicine* 6(6): 783-787.
- Lissowska J, Gail MH, Pee D, Groves FD, Sobin LH, Nasierowska-Guttmejer A, Sygnowska E, Zatonski W, Blot WJ, Chow WH. 2004. Diet and stomach cancer risk in Warsaw, Poland. *Nutr Cancer* 48(2): 149-159.
- Lopez-Carrillo L, Lopez-Cervantes M, Ward MH, Bravo-Alvarado J, Ramirez-Espitia A. 1999. Nutrient intake and gastric cancer in Mexico. *Int J Cancer* 83(5): 601-605.
- Mayne ST, Risch HA, Dubrow R, Chow WH, Gammon MD, Vaughan TL, Farrow DC, Schoenberg JB, Stanford JL, Ahsan H, West AB, Rotterdam H, Blot WJ, Fraumeni JF, Jr. 2001. Nutrient intake and risk of subtypes of esophageal and gastric cancer. *Cancer Epidemiol Biomarkers Prev* 10(10): 1055-1062.
- Munoz N, Plummer M, Vivas J, Moreno V, De Sanjose S, Lopez G, Oliver W. 2001. A case-control study of gastric cancer in Venezuela. *Int J Cancer* 93(3): 417-423.
- Munoz SE, Ferraroni M, La Vecchia C, Decarli A. 1997. Gastric cancer risk factors in subjects with family history. *Cancer Epidemiol Biomarkers Prev* 6(2): 137-140.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Nomura AM, Hankin JH, Kolonel LN, Wilkens LR, Goodman MT, Stemmermann GN. 2003. Case-control study of diet and other risk factors for gastric cancer in Hawaii (United States). *Cancer Causes Control* 14(6): 547-558.

- Pelucchi C, Tramacere I, Bertuccio P, Tavani A, Negri E, La Vecchia C. 2009. Dietary intake of selected micronutrients and gastric cancer risk: an Italian case-control study. *Ann Oncol* 20(1): 160-165.
- Schroeksnadel K, Frick B, Fiegl M, Winkler C, Denz HA, Fuchs D. 2007. Hyperhomocysteinaemia and immune activation in patients with cancer. *Clin Chem Lab Med* 45(1): 47-53.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zambon A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- Vollset SE, Iglund J, Jenab M, Fredriksen A, Meyer K, Eussen S, Gjesing HK, Ueland PM, Pera G, Sala N, Agudo A, Capella G, Del Giudice G, Palli D, Boeing H, Weikert C, Bueno-de-Mesquita HB, Carneiro F, Pala V, Vineis P, Tumino R, Panico S, Berglund G, Manjer J, Stenling R, Hallmans G, Martinez C, Dorronsoro M, Barricarte A, Navarro C, Quiros JR, Allen N, Key TJ, Bingham S, Linseisen J, Kaaks R, Overvad K, Tjonneland A, Buchner FL, Peeters PH, Numans ME, Clavel-Chapelon F, Boutron-Ruault MC, Trichopoulou A, Lund E, Slimani N, Ferrari P, Riboli E, Gonzalez CA. 2007. The association of gastric cancer risk with plasma folate, cobalamin, and methylenetetrahydrofolate reductase polymorphisms in the European Prospective Investigation into Cancer and Nutrition. *Cancer Epidemiol Biomarkers Prev* 16(11): 2416-2424.
- Xiao Q, Freedman ND, Ren J, Hollenbeck AR, Abnet CC, Park Y. 2014. Intakes of folate, methionine, vitamin B6, and vitamin B12 with risk of esophageal and gastric cancer in a large cohort study. *Br J Cancer* 110(5): 1328-1333.
- Zhang FF, Terry MB, Hou L, Chen J, Lissowska J, Yeager M, Zatonski W, Chanock S, Morabia A, Chow WH. 2007. Genetic polymorphisms in folate metabolism and the risk of stomach cancer. *Cancer Epidemiol Biomarkers Prev* 16(1): 115-121.
- Zhang ZF, Kurtz RC, Yu GP, Sun M, Gargon N, Karpeh M, Jr., Fein JS, Harlap S. 1997. Adenocarcinomas of the esophagus and gastric cardia: the role of diet. *Nutr Cancer* 27(3): 298-309.
- Zhu SS, Mason J, Shi Y, Hu YB, Li RG, Wahg M, Zhou YH, Jin GQ, Xie YY, Wu GQ, Xia DH, Qian ZH, Sohng HL, Tu BQ, Zhang LD, Russell R, Xiao SD. 2003. The effect of folic acid on the development of stomach and other gastrointestinal cancers. *Chinese Medical Journal* 116(1): 15-19.

1.1.10 Head and Neck Cancer (n=29), including oral, laryngeal, pharyngeal

- Almadori G, Bussu F, Galli J, Cadoni G, Zappacosta B, Persichilli S, Minucci A, Giardina B. 2002. Serum folate and homocysteine levels in head and neck squamous cell carcinoma. *Cancer* 94(4): 1006-1011.
- Almadori G, Bussu F, Galli J, Cadoni G, Zappacosta B, Persichilli S, Minucci A, Giardina B, Maurizi M. 2005. Serum levels of folate, homocysteine, and vitamin B12 in head and neck squamous cell carcinoma and in laryngeal leukoplakia. *Cancer* 103(2): 284-292.
- Almadori G, Bussu F, Navarra P, Galli J, Paludetti G, Giardina B, Maurizi M. 2006. Pilot phase IIA study for evaluation of the efficacy of folic acid in the treatment of laryngeal leukoplakia. *Cancer* 107(2): 328-336.
- Arthur AE, Duffy SA, Sanchez GI, Gruber SB, Terrell JE, Hebert JR, Light E, Bradford CR, D'Silva NJ, Carey TE, Wolf GT, Peterson KE, Rozek LS. 2011. Higher micronutrient intake is associated with human papillomavirus-positive head and neck cancer: a case-only analysis. *Nutr Cancer* 63(5): 734-742.
- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Bartuli FN, Piva P, Caddeo F, Luciani F, Arcuri C. 2013. Squamous cell carcinoma of the oral cavity and hyperhomocysteinemia. There's a correlation? A preliminary study. *International Journal of Clinical Dentistry* 6(3): 219-225.

- Bidoli E, Bosetti C, La Vecchia C, Levi F, Parpinel M, Talamini R, Negri E, Maso LD, Franceschi S. 2003. Micronutrients and laryngeal cancer risk in Italy and Switzerland: a case-control study. *Cancer Causes Control* 14(5): 477-484.
- Bravi F, Bosetti C, Filomeno M, Levi F, Garavello W, Galimberti S, Negri E, La Vecchia C. 2013. Foods, nutrients and the risk of oral and pharyngeal cancer. *Br J Cancer* 109(11): 2904-2910.
- Carley KW, Puttaiah R, Alvarez JO, Heimburger DC, Anantha N. 1994. Diet and oral premalignancy in female south Indian tobacco and betel chewers: a case-control study. *Nutr Cancer* 22(1): 73-84.
- Colacino JA, Arthur AE, Dolinoy DC, Sartor MA, Duffy SA, Chepeha DB, Bradford CR, Walline HM, McHugh JB, D'Silva N, Carey TE, Wolf GT, Taylor JM, Peterson KE, Rozek LS. 2012. Pretreatment dietary intake is associated with tumor suppressor DNA methylation in head and neck squamous cell carcinomas. *Epigenetics* 7(8): 883-891.
- De Stefani E, Ronco A, Mendilaharsu M, Deneo-Pellegrini H. 1999. Diet and risk of cancer of the upper aerodigestive tract--II. Nutrients. *Oral Oncol* 35(1): 22-26.
- Eleftheriadou A, Chalastras T, Ferekidou E, Yiotakis I, Kyriou L, Tzagarakis M, Ferekidis E, Kandiloros D. 2006. Association between squamous cell carcinoma of the head and neck and serum folate and homocysteine. *Anticancer Res* 26(3B): 2345-2348.
- Fanidi A, Relton C, Ueland PM, Midttun O, Vollset SE, Travis RC, Trichopoulou A, Lagiou P, Trichopoulos D, Bueno-de-Mesquita HB, Ros M, Boeing H, Tumino R, Panico S, Palli D, Sieri S, Vineis P, Sanchez MJ, Huerta JM, Barricarte Gurrea A, Lujan-Barroso L, Quiros JR, Tjonneland A, Halkjaer J, Boutron-Ruault MC, Clavel-Chapelon F, Cadeau C, Weiderpass E, Johansson M, Riboli E, Brennan P, Johansson M. 2015. A prospective study of one-carbon metabolism biomarkers and cancer of the head and neck and esophagus. *Int J Cancer* 136(4): 915-927.
- Freng A, Daae LN, Engeland A, Norum KR, Sander J, Solvoll K, Tretli S. 1998. Malignant epithelial tumours in the upper digestive tract: a dietary and socio-medical case-control and survival study. *Eur J Clin Nutr* 52(4): 271-278.
- Gorgulu O, Selcuk T, Ozdemir S, Sayar C, Beyazit Y, Akbas Y. 2010. Evaluation of the roles of serum vitamin B(12), folate and homocysteine levels in laryngeal squamous cell carcinoma. *J Int Med Res* 38(6): 2047-2052.
- Hsiung DT, Marsit CJ, Houseman EA, Eddy K, Furniss CS, McClean MD, Kelsey KT. 2007. Global DNA methylation level in whole blood as a biomarker in head and neck squamous cell carcinoma. *Cancer Epidemiol Biomarkers Prev* 16(1): 108-114.
- Hung RJ, Hashibe M, McKay J, Gaborieau V, Szeszenia-Dabrowska N, Zaridze D, Lissowska J, Rudnai P, Fabianova E, Mates I, Foretova L, Janout V, Bencko V, Chabrier A, Moullan N, Canzian F, Hall J, Boffetta P, Brennan P. 2007. Folate-related genes and the risk of tobacco-related cancers in Central Europe. *Carcinogenesis* 28(6): 1334-1340.
- Kraunz KS, Hsiung D, McClean MD, Liu M, Osanyingbemi J, Nelson HH, Kelsey KT. 2006. Dietary folate is associated with p16(INK4A) methylation in head and neck squamous cell carcinoma. *Int J Cancer* 119(7): 1553-1557.
- Matsuo K, Rossi M, Negri E, Oze I, Hosono S, Ito H, Watanabe M, Yatabe Y, Hasegawa Y, Tanaka H, Tajima K, La Vecchia C. 2012. Folate, alcohol, and aldehyde dehydrogenase 2 polymorphism and the risk of oral and pharyngeal cancer in Japanese. *Eur J Cancer Prev* 21(2): 193-198.
- McLaughlin JK, Gridley G, Block G, Winn DM, Preston-Martin S, Schoenberg JB, Greenberg RS, Stemhagen A, Austin DF, Ershow AG, et al. 1988. Dietary factors in oral and pharyngeal cancer. *J Natl Cancer Inst* 80(15): 1237-1243.
- Nacci A, Dallan I, Bruschini L, Traino AC, Panicucci E, Bruschini P, Mancini V, Rognini F, Fattori B. 2008. Plasma homocysteine, folate, and vitamin B12 levels in patients with laryngeal cancer. *Arch Otolaryngol Head Neck Surg* 134(12): 1328-1333.

- Negri E, Franceschi S, Bosetti C, Levi F, Conti E, Parpinel M, La Vecchia C. 2000. Selected micronutrients and oral and pharyngeal cancer. *Int J Cancer* 86(1): 122-127.
- Pelucchi C, Talamini R, Negri E, Levi F, Conti E, Franceschi S, La Vecchia C. 2003. Folate intake and risk of oral and pharyngeal cancer. *Ann Oncol* 14(11): 1677-1681.
- Raval GN, Sainger RN, Rawal RM, Patel JB, Patel BP, Jha FP, Patel DD, Patel PS. 2002. Vitamin B(12) and Folate Status in Head and Neck Cancer. *Asian Pac J Cancer Prev* 3(2): 155-162.
- Selby JV, Friedman GD, Fireman BH. 1989. Screening prescription drugs for possible carcinogenicity: eleven to fifteen years of follow-up. *Cancer Res* 49(20): 5736-5747.
- Shanmugham JR, Zavras AI, Rosner BA, Giovannucci EL. 2010. Alcohol-folate interactions in the risk of oral cancer in women: a prospective cohort study. *Cancer Epidemiol Biomarkers Prev* 19(10): 2516-2524.
- Suzuki T, Matsuo K, Hasegawa Y, Hiraki A, Wakai K, Hirose K, Saito T, Sato S, Ueda R, Tajima K. 2007. One-carbon metabolism-related gene polymorphisms and risk of head and neck squamous cell carcinoma: case-control study. *Cancer Sci* 98(9): 1439-1446.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zambon A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- Weinstein SJ, Gridley G, Harty LC, Diehl SR, Brown LM, Winn DM, Bravo-Otero E, Hayes RB. 2002. Folate intake, serum homocysteine and methylenetetrahydrofolate reductase (MTHFR) C677T genotype are not associated with oral cancer risk in Puerto Rico. *J Nutr* 132(4): 762-767.

1.1.11 Kidney Cancer (n=12), including Wilm's tumor

- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Bosetti C, Scotti L, Maso LD, Talamini R, Montella M, Negri E, Ramazzotti V, Franceschi S, La Vecchia C. 2007. Micronutrients and the risk of renal cell cancer: a case-control study from Italy. *Int J Cancer* 120(4): 892-896.
- Cho E, Giovannucci EL, Joh HK. 2013. Nutrients related to one-carbon metabolism and risk of renal cell cancer. *Cancer Causes Control* 24(2): 373-382.
- Grupp SG, Greenberg ML, Ray JG, Busto U, Lanctot KL, Nulman I, Koren G. 2011. Pediatric cancer rates after universal folic acid flour fortification in Ontario. *J Clin Pharmacol* 51(1): 60-65.
- Johansson M, Fanidi A, Muller DC, Bassett JK, Midttun O, Vollset SE, Travis RC, Palli D, Mattiello A, Sieri S, Trichopoulou A, Lagiou P, Trichopoulos D, Ljungberg B, Hallmans G, Weiderpass E, Skeie G, Gonzalez CA, Dorransoro M, Peeters PH, Bueno-de-Mesquita HB, Ros MM, Boutron Ruault MC, Fagherazzi G, Clavel F, Sanchez MJ, Gurrea AB, Navarro C, Quiros JR, Overvad K, Tjonneland A, Aleksandrova K, Vineis P, Gunter MJ, Kaaks R, Giles G, Relton C, Riboli E, Boeing H, Ueland PM, Severi G, Brennan P. 2014. Circulating biomarkers of one-carbon metabolism in relation to renal cell carcinoma incidence and survival. *J Natl Cancer Inst* 106(12).
- Linabery AM, Johnson KJ, Ross JA. 2012. Childhood cancer incidence trends in association with US folic acid fortification (1986-2008). *Pediatrics* 129(6): 1125-1133.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.

- Safarinejad MR, Shafiei N, Safarinejad S. 2012. Methylenetetrahydrofolate reductase (MTHFR) gene C677T, A1298C and G1793A polymorphisms: association with risk for clear cell renal cell carcinoma and tumour behaviour in men. *Clin Oncol (R Coll Radiol)* 24(4): 269-281.
- Schuz J, Weihkopf T, Kaatsch P. 2007. Medication use during pregnancy and the risk of childhood cancer in the offspring. *Eur J Pediatr* 166(5): 433-441.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zambon A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- van Dijk BA, Schouten LJ, Oosterwijk E, Hulsbergen-van de Kaa CA, Kiemeny LA, Goldbohm RA, Schalken JA, van den Brandt PA. 2008. Carotenoid and vitamin intake, von Hippel-Lindau gene mutations and sporadic renal cell carcinoma. *Cancer Causes Control* 19(2): 125-134.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.12 Leukemia or lymphoma (n=36)

- Ajrouché R, Rudant J, Orsi L, Petit A, Baruchel A, Nelken B, Pasquet M, Michel G, Bergeron C, Ducassou S, Gandemer V, Lutz P, Saumet L, Rialland X, Hemon D, Clavel J. 2014. Maternal reproductive history, fertility treatments and folic acid supplementation in the risk of childhood acute leukemia: the ESTELLE study. *Cancer Causes Control* 25(10): 1283-1293.
- Amigou A, Rudant J, Orsi L, Goujon-Bellec S, Leverger G, Baruchel A, Bertrand Y, Nelken B, Plat G, Michel G, Haouy S, Chastagner P, Ducassou S, Rialland X, Hemon D, Clavel J. 2012. Folic acid supplementation, MTHFR and MTRR polymorphisms, and the risk of childhood leukemia: the ESCALE study (SFCE). *Cancer Causes Control* 23(8): 1265-1277.
- Bailey HD, Miller M, Langridge A, de Klerk NH, van Bockxmeer FM, Attia J, Scott RJ, Armstrong BK, Milne E. 2012. Maternal dietary intake of folate and vitamins B6 and B12 during pregnancy and the risk of childhood acute lymphoblastic leukemia. *Nutr Cancer* 64(7): 1122-1130.
- Bailey HD, Miller M, Greenop KR, Bower C, Attia J, Marshall GM, Armstrong BK, Milne E. 2014. Paternal intake of folate and vitamins B6 and B12 before conception and risk of childhood acute lymphoblastic leukemia. *Cancer Causes Control* 25(12): 1615-1625.
- Chokkalingam AP, Chun DS, Noonan EJ, Pfeiffer CM, Zhang M, Month SR, Taggart DR, Wiemels JL, Metayer C, Buffler PA. 2013. Blood levels of folate at birth and risk of childhood leukemia. *Cancer Epidemiol Biomarkers Prev* 22(6): 1088-1094.
- Dockerty JD, Herbison P, Skegg DC, Elwood M. 2007. Vitamin and mineral supplements in pregnancy and the risk of childhood acute lymphoblastic leukaemia: a case-control study. *BMC Public Health* 7: 136.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Grupp SG, Greenberg ML, Ray JG, Busto U, Lanctot KL, Nulman I, Koren G. 2011. Pediatric cancer rates after universal folic acid flour fortification in Ontario. *J Clin Pharmacol* 51(1): 60-65.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Hansen OP, Drivsholm A, Hippe E, Quadros E, Linnell JC. 1978. Interrelationships between Vitamin B12 and folic acid in myelomatosis: cobalamin coenzyme and tetrahydrofolic acid function. *Scand J Haematol* 20(4): 360-370.

- Heinen MM, van den Brandt PA, Schouten LJ, Goldbohm RA, Schouten HC, Verhage BA. 2014. Dietary one-carbon nutrient intake and risk of lymphoid and myeloid neoplasms: results of the Netherlands cohort study. *Cancer Epidemiol Biomarkers Prev* 23(10): 2153-2164.
- Hoogstraten K, Baker H, Gilbert HS. 1965. Serum folate and serum vitamin B12 in patients with malignant hematologic diseases. *Cancer Research* 25(1-13): 1933-1938.
- Jensen CD, Block G, Buffler P, Ma X, Selvin S, Month S. 2004. Maternal dietary risk factors in childhood acute lymphoblastic leukemia (United States). *Cancer Causes Control* 15(6): 559-570.
- Kasperzyk JL, Chang ET, Birmann BM, Kraft P, Zheng T, Mueller NE. 2011. Nutrients and genetic variation involved in one-carbon metabolism and Hodgkin lymphoma risk: a population-based case-control study. *Am J Epidemiol* 174(7): 816-827.
- Koutros S, Zhang Y, Zhu Y, Mayne ST, Zahm SH, Holford TR, Leaderer BP, Boyle P, Zheng T. 2008. Nutrients contributing to one-carbon metabolism and risk of non-Hodgkin lymphoma subtypes. *Am J Epidemiol* 167(3): 287-294.
- Krajcinovic M, Lamothe S, Labuda D, Lemieux-Blanchard E, Theoret Y, Moghrabi A, Sinnott D. 2004. Role of MTHFR genetic polymorphisms in the susceptibility to childhood acute lymphoblastic leukemia. *Blood* 103(1): 252-257.
- Lim U, Schenk M, Kelemen LE, Davis S, Cozen W, Hartge P, Ward MH, Stolzenberg-Solomon R. 2005. Dietary determinants of one-carbon metabolism and the risk of non-Hodgkin's lymphoma: NCI-SEER case-control study, 1998-2000. *Am J Epidemiol* 162(10): 953-964.
- Linabery AM, Puumala SE, Hilden JM, Davies SM, Heerema NA, Roesler MA, Ross JA. 2010. Maternal vitamin and iron supplementation and risk of infant leukaemia: a report from the Children's Oncology Group. *British Journal of Cancer* 103(11): 1724-1728.
- Linabery AM, Johnson KJ, Ross JA. 2012. Childhood cancer incidence trends in association with US folic acid fortification (1986-2008). *Pediatrics* 129(6): 1125-1133.
- Liu Y, Wang B, Liu X, Xie X, Gu W, Li H, Cao X. 2011. Clinical variations of serum levels of ferritin, folic acid and vitamin B12 in acute leukemia patients. *Journal of Medical Colleges of PLA* 26(5): 264-270.
- Metayer C, Scelo G, Chokkalingam AP, Barcellos LF, Aldrich MC, Chang JS, Guha N, Urayama KY, Hansen HM, Block G, Kiley V, Wiencke JK, Wiemels JL, Buffler PA. 2011. Genetic variants in the folate pathway and risk of childhood acute lymphoblastic leukemia. *Cancer Causes Control* 22(9): 1243-1258.
- Milne E, Laurvick CL, de Klerk N, Robertson L, Thompson JR, Bower C. 2008. Trends in childhood acute lymphoblastic leukemia in Western Australia, 1960-2006. *Int J Cancer* 122(5): 1130-1134.
- Milne E, Royle JA, Miller M, Bower C, de Klerk NH, Bailey HD, van Bockxmeer F, Attia J, Scott RJ, Norris MD, Haber M, Thompson JR, Fritschi L, Marshall GM, Armstrong BK. 2010. Maternal folate and other vitamin supplementation during pregnancy and risk of acute lymphoblastic leukemia in the offspring. *Int J Cancer* 126(11): 2690-2699.
- Polesel J, Dal Maso L, La Vecchia C, Montella M, Spina M, Crispo A, Talamini R, Franceschi S. 2007. Dietary folate, alcohol consumption, and risk of non-Hodgkin lymphoma. *Nutr Cancer* 57(2): 146-150.
- Ross JA, Blair CK, Olshan AF, Robison LL, Smith FO, Heerema NA, Roesler M. 2005. Periconceptional vitamin use and leukemia risk in children with Down syndrome - A children's oncology group study. *Cancer* 104(2): 405-410.
- Sadananda Adiga MN, Chandy S, Ramaswamy G, Appaji L, Krishnamoorthy L. 2008. Homocysteine, vitamin B12 and folate status in pediatric acute lymphoblastic leukemia. *Indian J Pediatr* 75(3): 235-238.
- Sadananda Adiga MN, Chandy S, Ramaswamy G, Appaji L, Aruna Kumari BS, Krishnamoorthy L. 2009. Association between plasma homocysteine and riboflavin status in Acute Lymphoblastic Leukemia in children. *Indian Journal of Clinical Biochemistry* 24(3): 257-261.

- Sarasua S, Savitz DA. 1994. Cured and broiled meat consumption in relation to childhood cancer: Denver, Colorado (United States). *Cancer Causes Control* 5(2): 141-148.
- Schroecksadel K, Frick B, Fiegl M, Winkler C, Denz HA, Fuchs D. 2007. Hyperhomocysteinaemia and immune activation in patients with cancer. *Clin Chem Lab Med* 45(1): 47-53.
- Schuz J, Weihkopf T, Kaatsch P. 2007. Medication use during pregnancy and the risk of childhood cancer in the offspring. *Eur J Pediatr* 166(5): 433-441.
- Selby JV, Friedman GD, Fireman BH. 1989. Screening prescription drugs for possible carcinogenicity: eleven to fifteen years of follow-up. *Cancer Res* 49(20): 5736-5747.
- Shaw AK, Infante-Rivard C, Morrison HI. 2004. Use of medication during pregnancy and risk of childhood leukemia (Canada). *Cancer Causes Control* 15(9): 931-937.
- Thompson JR, Gerald PF, Willoughby ML, Armstrong BK. 2001. Maternal folate supplementation in pregnancy and protection against acute lymphoblastic leukaemia in childhood: a case-control study. *Lancet* 358(9297): 1935-1940.
- Wen W, Shu XO, Potter JD, Severson RK, Buckley JD, Reaman GH, Robison LL. 2002. Parental medication use and risk of childhood acute lymphoblastic leukemia. *Cancer* 95(8): 1786-1794.
- Zhang SM, Hunter DJ, Rosner BA, Giovannucci EL, Colditz GA, Speizer FE, Willett WC. 2000. Intakes of fruits, vegetables, and related nutrients and the risk of non-Hodgkin's lymphoma among women. *Cancer Epidemiol Biomarkers Prev* 9(5): 477-485.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.13 Lung Cancer (n=37)

- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Bandera EV, Freudenheim JL, Marshall JR, Zielezny M, Priore RL, Brasure J, Baptiste M, Graham S. 1997. Diet and alcohol consumption and lung cancer risk in the New York State Cohort (United States). *Cancer Causes Control* 8(6): 828-840.
- Bassett JK, Hodge AM, English DR, Baglietto L, Hopper JL, Giles GG, Severi G. 2012. Dietary intake of B vitamins and methionine and risk of lung cancer. *European Journal of Clinical Nutrition* 66(2): 182-187.
- Cheng TJ, Christiani DC, Liber HL, Wain JC, Xu X, Wiencke JK, Kelsey KT. 1995. Mutant frequency at the hprt locus in human lymphocytes in a case-control study of lung cancer. *Mutat Res* 332(1-2): 109-118.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Gurdal-Yuksel E, Karadag M, Ozyardimci N, Kunt-Uzaslan AE, Yarkin T. 1996. Cigarette smoking, serum lipids, folate, and vitamin B12 in lung cancer. *J Environ Pathol Toxicol Oncol* 15(2-4): 161-167.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Hartman TJ, Woodson K, Stolzenberg-Solomon R, Virtamo J, Selhub J, Barrett MJ, Albanes D. 2001. Association of the B-vitamins pyridoxal 5'-phosphate (B(6)), B(12), and folate with lung cancer risk in older men. *Am J Epidemiol* 153(7): 688-694.

- Heimbürger DC, Alexander CB, Birch R, Butterworth CE, Jr., Bailey WC, Krumdieck CL. 1988. Improvement in bronchial squamous metaplasia in smokers treated with folate and vitamin B12. Report of a preliminary randomized, double-blind intervention trial. *JAMA* 259(10): 1525-1530.
- Hung RJ, Hashibe M, McKay J, Gaborieau V, Szeszenia-Dabrowska N, Zaridze D, Lissowska J, Rudnai P, Fabianova E, Mates I, Foretova L, Janout V, Bencko V, Chabrier A, Moullan N, Canzian F, Hall J, Boffetta P, Brennan P. 2007. Folate-related genes and the risk of tobacco-related cancers in Central Europe. *Carcinogenesis* 28(6): 1334-1340.
- Ito Y, Wakai K, Suzuki K, Ozasa K, Watanabe Y, Seki N, Ando M, Nishino Y, Kondo T, Ohno Y, Tamakoshi A. 2005. Lung cancer mortality and serum levels of carotenoids, retinol, tocopherols, and folic acid in men and women: a case-control study nested in the JACC Study. *J Epidemiol* 15 Suppl 2: S140-149.
- Jatoi A, Daly BD, Kramer G, Mason JB. 2001. Folate status among patients with non-small cell lung cancer: a case-control study. *J Surg Oncol* 77(4): 247-252.
- Johansson M, Relton C, Ueland PM, Vollset SE, Midttun O, Nygard O, Slimani N, Boffetta P, Jenab M, Clavel-Chapelon F, Boutron-Ruault MC, Fagherazzi G, Kaaks R, Rohrmann S, Boeing H, Weikert C, Bueno-de-Mesquita HB, Ros MM, van Gils CH, Peeters PH, Agudo A, Barricarte A, Navarro C, Rodriguez L, Sanchez MJ, Larranaga N, Khaw KT, Wareham N, Allen NE, Crowe F, Gallo V, Norat T, Krogh V, Masala G, Panico S, Sacerdote C, Tumino R, Trichopoulou A, Lagiou P, Trichopoulos D, Rasmuson T, Hallmans G, Riboli E, Vineis P, Brennan P. 2010. Serum B vitamin levels and risk of lung cancer. *JAMA* 303(23): 2377-2385.
- Kabat GC, Miller AB, Jain M, Rohan TE. 2008. Dietary intake of selected B vitamins in relation to risk of major cancers in women. *Br J Cancer* 99(5): 816-821.
- Le Marchand L, Yoshizawa CN, Kolonel LN, Hankin JH, Goodman MT. 1989. Vegetable consumption and lung cancer risk: a population-based case-control study in Hawaii. *J Natl Cancer Inst* 81(15): 1158-1164.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Rossi E, Hung J, Beilby JP, Knuiman MW, Divitini ML, Bartholomew H. 2006. Folate levels and cancer morbidity and mortality: prospective cohort study from Busselton, Western Australia. *Ann Epidemiol* 16(3): 206-212.
- Roswall N, Olsen A, Christensen J, Dragsted LO, Overvad K, Tjønneland A. 2010. Source-specific effects of micronutrients in lung cancer prevention. *Lung Cancer* 67(3): 275-281.
- Saito M, Kato H, Tsuchida T, Konaka C. 1994. Chemoprevention effects on bronchial squamous metaplasia by folate and vitamin B12 in heavy smokers. *Chest* 106(2): 496-499.
- Schroeksnadel K, Frick B, Fiegl M, Winkler C, Denz HA, Fuchs D. 2007. Hyperhomocysteinaemia and immune activation in patients with cancer. *Clin Chem Lab Med* 45(1): 47-53.
- Shen H, Spitz MR, Wang LE, Hong WK, Wei Q. 2001. Polymorphisms of methylene-tetrahydrofolate reductase and risk of lung cancer: a case-control study. *Cancer Epidemiol Biomarkers Prev* 10(4): 397-401.
- Shen H, Wei Q, Pillow PC, Amos CI, Hong WK, Spitz MR. 2003. Dietary folate intake and lung cancer risk in former smokers: a case-control analysis. *Cancer Epidemiol Biomarkers Prev* 12(10): 980-986.
- Shi Q, Zhang Z, Li G, Pillow PC, Hernandez LM, Spitz MR, Wei Q. 2005. Polymorphisms of methionine synthase and methionine synthase reductase and risk of lung cancer: a case-control analysis. *Pharmacogenet Genomics* 15(8): 547-555.

- Slatore CG, Littman AJ, Au DH, Satia JA, White E. 2008. Long-term use of supplemental multivitamins, vitamin C, vitamin E, and folate does not reduce the risk of lung cancer. *American Journal of Respiratory and Critical Care Medicine* 177(5): 524-530.
- Suzuki T, Matsuo K, Hiraki A, Saito T, Sato S, Yatabe Y, Mitsudomi T, Hida T, Ueda R, Tajima K. 2007. Impact of one-carbon metabolism-related gene polymorphisms on risk of lung cancer in Japan: a case control study. *Carcinogenesis* 28(8): 1718-1725.
- Swartz MD, Peterson CB, Lupo PJ, Wu X, Forman MR, Spitz MR, Hernandez LM, Vannucci M, Shete S. 2013. Investigating multiple candidate genes and nutrients in the folate metabolism pathway to detect genetic and nutritional risk factors for lung cancer. *PLoS One* 8(1): e53475.
- Takata Y, Cai Q, Beeghly-Fadiel A, Li H, Shrubsole MJ, Ji BT, Yang G, Chow WH, Gao YT, Zheng W, Shu XO. 2012. Dietary B vitamin and methionine intakes and lung cancer risk among female never smokers in China. *Cancer Causes Control* 23(12): 1965-1975.
- Takata Y, Xiang YB, Yang G, Li H, Gao J, Cai H, Gao YT, Zheng W, Shu XO. 2013. Intakes of fruits, vegetables, and related vitamins and lung cancer risk: results from the Shanghai Men's Health Study (2002-2009). *Nutr Cancer* 65(1): 51-61.
- Tsao SM, Yin MC, Liu WH. 2007. Oxidant stress and B vitamins status in patients with non-small cell lung cancer. *Nutr Cancer* 59(1): 8-13.
- Vaissiere T, Hung RJ, Zaridze D, Moukeria A, Cuenin C, Fasolo V, Ferro G, Paliwal A, Hainaut P, Brennan P, Tost J, Boffetta P, Herceg Z. 2009. Quantitative analysis of DNA methylation profiles in lung cancer identifies aberrant DNA methylation of specific genes and its association with gender and cancer risk factors. *Cancer Res* 69(1): 243-252.
- Vineis P, Chuang SC, Vaissiere T, Cuenin C, Ricceri F, Overvad K, Clavel-Chapelon F, Linseisen J, Boeing H, Trichopoulou A, Lagiou P, Palli D, Pala V, Tumino R, Panico S, Bueno-De-Mesquita HB, Peeters PH, Lund E, Gonzalez CA, Molina E, Dorronsoro M, Barricarte A, Navarro C, Quiros JR, Manjer J, Jarvholm B, Key TJ, Kaaks R, Riboli E, Johansson M, Ueland P, Brennan P, Herceg Z. 2011. DNA methylation changes associated with cancer risk factors and blood levels of vitamin metabolites in a prospective study. *Epigenetics* 6(2): 195-201.
- Voorrips LE, Goldbohm RA, Brants HA, van Poppel GA, Sturmans F, Hermus RJ, van den Brandt PA. 2000. A prospective cohort study on antioxidant and folate intake and male lung cancer risk. *Cancer Epidemiol Biomarkers Prev* 9(4): 357-365.
- Wang L, Lu J, An J, Shi Q, Spitz MR, Wei Q. 2007. Polymorphisms of cytosolic serine hydroxymethyltransferase and risk of lung cancer: a case-control analysis. *Lung Cancer* 57(2): 143-151.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.
- Yuan JM, Stram DO, Arakawa K, Lee HP, Yu MC. 2003. Dietary cryptoxanthin and reduced risk of lung cancer: the Singapore Chinese Health Study. *Cancer Epidemiol Biomarkers Prev* 12(9): 890-898.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.14 Ovarian, Uterine, or Endometrial Cancer (n=28)

- Dixon SC, Ibiebele TI, Protani MM, Beesley J, deFazio A, Crandon AJ, Gard GB, Rome RM, Webb PM, Nagle CM. 2014. Dietary folate and related micronutrients, folate-metabolising genes, and ovarian cancer survival. *Gynecol Oncol* 132(3): 566-572.

- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Harris HR, Cramer DW, Vitonis AF, DePari M, Terry KL. 2012. Folate, vitamin B(6) , vitamin B(12) , methionine and alcohol intake in relation to ovarian cancer risk. *Int J Cancer* 131(4): E518-529.
- Jain MG, Rohan TE, Howe GR, Miller AB. 2000. A cohort study of nutritional factors and endometrial cancer. *Eur J Epidemiol* 16(10): 899-905.
- Kabat GC, Miller AB, Jain M, Rohan TE. 2008. Dietary intake of selected B vitamins in relation to risk of major cancers in women. *Br J Cancer* 99(5): 816-821.
- Kelemen LE, Sellers TA, Vierkant RA, Harnack L, Cerhan JR. 2004. Association of folate and alcohol with risk of ovarian cancer in a prospective study of postmenopausal women. *Cancer Causes Control* 15(10): 1085-1093.
- Kelemen LE, Sellers TA, Schildkraut JM, Cunningham JM, Vierkant RA, Pankratz VS, Fredericksen ZS, Gadre MK, Rider DN, Liebow M, Goode EL. 2008. Genetic variation in the one-carbon transfer pathway and ovarian cancer risk. *Cancer Research* 68(7): 2498-2506.
- Kotsopoulos J, Hecht JL, Marotti JD, Kelemen LE, Tworoger SS. 2010. Relationship between dietary and supplemental intake of folate, methionine, vitamin B6 and folate receptor alpha expression in ovarian tumors. *Int J Cancer* 126(9): 2191-2198.
- Larsson SC, Giovannucci E, Wolk A. 2004. Dietary folate intake and incidence of ovarian cancer: the Swedish Mammography Cohort. *J Natl Cancer Inst* 96(5): 396-402.
- Liu JJ, Hazra A, Giovannucci E, Hankinson SE, Rosner B, De Vivo I. 2013. One-carbon metabolism factors and endometrial cancer risk. *Br J Cancer* 108(1): 183-187.
- McCann SE, Freudenheim JL, Marshall JR, Brasure JR, Swanson MK, Graham S. 2000. Diet in the epidemiology of endometrial cancer in western New York (United States). *Cancer Causes Control* 11(10): 965-974.
- Navarro Silvera SA, Jain M, Howe GR, Miller AB, Rohan TE. 2006. Dietary folate consumption and risk of ovarian cancer: a prospective cohort study. *Eur J Cancer Prev* 15(6): 511-515.
- Negri E, La Vecchia C, Franceschi S, Levi F, Parazzini F. 1996. Intake of selected micronutrients and the risk of endometrial carcinoma. *Cancer* 77(5): 917-923.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Orr JW, Jr., Wilson K, Bodiford C, Cornwell A, Soong SJ, Honea KL, Hatch KD, Shingleton HM. 1985. Corpus and cervix cancer: a nutritional comparison. *Am J Obstet Gynecol* 153(7): 775-779.
- Paynter RA, Hankinson SE, Hunter DJ, De Vivo I. 2004. No association between MTHFR 677 C->T or 1298 A->C polymorphisms and endometrial cancer risk. *Cancer Epidemiol Biomarkers Prev* 13(6): 1088-1089.
- Pelucchi C, Mereghetti M, Talamini R, Negri E, Montella M, Ramazzotti V, Franceschi S, La Vecchia C. 2005. Dietary folate, alcohol consumption, and risk of ovarian cancer in an Italian case-control study. *Cancer Epidemiol Biomarkers Prev* 14(8): 2056-2058.
- Schroeksnadel K, Frick B, Winkler C, Fuith LC, Fuchs D. 2006. Relationship between homocysteine and neopterin concentrations in patients with gynecological cancer. *Cancer Lett* 240(2): 198-202.
- Schroeksnadel K, Frick B, Fiegl M, Winkler C, Denz HA, Fuchs D. 2007. Hyperhomocysteinaemia and immune activation in patients with cancer. *Clin Chem Lab Med* 45(1): 47-53.

- Song CX, Ping L, Ting W. 2012. Folate, MTHFR C677T and A1298C polymorphisms with the relationship with ovarian cancer risk among Chinese females. *Afr. J. Microbiol. Res.* 6(22): 4761-4766.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zamboni A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- Twooroger SS, Hecht JL, Giovannucci E, Hankinson SE. 2006. Intake of folate and related nutrients in relation to risk of epithelial ovarian cancer. *Am J Epidemiol* 163(12): 1101-1111.
- Uccella S, Mariani A, Wang AH, Vierkant RA, Robien K, Anderson KE, Cerhan JR. 2011. Dietary and supplemental intake of one-carbon nutrients and the risk of type I and type II endometrial cancer: a prospective cohort study. *Ann Oncol* 22(9): 2129-2136.
- Webb PM, Ibiebele TI, Hughes MC, Beesley J, van der Pols JC, Chen X, Nagle CM, Bain CJ, Chenevix-Trench G. 2011. Folate and related micronutrients, folate-metabolising genes and risk of ovarian cancer. *Eur J Clin Nutr* 65(10): 1133-1140.
- Xu WH, Shrubsole MJ, Xiang YB, Cai Q, Zhao GM, Ruan ZX, Cheng JR, Zheng W, Shu XO. 2007. Dietary folate intake, MTHFR genetic polymorphisms, and the risk of endometrial cancer among Chinese women. *Cancer Epidemiol Biomarkers Prev* 16(2): 281-287.
- Yeh M, Moysich KB, Jayaprakash V, Rodabaugh KJ, Graham S, Brasure JR, McCann SE. 2009. Higher intakes of vegetables and vegetable-related nutrients are associated with lower endometrial cancer risks. *J Nutr* 139(2): 317-322.
- Zhang L, Liu W, Hao Q, Bao L, Wang K. 2012. Folate intake and methylenetetrahydrofolate reductase gene polymorphisms as predictive and prognostic biomarkers for ovarian cancer risk. *Int J Mol Sci* 13(4): 4009-4020.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.15 Pancreatic Cancer (n=15)

- Anderson LN, Cotterchio M, Gallinger S. 2009. Lifestyle, dietary, and medical history factors associated with pancreatic cancer risk in Ontario, Canada. *Cancer Causes Control* 20(6): 825-834.
- Baghurst PA, McMichael AJ, Slavotinek AH, Baghurst KI, Boyle P, Walker AM. 1991. A case-control study of diet and cancer of the pancreas. *Am J Epidemiol* 134(2): 167-179.
- Bravi F, Polesel J, Bosetti C, Talamini R, Negri E, Dal Maso L, Serraino D, La Vecchia C. 2011. Dietary intake of selected micronutrients and the risk of pancreatic cancer: an Italian case-control study. *Ann Oncol* 22(1): 202-206.
- Chuang SC, Stolzenberg-Solomon R, Ueland PM, Vollset SE, Midttun O, Olsen A, Tjønneland A, Overvad K, Boutron-Ruault MC, Morois S, Clavel-Chapelon F, Teucher B, Kaaks R, Weikert C, Boeing H, Trichopoulou A, Benetou V, Naska A, Jenab M, Slimani N, Romieu I, Michaud DS, Palli D, Sieri S, Panico S, Sacerdote C, Tumino R, Skeie G, Duell EJ, Rodriguez L, Molina-Montes E, Huerta JM, Larranaga N, Gurrea AB, Johansen D, Manjer J, Ye W, Sund M, Peeters PH, Jeurnink S, Wareham N, Khaw KT, Crowe F, Riboli E, Bueno-de-Mesquita B, Vineis P. 2011. A U-shaped relationship between plasma folate and pancreatic cancer risk in the European Prospective Investigation into Cancer and Nutrition. *Eur J Cancer* 47(12): 1808-1816.
- Gong Z, Holly EA, Bracci PM. 2009. Intake of folate, vitamins B6, B12 and methionine and risk of pancreatic cancer in a large population-based case-control study. *Cancer Causes Control* 20(8): 1317-1325.
- Jarosz M, Sekula W, Rychlik E. 2012. Influence of diet and tobacco smoking on pancreatic cancer incidence in Poland in 1960-2008. *Gastroenterology research and practice* 2012: 682156.

- Keszei AP, Verhage BA, Heinen MM, Goldbohm RA, van den Brandt PA. 2009. Dietary folate and folate vitamers and the risk of pancreatic cancer in the Netherlands cohort study. *Cancer Epidemiol Biomarkers Prev* 18(6): 1785-1791.
- Larsson SC, Hakansson N, Giovannucci E, Wolk A. 2006. Folate intake and pancreatic cancer incidence: A prospective study of Swedish women and men. *Journal of the National Cancer Institute* 98(6): 407-413.
- Oaks BM, Dodd KW, Meinhold CL, Jiao L, Church TR, Stolzenberg-Solomon RZ. 2010. Folate intake, post-folic acid grain fortification, and pancreatic cancer risk in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial. *Am J Clin Nutr* 91(2): 449-455.
- Schernhammer E, Wolpin B, Rifai N, Cochrane B, Manson JA, Ma J, Giovannucci E, Thomson C, Stampfer MJ, Fuchs C. 2007. Plasma folate, vitamin B6, vitamin B12, and homocysteine and pancreatic cancer risk in four large cohorts. *Cancer Res* 67(11): 5553-5560.
- Skinner HG, Michaud DS, Giovannucci EL, Rimm EB, Stampfer MJ, Willett WC, Colditz GA, Fuchs CS. 2004. A prospective study of folate intake and the risk of pancreatic cancer in men and women. *Am J Epidemiol* 160(3): 248-258.
- Stolzenberg-Solomon RZ, Albanes D, Nieto FJ, Hartman TJ, Tangrea JA, Rautalahti M, Sehlub J, Virtamo J, Taylor PR. 1999. Pancreatic cancer risk and nutrition-related methyl-group availability indicators in male smokers. *J Natl Cancer Inst* 91(6): 535-541.
- Stolzenberg-Solomon RZ, Pietinen P, Barrett MJ, Taylor PR, Virtamo J, Albanes D. 2001. Dietary and other methyl-group availability factors and pancreatic cancer risk in a cohort of male smokers. *Am J Epidemiol* 153(7): 680-687.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zambon A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

1.1.16 Prostate Cancer (n=31), including PSA assay

- Aune D, Deneo-Pellegrini H, Ronco AL, Boffetta P, Acosta G, Mendilaharsu M, De Stefani E. 2011. Dietary folate intake and the risk of 11 types of cancer: a case-control study in Uruguay. *Ann Oncol* 22(2): 444-451.
- Bassett JK, Severi G, Hodge AM, Baglietto L, Hopper JL, English DR, Giles GG. 2012. Dietary intake of B vitamins and methionine and prostate cancer incidence and mortality. *Cancer Causes Control* 23(6): 855-863.
- Beilby J, Ambrosini GL, Rossi E, de Klerk NH, Musk AW. 2010. Serum levels of folate, lycopene, beta-carotene, retinol and vitamin E and prostate cancer risk. *Eur J Clin Nutr* 64(10): 1235-1238.
- Cole BF, Baron JA, Sandler RS, Haile RW, Ahnen DJ, Bresalier RS, McKeown-Eyssen G, Summers RW, Rothstein RI, Burke CA, Snover DC, Church TR, Allen JI, Robertson DJ, Beck GJ, Bond JH, Byers T, Mandel JS, Mott LA, Pearson LH, Barry EL, Rees JR, Marcon N, Saibil F, Ueland PM, Greenberg ER, Polyp Prevention Study G. 2007. Folic acid for the prevention of colorectal adenomas: a randomized clinical trial. *JAMA* 297(21): 2351-2359.
- Collin SM, Metcalfe C, Refsum H, Lewis SJ, Smith GD, Cox A, Davis M, Marsden G, Johnston C, Lane JA, Donovan JL, Neal DE, Hamdy FC, Smith AD, Martin RM. 2010a. Associations of folate, vitamin B12, homocysteine, and folate-pathway polymorphisms with prostate-specific antigen velocity in men with localized prostate cancer. *Cancer Epidemiol Biomarkers Prev* 19(11): 2833-2838.
- Collin SM, Metcalfe C, Refsum H, Lewis SJ, Zuccolo L, Smith GD, Chen L, Harris R, Davis M, Marsden G, Johnston C, Lane JA, Ebbing M, Bona KH, Nygard O, Ueland PM, Grau MV, Baron JA, Donovan JL, Neal DE, Hamdy FC, Smith AD, Martin RM. 2010b. Circulating folate, vitamin B12, homocysteine, vitamin B12 transport

- proteins, and risk of prostate cancer: a case-control study, systematic review, and meta-analysis. *Cancer Epidemiol Biomarkers Prev* 19(6): 1632-1642.
- de Vogel S, Meyer K, Fredriksen A, Ulvik A, Ueland PM, Nygard O, Vollset SE, Tell GS, Tretli S, Bjorge T. 2013. Serum folate and vitamin B12 concentrations in relation to prostate cancer risk--a Norwegian population-based nested case-control study of 3000 cases and 3000 controls within the JANUS cohort. *Int J Epidemiol* 42(1): 201-210.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Figueiredo JC, Grau MV, Haile RW, Sandler RS, Summers RW, Bresalier RS, Burke CA, McKeown-Eyssen GE, Baron JA. 2009. Folic acid and risk of prostate cancer: results from a randomized clinical trial. *J Natl Cancer Inst* 101(6): 432-435.
- Han YY, Song JY, Talbott EO. 2013. Serum folate and prostate-specific antigen in the United States. *Cancer Causes & Control* 24(8): 1595-1604.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Hultdin J, Van Guelpen B, Bergh A, Hallmans G, Stattin P. 2005. Plasma folate, vitamin B12, and homocysteine and prostate cancer risk: a prospective study. *Int J Cancer* 113(5): 819-824.
- Jackson MD, Tulloch-Reid MK, McFarlane-Anderson N, Watson A, Seers V, Bennett FI, Egleston B, Ragin C. 2013. Complex interaction between serum folate levels and genetic polymorphisms in folate pathway genes: biomarkers of prostate cancer aggressiveness. *Genes Nutr* 8(2): 199-207.
- Johansson M, Appleby PN, Allen NE, Travis RC, Roddam AW, Egevad L, Jenab M, Rinaldi S, Kiemenev LA, Bueno-de-Mesquita HB, Vollset SE, Ueland PM, Sanchez MJ, Quiros JR, Gonzalez CA, Larranaga N, Chirlaque MD, Ardanaz E, Sieri S, Palli D, Vineis P, Tumino R, Linseisen J, Kaaks R, Boeing H, Pischon T, Psaltopoulou T, Trichopoulou A, Trichopoulos D, Khaw KT, Bingham S, Hallmans G, Riboli E, Stattin P, Key TJ. 2008. Circulating concentrations of folate and vitamin B12 in relation to prostate cancer risk: results from the European Prospective Investigation into Cancer and Nutrition study. *Cancer Epidemiol Biomarkers Prev* 17(2): 279-285.
- Kobayashi LC, Limburg H, Miao Q, Woolcott C, Bedard LL, Massey TE, Aronson KJ. 2012. Folate intake, alcohol consumption, and the methylenetetrahydrofolate reductase (MTHFR) C677T gene polymorphism: influence on prostate cancer risk and interactions. *Frontiers in oncology* 2: 100.
- Lewis JE, Soler-Vila H, Clark PE, Kresty LA, Allen GO, Hu JJ. 2009. Intake of plant foods and associated nutrients in prostate cancer risk. *Nutr Cancer* 61(2): 216-224.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Pelucchi C, Galeone C, Talamini R, Negri E, Parpinel M, Franceschi S, Montella M, La Vecchia C. 2005. Dietary folate and risk of prostate cancer in Italy. *Cancer Epidemiol Biomarkers Prev* 14(4): 944-948.
- Rossi E, Hung J, Beilby JP, Knuiman MW, Divitini ML, Bartholomew H. 2006. Folate levels and cancer morbidity and mortality: prospective cohort study from Busselton, Western Australia. *Ann Epidemiol* 16(3): 206-212.
- Roswall N, Larsen SB, Friis S, Outzen M, Olsen A, Christensen J, Dragsted LO, Tjønneland A. 2013. Micronutrient intake and risk of prostate cancer in a cohort of middle-aged, Danish men. *Cancer Causes Control* 24(6): 1129-1135.

- Safarinejad MR, Shafiei N, Safarinejad S. 2010. Relationship between three polymorphisms of methylenetetrahydrofolate reductase (MTHFR C677T, A1298C, and G1793A) gene and risk of prostate cancer: a case-control study. *Prostate* 70(15): 1645-1657.
- Shannon J, Phoutrides E, Palma A, Farris P, Peters L, Forester A, Tillotson CJ, Garzotto M. 2009. Folate intake and prostate cancer risk: a case-control study. *Nutr Cancer* 61(5): 617-628.
- Stevens VL, Rodriguez C, Pavluck AL, McCullough ML, Thun MJ, Calle EE. 2006. Folate nutrition and prostate cancer incidence in a large cohort of US men. *Am J Epidemiol* 163(11): 989-996.
- Tavani A, Malerba S, Pelucchi C, Dal Maso L, Zucchetto A, Serraino D, Levi F, Montella M, Franceschi S, Zambon A, La Vecchia C. 2012. Dietary folates and cancer risk in a network of case-control studies. *Ann Oncol* 23(10): 2737-2742.
- Tomaszewski JJ, Cummings JL, Parwani AV, Dhir R, Mason JB, Nelson JB, Bacich DJ, O'Keefe DS. 2011. Increased cancer cell proliferation in prostate cancer patients with high levels of serum folate. *Prostate* 71(12): 1287-1293.
- Verhage BA, Cremers P, Schouten LJ, Goldbohm RA, van den Brandt PA. 2012. Dietary folate and folate vitamers and the risk of prostate cancer in The Netherlands Cohort Study. *Cancer Causes Control* 23(12): 2003-2011.
- Vidal AC, Grant DJ, Williams CD, Masko E, Allott EH, Shuler K, McPhail M, Gaines A, Calloway E, Gerber L, Chi JT, Freedland SJ, Hoyo C. 2012. Associations between Intake of Folate, Methionine, and Vitamins B-12, B-6 and Prostate Cancer Risk in American Veterans. *Journal of cancer epidemiology* 2012: 957467.
- Vlajinac HD, Marinkovic JM, Ilic MD, Kocev NI. 1997. Diet and prostate cancer: a case-control study. *Eur J Cancer* 33(1): 101-107.
- Weinstein SJ, Hartman TJ, Stolzenberg-Solomon R, Pietinen P, Barrett MJ, Taylor PR, Virtamo J, Albanes D. 2003. Null association between prostate cancer and serum folate, vitamin B(6), vitamin B(12), and homocysteine. *Cancer Epidemiol Biomarkers Prev* 12(11 Pt 1): 1271-1272.
- Weinstein SJ, Stolzenberg-Solomon R, Pietinen P, Taylor PR, Virtamo J, Albanes D. 2006. Dietary factors of one-carbon metabolism and prostate cancer risk. *Am J Clin Nutr* 84(4): 929-935.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.

1.1.17 Other Cancer (n=44), includes liver, skin, thyroid, and cancer-related endpoints

- Abakay O, Tanrikulu AC, Abakay A, Evliyaoglu O. 2013. Levels of oxidative status and cancer markers in malignant Mesothelioma. *HealthMED* 7(2): 666-671.
- Abramson-Zetterberg L, Durling LJK, Yang-Wallentin F, Rytter E, Vessby B. 2006. The impact of folate status and folic acid supplementation on the micronucleus frequency in human erythrocytes. *Mutat. Res. Genet. Toxicol. Environ. Mutagen.* 603(1): 33-40.
- Areekul S, Hitanant S, Panatampon P, Chantachum Y. 1977. Serum vitamin B12 and folate levels, vitamin B12 and folic acid binding proteins in patients with primary carcinoma of the liver. *Southeast Asian J Trop Med Public Health* 8(4): 519-524.
- Butler LM, Arning E, Wang R, Bottiglieri T, Govindarajan S, Gao YT, Yuan JM. 2013. Prediagnostic levels of serum one-carbon metabolites and risk of hepatocellular carcinoma. *Cancer Epidemiol Biomarkers Prev* 22(10): 1884-1893.
- Colacino JA, Arthur AE, Dolinoy DC, Sartor MA, Duffy SA, Chepeha DB, Bradford CR, Walline HM, McHugh JB, D'Silva N, Carey TE, Wolf GT, Taylor JM, Peterson KE, Rozek LS. 2012. Pretreatment dietary intake is associated

- with tumor suppressor DNA methylation in head and neck squamous cell carcinomas. *Epigenetics* 7(8): 883-891.
- Cravo M, Fidalgo P, Pereira AD, Gouveia-Oliveira A, Chaves P, Selhub J, Mason JB, Mira FC, Leitao CN. 1994. DNA methylation as an intermediate biomarker in colorectal cancer: modulation by folic acid supplementation. *Eur J Cancer Prev* 3(6): 473-479.
- Cravo ML, Albuquerque CM, Salazar de Sousa L, Gloria LM, Chaves P, Dias Pereira A, Nobre Leitao C, Quina MG, Costa Mira F. 1998. Microsatellite instability in non-neoplastic mucosa of patients with ulcerative colitis: effect of folate supplementation. *Am J Gastroenterol* 93(11): 2060-2064.
- D'Avanzo B, Ron E, La Vecchia C, Franceschi S, Negri E, Ziegler R. 1997. Selected micronutrient intake and thyroid carcinoma risk. *Cancer* 79(11): 2186-2192.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Fenech M, Rinaldi J. 1994. The relationship between micronuclei in human lymphocytes and plasma levels of vitamin C, vitamin E, vitamin B12 and folic acid. *Carcinogenesis* 15(7): 1405-1411.
- Fung TT, Hunter DJ, Spiegelman D, Colditz GA, Speizer FE, Willett WC. 2002. Vitamins and carotenoids intake and the risk of basal cell carcinoma of the skin in women (United States). *Cancer Causes Control* 13(3): 221-230.
- Fung TT, Spiegelman D, Egan KM, Giovannucci E, Hunter DJ, Willett WC. 2003. Vitamin and carotenoid intake and risk of squamous cell carcinoma of the skin. *Int J Cancer* 103(1): 110-115.
- Gay LJ, Mitrou PN, Keen J, Bowman R, Naguib A, Cooke J, Kuhnle GG, Burns PA, Luben R, Lentjes M, Khaw KT, Ball RY, Ibrahim AE, Arends MJ. 2012. Dietary, lifestyle and clinicopathological factors associated with APC mutations and promoter methylation in colorectal cancers from the EPIC-Norfolk study. *J Pathol* 228(3): 405-415.
- Grupp SG, Greenberg ML, Ray JG, Busto U, Lanctot KL, Nulman I, Koren G. 2011. Pediatric cancer rates after universal folic acid flour fortification in Ontario. *J Clin Pharmacol* 51(1): 60-65.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Hazra A, Selhub J, Chao WH, Ueland PM, Hunter DJ, Baron JA. 2010. Uracil misincorporation into DNA and folic acid supplementation. *Am J Clin Nutr* 91(1): 160-165.
- Jones KH, York TP, Juusola J, Ferreira-Gonzalez A, Maes HH, Jackson-Cook C. 2011. Genetic and environmental influences on spontaneous micronuclei frequencies in children and adults: a twin study. *Mutagenesis* 26(6): 745-752.
- Kharb S, Kumar S, Kundu ZS. 2013. Implications of raised folate and lowered vitamin B12 in osteosarcoma. *American Journal of Biochemistry and Molecular Biology* 3(1): 182-187.
- Kim YI, Baik HW, Fawaz K, Knox T, Lee YM, Norton R, Libby E, Mason JB. 2001. Effects of folate supplementation on two provisional molecular markers of colon cancer: a prospective, randomized trial. *Am J Gastroenterol* 96(1): 184-195.
- Kim YJ, Ahn YH, Lim Y, Kim JY, Kim J, Kwon O. 2013. Daily nutritional dose supplementation with antioxidant nutrients and phytochemicals improves DNA and LDL stability: a double-blind, randomized, and placebo-controlled trial. *Nutrients* 5(12): 5218-5232.
- Kuo CS, Lin CY, Wu MY, Lu CL, Huang RF. 2008. Relationship between folate status and tumour progression in patients with hepatocellular carcinoma. *Br J Nutr* 100(3): 596-602.

- Linabery AM, Johnson KJ, Ross JA. 2012. Childhood cancer incidence trends in association with US folic acid fortification (1986-2008). *Pediatrics* 129(6): 1125-1133.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- MacGregor JT, Wehr CM, Hiatt RA, Peters B, Tucker JD, Langlois RG, Jacob RA, Jensen RH, Yager JW, Shigenaga MK, Frei B, Eynon BP, Ames BN. 1997. 'Spontaneous' genetic damage in man: evaluation of interindividual variability, relationship among markers of damage, and influence of nutritional status. *Mutat Res* 377(1): 125-135.
- McGlynn AP, Wasson GR, O'Reilly SL, McNulty H, Downes CS, Chang CK, Hoey L, Molloy AM, Ward M, Strain JJ, McKerr G, Weir DG, Scott JM. 2013. Low colonocyte folate is associated with uracil misincorporation and global DNA hypomethylation in human colorectum. *J Nutr* 143(1): 27-33.
- Milic M, Rozgaj R, Kasuba V, Orescanin V, Balijsa M, Jukic I. 2010. Correlation between folate and vitamin B and markers of DNA stability in healthy men: preliminary results. *Acta Biochim Pol* 57(3): 339-345.
- Minozzo R, Deimling LI, Santos-Mello R. 2010. Cytokinesis-blocked micronucleus cytome and comet assays in peripheral blood lymphocytes of workers exposed to lead considering folate and vitamin B12 status. *Mutat Res* 697(1-2): 24-32.
- Musselman JR, Georgieff MK, Ross JA, Tomlinson GE, Feusner J, Krailo M, Spector LG. 2013. Maternal pregnancy events and exposures and risk of hepatoblastoma: a Children's Oncology Group (COG) study. *Cancer Epidemiol* 37(3): 318-320.
- O'Grady TJ, Kitahara CM, DiRienzo AG, Gates MA. 2014. The Association between Selenium and Other Micronutrients and Thyroid Cancer Incidence in the NIH-AARP Diet and Health Study. *PLoS One* 9(10): e110886.
- Obermann-Borst SA, van Driel LM, Helbing WA, de Jonge R, Wildhagen MF, Steegers EA, Steegers-Theunissen RP. 2011. Congenital heart defects and biomarkers of methylation in children: a case-control study. *Eur J Clin Invest* 41(2): 143-150.
- Park E, Wagenbichler P, Elmadfa I. 1999. Effects of multivitamin/mineral supplementation, at nutritional doses, on plasma antioxidant status and DNA damage estimated by sister chromatid exchanges in lymphocytes in pregnant women. *Int J Vitam Nutr Res* 69(6): 396-402.
- Persson EC, Schwartz LM, Park Y, Trabert B, Hollenbeck AR, Graubard BI, Freedman ND, McGlynn KA. 2013. Alcohol consumption, folate intake, hepatocellular carcinoma, and liver disease mortality. *Cancer Epidemiol Biomarkers Prev* 22(3): 415-421.
- Piyathilake CJ, Azrad M, Jhala D, Macaluso M, Kabagambe EK, Brill I, Niveleau A, Jhala N, Grizzle WE. 2006. Mandatory fortification with folic acid in the United States is not associated with changes in the degree or the pattern of global DNA methylation in cells involved in cervical carcinogenesis. *Cancer Biomark* 2(6): 259-266.
- Piyathilake CJ, Macaluso M, Celedonio JE, Badiga S, Bell WC, Grizzle WE. 2010. Mandatory fortification with folic acid in the United States appears to have adverse effects on histone methylation in women with pre-cancer but not in women free of pre-cancer. *Int J Womens Health* 1: 131-137.
- Protiva P, Mason JB, Liu Z, Hopkins ME, Nelson C, Marshall JR, Lambrecht RW, Pendyala S, Kopelovich L, Kim M, Kleinstein SH, Laird PW, Lipkin M, Holt PR. 2011. Altered folate availability modifies the molecular environment of the human colorectum: implications for colorectal carcinogenesis. *Cancer Prev Res (Phila)* 4(4): 530-543.
- Schroeksnadel K, Frick B, Fiegl M, Winkler C, Denz HA, Fuchs D. 2007. Hyperhomocysteinaemia and immune activation in patients with cancer. *Clin Chem Lab Med* 45(1): 47-53.

- Sidelnikov E, Bostick RM, Flanders WD, Long Q, Cohen VL, Dash C, Seabrook ME, Fedirko V. 2009. MutL-homolog 1 expression and risk of incident, sporadic colorectal adenoma: search for prospective biomarkers of risk for colorectal cancer. *Cancer Epidemiol Biomarkers Prev* 18(5): 1599-1609.
- Slattery ML, Curtin K, Anderson K, Ma KN, Edwards S, Leppert M, Potter J, Schaffer D, Samowitz WS. 2000. Associations between dietary intake and Ki-ras mutations in colon tumors: a population-based study. *Cancer Res* 60(24): 6935-6941.
- Sturgeon SR, Ziegler RG, Brinton LA, Nasca PC, Mallin K, Gridley G. 1991. Diet and the risk of vulvar cancer. *Ann Epidemiol* 1(5): 427-437.
- van Dam RM, Huang Z, Giovannucci E, Rimm EB, Hunter DJ, Colditz GA, Stampfer MJ, Willett WC. 2000. Diet and basal cell carcinoma of the skin in a prospective cohort of men. *Am J Clin Nutr* 71(1): 135-141.
- Vineis P, Chuang SC, Vaissiere T, Cuenin C, Ricceri F, Overvad K, Clavel-Chapelon F, Linseisen J, Boeing H, Trichopoulou A, Lagiou P, Palli D, Pala V, Tumino R, Panico S, Bueno-De-Mesquita HB, Peeters PH, Lund E, Gonzalez CA, Molina E, Dorronsoro M, Barricarte A, Navarro C, Quiros JR, Manjer J, Jarvholm B, Key TJ, Kaaks R, Riboli E, Johansson M, Ueland P, Brennan P, Herceg Z. 2011. DNA methylation changes associated with cancer risk factors and blood levels of vitamin metabolites in a prospective study. *Epigenetics* 6(2): 195-201.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.
- Zijno A, Andreoli C, Leopardi P, Marcon F, Rossi S, Caiola S, Verdina A, Galati R, Cafolla A, Crebelli R. 2003. Folate status, metabolic genotype, and biomarkers of genotoxicity in healthy subjects. *Carcinogenesis* 24(6): 1097-1103.
- Zuniga-Gonzalez GM, Batista-Gonzalez CM, Gomez-Meda BC, Ramos-Ibarra ML, Zamora-Perez AL, Munoz-Magallanes T, Ramos-Valdes C, Gallegos-Arreola MP. 2007. Micronuclei in diabetes: folate supplementation diminishes micronuclei in diabetic patients but not in an animal model. *Mutat Res* 634(1-2): 126-134.

1.1.18 Cancer, Non-human Animal Studies (n=95)

- Al-Numair KS, Waly MI, Ali A, Essa MM, Farhat MF, Alsaif MA. 2011. Dietary folate protects against azoxymethane-induced aberrant crypt foci development and oxidative stress in rat colon. *Exp Biol Med* (Maywood) 236(9): 1005-1011.
- Allaei R, Johnson KJ, Hooten AJ, Kaste E, Ross JA, Largaespada DA. 2011. An examination of maternal folic acid level and risk of medulloblastoma in Ptc1 +/- offspring. *Neuro-Oncology* 13: iii27.
- Baggott JE, Vaughn WH, Juliana MM, Eto I, Krumdieck CL, Grubbs CJ. 1992. Effects of folate deficiency and supplementation on methylnitrosourea-induced rat mammary tumors. *J Natl Cancer Inst* 84(22): 1740-1744.
- Bashir O, FitzGerald AJ, Goodlad RA. 2004. Both suboptimal and elevated vitamin intake increase intestinal neoplasia and alter crypt fission in the ApcMin/+ mouse. *Carcinogenesis* 25(8): 1507-1515.
- Been RA, Ross JA, Nagel CW, Hooten AJ, Langer EK, DeCoursin KJ, Marek CA, Janik CL, Linden MA, Reed RC, Schutten MM, Largaespada DA, Johnson KJ. 2013. Perigestational dietary folic acid deficiency protects against medulloblastoma formation in a mouse model of nevoid basal cell carcinoma syndrome. *Nutr Cancer* 65(6): 857-865.
- Birmingham EN, Bassett SA, Young W, Roy NC, McNabb WC, Cooney JM, Brewster DT, Laing WA, Barnett MP. 2013. Post-weaning selenium and folate supplementation affects gene and protein expression and global DNA methylation in mice fed high-fat diets. *BMC medical genomics* 6: 7.

- Bills ND, Hinrichs SH, Morgan R, Clifford AJ. 1992a. TISSUE FOLATE LEVELS IN TRANSGENIC MICE WITH TUMORS AND IN NONTRANSGENIC CONTROLS. *Journal of Nutritional Biochemistry* 3(3): 113-117.
- Bills ND, Hinrichs SH, Morgan R, Clifford AJ. 1992b. Delayed tumor onset in transgenic mice fed a low-folate diet. *J Natl Cancer Inst* 84(5): 332-337.
- Branda RF, O'Neill JP, Brooks EM, Powden C, Naud SJ, Nicklas JA. 2007. The effect of dietary folic acid deficiency on the cytotoxic and mutagenic responses to methyl methanesulfonate in wild-type and in 3-methyladenine DNA glycosylase-deficient Aag null mice. *Mutat. Res.-Fundam. Mol. Mech. Mutagen.* 615(1-2): 12-17.
- Buckley LE, Belshaw NJ, Johnson IT. 2005. The effects of dietary folate on methylation of the ESR1 CpG-island in a rat model of colorectal neoplasia. *Proceedings of the Nutrition Society* 64: 69A-69A.
- Carrier J, Medline A, Sohn KJ, Hwang S, Kim YIJ. 2001. Effects of dietary folate on colorectal carcinogenesis in a genetically-predisposed murine model of ulcerative colitis-associated colon cancer. *Gastroenterology* 120(5): A447-A447.
- Carrier J, Medline A, Sohn KJ, Choi M, Martin R, Hwang SW, Kim YI. 2003. Effects of dietary folate on ulcerative colitis-associated colorectal carcinogenesis in the interleukin 2- and beta(2)-microglobulin-deficient mice. *Cancer Epidemiol Biomarkers Prev* 12(11 Pt 1): 1262-1267.
- Cartron PF, Hervouet E, Debieu E, Olivier C, Pouliquen D, Menanteau J, Loussouarn D, Martin SA, Campone M, Vallette FM. 2012. Folate supplementation limits the tumorigenesis in rodent models of gliomagenesis. *Eur J Cancer* 48(15): 2431-2441.
- Chagas CE, Bassoli BK, de Souza CA, Deminice R, Jordao Junior AA, Paiva SA, Dagli ML, Ong TP, Moreno FS. 2011. Folic acid supplementation during early hepatocarcinogenesis: cellular and molecular effects. *Int J Cancer* 129(9): 2073-2082.
- Chattopadhyay P, Wahi AK. 2010. Inhibition by folic acid of tumor necrosis factor alpha and apoptosis following normothermic ischemia-reperfusion. *Arzneimittel-Forschung-Drug Research* 60(10): 621-626.
- Cho K, Mabasa L, Bae S, Walters MW, Park CS. 2012. Maternal high-methyl diet suppresses mammary carcinogenesis in female rat offspring. *Carcinogenesis* 33(5): 1106-1112.
- Cho K, Choi WS, Crane CL, Park CS. 2014. Pubertal supplementation of lipotropes in female rats reduces mammary cancer risk by suppressing histone deacetylase 1. *Eur J Nutr* 53(4): 1139-1143.
- Ciappio ED, Liu Z, Mason JB, Brooks RS, Bronson RT, Crott JW. 2010. Maternal B-vitamin supplementation from preconception through weaning suppresses intestinal tumorigenesis among offspring in the Apc+/1638N mouse. *FASEB Journal* 24.
- Ciappio ED, Liu Z, Brooks RS, Mason JB, Bronson RT, Crott JW. 2011. Maternal B vitamin supplementation from preconception through weaning suppresses intestinal tumorigenesis in Apc1638N mouse offspring. *Gut* 60(12): 1695-1702.
- Cohen C, Cardoso JFR, Domenici FA, Dos Santos RA, De Souza Meirelles MS, Garcia SB, Vannucchi H. 2012. Folic acid ingestion and risk of experimental colorectal carcinogenesis in rats. *Journal of Nutrigenetics and Nutrigenomics* 5(4-5): 212.
- Cohen C, Cardoso JFR, Garcia SB, Vannucchi H. 2013a. Folic acid in chemical colorectal carcinogenesis. *Journal of Inherited Metabolic Disease* 36(1): S22.
- Cohen C, Cardoso JFR, Garcia SB, Vannucchi H. 2013b. Folic acid fortification and apoptosis biomarkers in chemical colorectal carcinogenesis. *Journal of Inherited Metabolic Disease* 36(1): S22.
- Cohen C, Cardoso JFR, Garcia SB, Vannucchi H. 2013c. GENE EXPRESSION IN FOLIC ACID FORTIFICATION AND RISK OF COLORECTAL CARCINOGENESIS IN RATS. *Faseb Journal* 27: 1.
- Cooney CA, Dave AA, Wolff GL. 2002. Maternal methyl supplements in mice affect epigenetic variation and DNA methylation of offspring. *Journal of Nutrition* 132(8): 2393S-2400S.

- Cravo ML, Mason JB, Dayal Y, Hutchinson M, Smith D, Selhub J, Rosenberg IH. 1992. Folate deficiency enhances the development of colonic neoplasia in dimethylhydrazine-treated rats. *Cancer Res* 52(18): 5002-5006.
- Crott JW, Choi SW, Ordovas JM, Ditelberg JS, Mason JB. 2004. Effects of dietary folate and aging on gene expression in the colonic mucosa of rats: implications for carcinogenesis. *Carcinogenesis* 25(1): 69-76.
- Crott JW, Choi SW, Branda RF, Mason JB. 2005. Accumulation of mitochondrial DNA deletions is age, tissue and folate-dependent in rats. *Mutat Res* 570(1): 63-70.
- Crott JW, Ciappio ED, Brooks RS, Liu Z. 2011. Maternal B-vitamin intake impacts on Wnt-related genes, apoptosis and tumorigenesis in the intestine of mouse offspring. *FASEB Journal* 25.
- Davis CD, Uthus EO. 2003. Dietary selenium (Se) and folate affect dimethylhydrazine (DMH)-induced aberrant crypt formation, global DNA methylation and one-carbon metabolism in rats. *FASEB Journal* 17(5): A1371-A1371.
- Deghan Manshadi S, Ishiguro L, Sohn KJ, Medline A, Renlund R, Croxford R, Kim YI. 2014. Folic acid supplementation promotes mammary tumor progression in a rat model. *PLoS One* 9(1): e84635.
- Diaz-Castro J, Sanchez-Alcover A, Hijano S, Alferez MJ, Nestares T, Moreno M, Campos MS, Lopez-Aliaga I. 2014. Goat milk supplemented with folic acid protects cell biomolecules from oxidative stress-mediated damage after anaemia recovery in comparison with cow milk. *Eur J Nutr* 53(5): 1165-1175.
- Endoh K, Murakami M, Araki R, Maruyama C, Umegaki K. 2006. Low folate status increases chromosomal damage by X-ray irradiation. *International Journal of Radiation Biology* 82(4): 223-230.
- Endoh K, Murakami M, Sugiyama T, Taki Y, Umegaki K. 2007. Low folate status enhanced benzene-induced cytogenetic damage in bone marrow of mice: A relationship between dietary intake and tissue levels of folate. *Nutrition and Cancer* 59(1): 99-105.
- Fei SJ, Xiao SD, Peng YS, Chen XY, Shi Y. 2006. Chemopreventive effects of rofecoxib and folic acid on gastric carcinogenesis induced by N-methyl-N'-nitro-N-nitrosoguanidine in rats. *Chinese Journal of Digestive Diseases* 7(3): 134-140.
- Fulmer AK, Mauldin GE, Mauldin GN. 2008. Evaluation of plasma folate and homocysteine concentrations in cats with and without oral squamous cell carcinoma. *Vet. Comp. Oncol.* 6(4): 248-256.
- Garland EM, Shapiro R, Wehner JM, Johnson LS, Mattson BJ, Khachab M, Asamoto M, Cohen SM. 1993. Effects of dietary iron and folate supplementation on the physiological changes produced in weanling rats by sodium saccharin exposure. *Food Chem Toxicol* 31(10): 689-699.
- Gomez-Meda BC, Zuniga-Gonzalez GM, Zamora-Perez A, Ramos-Ibarra ML, Batista-Gonzalez CM, Torres-Mendoza BM. 2004. Folate supplementation of cyclophosphamide-treated mothers diminishes micronucleated erythrocytes in peripheral blood of newborn rats. *Environ Mol Mutagen* 44(2): 174-178.
- Gonda TA, Takaishi S, Shibata W, Abrams JA, Gamble MV, Wang TC, Tycko B. 2011. The effect of folate supplementation on global methylation and progression of gastric cancer in the transgenic hypergastrinemic murine model. *Gastroenterology* 140(5): S158.
- Gonda TA, Kim YI, Salas MC, Gamble MV, Shibata W, Muthupalani S, Sohn KJ, Abrams JA, Fox JG, Wang TC, Tycko B. 2012. Folic acid increases global DNA methylation and reduces inflammation to prevent helicobacter-associated gastric cancer in mice. *Gastroenterology* 142(4): 824-833.e827.
- Harris PN, Cloaves GHA. 1952. Observations on carcinogenesis by 4-dimethylaminoazobenzene. *Cancer Research* 12(17): 471-479.
- Iwahashi Y, Setsuda T. 1958. Experimental studies on congenital bone marrow asthenia and leukaemia. IV. Preleukaemic states and myelogenous leukaemias occurring in the offsprings of albino rats administered 4-amino-pteroylglutamic acid continuously. *Acta Haematologica Japonica* 21(1).

- Kamei T, Kohno T, Ohwada H, Takeuchi Y, Hayashi Y, Fukuma S. 1993. Experimental study of the therapeutic effects of folate, vitamin A, and vitamin B12 on squamous metaplasia of the bronchial epithelium. *Cancer* 71(8): 2477-2483.
- Kim KC, Jang H, Sauer J, Zimmerly EM, Liu Z, Chanson A, Smith DE, Friso S, Choi SW. 2011. Folate supplementation differently affects uracil content in DNA in the mouse colon and liver. *Br J Nutr* 105(5): 688-693.
- Kim YI, Choi SW, Salomon RN, Graemecook F, Smith D, Nadeau M, Dallal G, Mason JB, Mayer J. 1995. DIETARY-FOLATE PROTECTS AGAINST THE DEVELOPMENT OF MACROSCOPIC COLONIC NEOPLASMS IN A DOSE-RESPONSIVE MANNER IN THE DIMETHYLHYDRAZINE RAT MODEL. *Gastroenterology* 108(4): A489-A489.
- Kim YI, Salomon RN, GraemeCook F, Choi SW, Smith DE, Dallal GE, Mason JB. 1996. Dietary folate protects against the development of macroscopic colonic neoplasia in a dose responsive manner in rats. *Gut* 39(5): 732-740.
- Kim YI, Puchyr M, Medline A, Salomon RN, Graeme-Cook F, Choi SW, Mason JB. 1998. The effect of dietary folate on p53 mutations in the dimethylhydrazine rat model of colon cancer. *Gastroenterology* 114(4): A625-A625.
- Kim YI, Shirwadkar S, Choi SW, Puchyr M, Wang Y, Mason JB. 2000. Effects of dietary folate on DNA strand breaks within mutation-prone exons of the p53 gene in rat colon. *Gastroenterology* 119(1): 151-161.
- Kim YI, Hayek M, Mason JB, Meydani SN. 2002. Severe folate deficiency impairs natural killer cell-mediated cytotoxicity in rats. *J Nutr* 132(6): 1361-1367.
- Kotsopoulos J, Sohn KJ, Martin R, Choi M, Renlund R, McKerlie C, Hwang SW, Medline A, Kim YI. 2003. Dietary folate deficiency suppresses N-methyl-N-nitrosourea-induced mammary tumorigenesis in rats. *Carcinogenesis* 24(5): 937-944.
- Kotsopoulos J, Medline A, Renlund R, Sohn KJ, Martin R, Hwang SW, Lu S, Archer MC, Kim YI. 2005. Effects of dietary folate on the development and progression of mammary tumors in rats. *Carcinogenesis* 26(9): 1603-1612.
- Lawrance AK, Deng L, Rozen R. 2009. Methylenetetrahydrofolate reductase deficiency and low dietary folate reduce tumorigenesis in *Apc min/+* mice. *Gut* 58(6): 805-811.
- Le Leu RK, Young GP, McIntosh GH. 2000. Folate deficiency reduces the development of colorectal cancer in rats. *Carcinogenesis* 21(12): 2261-2265.
- Lillycrop KA, Rhodes LJ, Jackson AA, Hanson MA, Burdge GC. 2011. Folic Acid Supplementation during the Juvenile-Pubertal Period in Rats Leads to Persistent Tissue-Specific Changes in the Expression and Methylation of the Tumour Suppressor Gene BRCA1. *J. Dev. Orig. Health Dis.* 2: S7-S7.
- Lin YW, Wang JL, Chen HM, Zhang YJ, Lu R, Ren LL, Hong J, Fang JY. 2011. Folic acid supplementary reduce the incidence of adenocarcinoma in a mouse model of colorectal cancer: microarray gene expression profile. *Journal of experimental & clinical cancer research* : CR 30: 116.
- Lindzon GM, Medline A, Sohn KJ, Depeint F, Croxford R, Kim YI. 2009. Effect of folic acid supplementation on the progression of colorectal aberrant crypt foci. *Carcinogenesis* 30(9): 1536-1543.
- Little PA, Oleson JJ, Subbarow Y. 1948. The effect of nutrition on the tumor response in Rous chicken sarcoma. *Journal of Laboratory and Clinical Medicine* 33(9): 1139-1143.
- Lu R, Wang X, Sun DF, Tian XQ, Zhao SL, Chen YX, Fang JY. 2008. Folic acid and sodium butyrate prevent tumorigenesis in a mouse model of colorectal cancer. *Epigenetics* 3(6): 330-335.
- Ly A, Lee H, Chen J, Sie KK, Renlund R, Medline A, Sohn KJ, Croxford R, Thompson LU, Kim YI. 2011. Effect of maternal and postweaning folic acid supplementation on mammary tumor risk in the offspring. *Cancer Res* 71(3): 988-997.

- MacFarlane AJ, Behan NA, Matias FM, Green J, Caldwell D, Brooks SP. 2013. Dietary folate does not significantly affect the intestinal microbiome, inflammation or tumorigenesis in azoxymethane-dextran sodium sulphate-treated mice. *Br J Nutr* 109(4): 630-638.
- Manshadi SD, Ishiguro L, Croxford R, Sohn KJ, Medline A, Renlund R, Kim YI. 2011. Effects of folic acid supplementation on mammary tumor progression. *Cancer Research* 71(8).
- Maru GB, Sawai MM, Bhide SV. 1980. Prevention of isoniazid tumorigenicity by antioxidants of isoniazid in Swiss mice. *J Cancer Res Clin Oncol* 97(2): 145-151.
- Maru GB, Bhide SV. 1982. Effect of antioxidants and antioxidants of isoniazid on the formation of lung tumours in mice by isoniazid and hydrazine sulphate. *Cancer Lett* 17(1): 75-80.
- Nelson GM, Ahlborn GJ, Delker DA, Kitchin KT, O'Brien TG, Chen Y, Kohan MJ, Roop BC, Ward WO, Allen JW. 2007. Folate deficiency enhances arsenic effects on expression of genes involved in epidermal differentiation in transgenic K6/ODC mouse skin. *Toxicology* 241(3): 134-145.
- Nensey YM, Arlow FL, Majumdar AP. 1995. Aging. Increased responsiveness of colorectal mucosa to carcinogen stimulation and protective role of folic acid. *Dig Dis Sci* 40(2): 396-401.
- Newmark HL, Yang K, Kurihara N, Fan K, Augenlicht LH, Lipkin M. 2009. Western-style diet-induced colonic tumors and their modulation by calcium and vitamin D in C57Bl/6 mice: a preclinical model for human sporadic colon cancer. *Carcinogenesis* 30(1): 88-92.
- Nicken P, Brauer N, Lampen A, Steinberg P. 2012. Influence of a fat-rich diet, folic acid supplementation and a human-relevant concentration of 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine on the induction of preneoplastic lesions in the rat colon. *Arch Toxicol* 86(5): 815-821.
- Oleson JJ, Little PA. 1949. Effect of pteroylglutamic acid and vitamin B12 on growth of Rous tumor implants. *Proc Soc Exp Biol Med* 71(2): 226.
- Omar RM, Ismail HM, El-Lateef BM, Yousef MI, Gomaa NF, Sheta M. 2009. Effect of processing on folic acid fortified Baladi bread and its possible effect on the prevention of colon cancer. *Food Chem Toxicol* 47(7): 1626-1635.
- Ranhotra GS, Gelroth JA, Glaser BK, Schoening P, Brown SE. 1999. Cellulose and calcium lower the incidence of chemically-induced colon tumors in rats. *Plant Food Hum. Nutr.* 54(4): 295-303.
- Rogers AE. 1977. Reduction of N-nitrosodiethylamine carcinogenesis in rats by lipotrope or amino acid supplementation of a marginally deficient diet. *Cancer Res* 37(1): 194-199.
- Sadik NA, Shaker OG. 2012. Dietary folate suppresses DMH-induced colon carcinogenesis in a rat model and affects DMH-induced expression of four DNA repair enzymes. *Nutr Cancer* 64(8): 1196-1203.
- Shabbeer S, Williams SA, Simons BW, Herman JG, Carducci MA. 2012. Progression of Prostate Carcinogenesis and Dietary Methyl Donors: Temporal Dependence. *Cancer Prevention Research* 5(2): 229-239.
- Shapiro DM, Gellhorn A. 1951. Combinations of chemical compounds in experimental cancer therapy. *Cancer Research* 2(1): 35-41.
- Sharp L, Little J, Brockton N, Cotton SC, Haites NE, Cassidy J. 2002. Intake of folate and related micronutrients, genetic polymorphisms in MTHFR and colorectal cancer: A population-based case-control study in Scotland. *Journal of Nutrition* 132(11): 3542S-3542S.
- Shirai T, Ohshima M, Masuda A, Tamano S, Ito N. 1984. Promotion of 2-(ethylnitrosamino)ethanol-induced renal carcinogenesis in rats by nephrotoxic compounds: positive responses with folic acid, basic lead acetate, and N-(3,5-dichlorophenyl)succinimide but not with 2,3-dibromo-1-propanol phosphate. *J Natl Cancer Inst* 72(2): 477-482.

- Shivapurkar N, Tang ZC, Frost A, Alabaster O. 1995. INHIBITION OF PROGRESSION OF ABERRANT CRYPT FOCI AND COLON-TUMOR DEVELOPMENT BY VITAMIN-E AND BETA-CAROTENE IN RATS ON A HIGH-RISK DIET. *Cancer Letters* 91(1): 125-132.
- Sie KK, Chen J, Sohn KJ, Croxford R, Thompson LU, Kim YI. 2009. Folic acid supplementation provided in utero and during lactation reduces the number of terminal end buds of the developing mammary glands in the offspring. *Cancer Lett* 280(1): 72-77.
- Sie KK, Medline A, van Weel J, Sohn KJ, Choi SW, Croxford R, Kim YI. 2011. Effect of maternal and postweaning folic acid supplementation on colorectal cancer risk in the offspring. *Gut* 60(12): 1687-1694.
- Song J, Medline A, Mason JB, Gallinger S, Kim YI. 2000a. Effects of dietary folate on intestinal tumorigenesis in the Apc(Min) mouse. *Cancer Research* 60(19): 5434-5440.
- Song J, Sohn KJ, Medline A, Ash C, Gallinger S, Kim YI. 2000b. Chemopreventive effects of dietary folate on intestinal polyps in Apc+/-Msh2-/- mice. *Cancer Res* 60(12): 3191-3199.
- Suh E, Paramasivam S, Zhang S, Arora JS, Cooper HS, Whitehead AS, Blair IA, Clapper ML. 2011. Association of high levels of folate with increased risk for colitis-associated colorectal neoplasia. *Cancer Research* 71(8).
- Swayne BG, Behan NA, Yauk CL, MacFarlane AJ. 2011. The effects of folic acid deficient and supplemented diets over multiple generations on DNA damage in mice. *Environmental and Molecular Mutagenesis* 52: S51.
- Swayne BG, Behan NA, Williams A, Stover PJ, Yauk CL, MacFarlane AJ. 2012a. Supplemental dietary folic acid has no effect on chromosome damage in erythrocyte progenitor cells of mice. *J Nutr* 142(5): 813-817.
- Swayne BG, Kawata A, Behan NA, Williams A, Wade MG, Macfarlane AJ, Yauk CL. 2012b. Investigating the effects of dietary folic acid on sperm count, DNA damage and mutation in Balb/c mice. *Mutat Res* 737(1-2): 1-7.
- Tomaszewski J, Cummings J, Parwani A, Dhir R, Bacich D, O'Keefe D. 2011. Excess dietary folate intake promotes prostate carcinogenesis and progression in an in vivo model of tumorigenesis. *Journal of Urology* 185(4): e109.
- Trentin GA, Moody J, Heddle JA. 1998. Effect of maternal folate levels on somatic mutation frequency in the developing colon. *Mutat Res* 405(1): 81-87.
- Tsang V, Fry RC, Niculescu MD, Rager JE, Saunders J, Paul DS, Zeisel SH, Waalkes MP, Styblo M, Drobna Z. 2012. The epigenetic effects of a high prenatal folate intake in male mouse fetuses exposed in utero to arsenic. *Toxicol Appl Pharmacol* 264(3): 439-450.
- Tsiagbe VK, Straub RJ, Cook ME, Harper AE, Sunde ML. 1987. Critical vitamin supplementation of broiler diets high in alfalfa juice protein. *Poult Sci* 66(11): 1771-1778.
- Vijayalakshmi B, Sesikeran B, Udaykumar P, Kalyanasundaram S, Raghunath M. 2005. Effects of vitamin restriction and supplementation on rat intestinal epithelial cell apoptosis. *Free Radic Biol Med* 38(12): 1614-1624.
- Wade M, Swayne B, Yauk C, Williams A, Behan N, MacFarlane A. 2011. Effects of dietary folic acid intake on somatic and germ cells within and across generations. *Environmental and Molecular Mutagenesis* 52: S21.
- Wargovich MJ, Chen CD, Jimenez A, Steele VE, Velasco M, Stephens LC, Price R, Gray K, Kelloff GJ. 1996. Aberrant crypts as a biomarker for colon cancer: Evaluation of potential chemopreventive agents in the rat. *Cancer Epidemiol. Biomarkers Prev.* 5(5): 355-360.
- Wilson DS, Kim M, Bowen HB. 1998. Folate status and chemically-induced breast cancer in rats. *FASEB Journal* 12(4).
- Xiao SD, Meng XJ, Shi Y, Hu YB, Zhu SS, Wang CW. 2002. Interventional study of high dose folic acid in gastric carcinogenesis in beagles. *Gut* 50(1): 61-64.
- Xu Q, Yang CH, Liu Q, Jin XF, Xu XT, Tong JL, Xiao SD, Ran ZH. 2011. Chemopreventive effect of epigallocatechin-3-gallate (EGCG) and folic acid on the N-methyl-N'-nitro-N-nitrosoguanidine (MNNG)-induced gastrointestinal cancer in rat model. *Journal of Digestive Diseases* 12(3): 181-187.

Yang K, Kurihara N, Fan K, Newmark H, Rigas B, Bancroft L, Corner G, Livote E, Lesser M, Edelmann W, Velcich A, Lipkin M, Augenlicht L. 2008. Dietary induction of colonic tumors in a mouse model of sporadic colon cancer. *Cancer Res* 68(19): 7803-7810.

1.1.19 Cancer, In Vitro Studies (n=62)

Aly FAE, Donya SM, Aly KM. 2002. Protective effects of the folic acid and vitamin B12 against chromosome damage induced by manganese sulfate in cultured mouse spleen cells. *Cytologia* 67(3): 221-228.

Ashe H, Clark BR, Chu F. 1974. N5 methyltetrahydrofolate: Homocysteine methyltransferase activity in extracts from normal, malignant and embryonic tissue culture cells. *Biochemical and Biophysical Research Communications* 57(2): 417-425.

Attias Z, Werner H, Vaisman N. 2006. Folic acid and its metabolites modulate IGF-I receptor gene expression in colon cancer cells in a p53-dependent manner. *Endocr Relat Cancer* 13(2): 571-581.

Berner C, Aumuller E, Gnauck A, Nestelberger M, Just A, Haslberger AG. 2010. Epigenetic control of estrogen receptor expression and tumor suppressor genes is modulated by bioactive food compounds. *Ann Nutr Metab* 57(3-4): 183-189.

Bhattacharya RK, Francis AR, Shetty TK. 1987. Modifying role of dietary factors on the mutagenicity of aflatoxin B1: in vitro effect of vitamins. *Mutat Res* 188(2): 121-128.

Branda RF, McCormack JJ, Perlmutter CA, Mathews LA, Robison SH. 1988. Effects of folate deficiency on the metastatic potential of murine melanoma cells. *Cancer Res* 48(16): 4529-4534.

Chang NS, Park J. 2000. Protective effects of high level of dietary folate on DNA strand breaks in leukocytes and spleen cells. *FASEB Journal* 14(4): A243-A243.

Chen AT, Reidy JA, Annest JL, Welty TK, Zhou HG. 1989. Increased chromosome fragility as a consequence of blood folate levels, smoking status, and coffee consumption. *Environ Mol Mutagen* 13(4): 319-324.

Chiu WC, Huang RFS. 2009. Effects of folate and macrophages activation on migration of human hepatocellular carcinoma cell lines. *Nutritional Sciences Journal* 34(2): 68-75.

Cho K, Mabasa L, Walters MW, Park CS. 2013. Lipotropes enhance the anti-proliferative effect of chemotherapeutic drugs in MCF-7 human breast cancer cells. *Oncol Rep* 29(6): 2237-2242.

Choi J, Siow W, Yates Z, Lucock M, Veysey M. 2013. Influence of synthetic folic acid concentration on Caco-2 cell growth. *Journal of Gastroenterology and Hepatology* 28: 17-18.

Cortesa EN, Goncullalves AC, Sousa MI, Moucho C, Rito L, Magalhaes E, Espadana AI, Pereira MA, Teixeira A, Nascimento Costa J, Sarmiento Ribeiro AB. 2009. Evaluation of apoptotic molecular markers and gene methylation status in patients with myelodysplastic syndrome. *Haematologica* 94: 328.

Crott JW, Liu Z, Choi SW, Mason JB. 2007. Folate depletion in human lymphocytes up-regulates p53 expression despite marked induction of strand breaks in exons 5-8 of the gene. *Mutat Res* 626(1-2): 171-179.

Crott JW, Liu Z, Keyes MK, Choi SW, Jang H, Moyer MP, Mason JB. 2008. Moderate folate depletion modulates the expression of selected genes involved in cell cycle, intracellular signaling and folate uptake in human colonic epithelial cell lines. *J Nutr Biochem* 19(5): 328-335.

Das KC, Herbert V. 1989. In vitro DNA synthesis by megaloblastic bone marrow: effect of folates and cobalamins on thymidine incorporation and de novo thymidylate synthesis. *Am J Hematol* 31(1): 11-20.

Debien E, Hervouet E, Gautier F, Juin P, Vallette FM, Cartron PF. 2011. ABT-737 and/or folate reverse the PDGF-induced alterations in the mitochondrial apoptotic pathway in low-grade glioma patients. *Clin Epigenetics* 2(2): 369-381.

- Fang JY, Xiao SD. 1998. Effect of trans-retinoic acid and folic acid on apoptosis in human gastric cancer cell lines MKN-45 and MKN-28. *Journal of Gastroenterology* 33(5): 656-661.
- Ferias N, Coomber B. 2013. Effect of folic acid supplementation on epigenetics and cancer stem cell populations in established colorectal cancer cell lines. *Cancer Research* 73(8): 1.
- Gothke SK, Dudley R, Vaglenov A. 2010. In vitro experimental approach for modulation of human susceptibility to cadmium by antioxidants. *Environmental and Molecular Mutagenesis* 51(7): 720.
- Hervouet E, Debien E, Campion L, Charbord J, Menanteau J, Vallette FM, Cartron PF. 2009. Folate supplementation limits the aggressiveness of glioma via the remethylation of DNA repeats element and genes governing apoptosis and proliferation. *Clin Cancer Res* 15(10): 3519-3529.
- Hirsch S, Miranda D, De La Maza MP, Montoya M, Ronco AM, Bunout D. 2011. Effect of folic acid on tumoral and normal cells proliferation. *Clinical Nutrition, Supplement* 6(1): 203.
- Hirsch S, Miranda D, Montoya M, Rodriguez J, Bunout D, De La Maza MP, Ronco AM. 2012. Folates induce human erythroleukemic cell line proliferation through foate receptors (alpha) 1 and Notch1 signaling. *Clinical Chemistry and Laboratory Medicine* 50(2): A50-A51.
- Hirsch S, Miranda D, Munoz E, Montoya M, Ronco AM, de la Maza MP, Bunout D. 2013. Natural killer cell cytotoxicity is not regulated by folic acid in vitro. *Nutrition* 29(5): 772-776.
- Ho YH, Huang RFS. 1997. Effect of folate supplementation on folate-deficient HepG2 cell line. *Nutritional Sciences Journal* 22(4): 399-410.
- Hsu SP, Chang C, Kuo CT, Wang YJ, Lee WS. 2012. Molecular mechanism underlying folic acid-inhibited colon cancer growth. *European Journal of Cancer* 48: S57-S58.
- Huang RF, Ho YH, Lin HL, Wei JS, Liu TZ. 1999. Folate deficiency induces a cell cycle-specific apoptosis in HepG2 cells. *J Nutr* 129(1): 25-31.
- Huang RF, Huang SM, Lin BS, Hung CY, Lu HT. 2002. N-Acetylcysteine, vitamin C and vitamin E diminish homocysteine thiolactone-induced apoptosis in human promyeloid HL-60 cells. *J Nutr* 132(8): 2151-2156.
- Huang RF, Yaong HC, Chen SC, Lu YF. 2004. In vitro folate supplementation alleviates oxidative stress, mitochondria-associated death signalling and apoptosis induced by 7-ketocholesterol. *Br J Nutr* 92(6): 887-894.
- Huang RFS, Ho BC, Lin CC. 2000. Effects of homocysteine, folate and methionine on cellular growth and DNA damage in human HepG2 cells. *Nutritional Sciences Journal* 25(4): 191-198.
- Hutson JR, Koren G, Kapur BM. 2010. Placental toxicity of formic acid and effect of folic acid. *Alcoholism: Clinical and Experimental Research* 34(6): 213A.
- Ishaque A, Al-Rubeai M. 2002. Role of vitamins in determining apoptosis and extent of suppression by bcl-2 during hybridoma cell culture. *Apoptosis* 7(3): 231-239.
- Jaszewski R, Khan A, Sarkar FH, Kucuk O, Tobi M, Zagnoon A, Dhar R, Kinzie J, Majumdar APN. 1999. Folic acid inhibition of EGFR-mediated proliferation in human colon cancer cell lines. *Am. J. Physiol.-Cell Physiol.* 277(6): C1142-C1148.
- Jiang Y, Zhu WY, Huang CY, Tao DM. 2007. [Effects of Yanting diet and vitamins on growth and proliferation of human esophageal cancer cell line]. *Sichuan Da Xue Xue Bao Yi Xue Ban* 38(4): 624-628.
- Jiang Y, Du HZ, Zhu WY, Xiao HJ, Huang CY. 2008. Effects of a regional Chinese diet and its vitamin supplementation on proliferation of human esophageal cancer cell lines. *Biomed Environ Sci* 21(5): 442-448.
- Kane MA, Elwood PC, Portillo RM, Antony AC, Najfeld V, Finley A, Waxman S, Kolhouse JF. 1988. Influence on immunoreactive folate-binding proteins of extracellular folate concentration in cultured human cells. *J Clin Invest* 81(5): 1398-1406.

- Karasawa M, Yatabe H, Omine M, Maekawa T. 1987. Growth and DNA synthesis of folate- and methionine-depleted L1210 mouse leukemia cells in culture. *J Nutr Sci Vitaminol (Tokyo)* 33(1): 21-30.
- Kondo H, Iseki T, Iwasa S, Okuda K, Kanazawa S, Ohto M. 1989. Cobalamin-dependent replication of L1210 leukemia cells and effects of cobalamin analogues. *Acta Haematol* 81(2): 61-69.
- Lasfurgues EY, Ozzello L. 1958. Cultivation of human breast carcinomas. *Journal of the National Cancer Institute* 21(6): 1131-1148.
- Lemos C, Kathmann L, Giovannetti E, Belien JAM, Scheffer GL, Calhau C, Jansen G, Peters GJ. 2009. Cellular folate status modulates the expression of BCRP and MRP multidrug transporters in cancer cell lines from different origins. *Mol. Cancer Ther.* 8(3): 655-664.
- Lubecka-Pietruszewska K, Kaufman-Szymczyk A, Stefanska B, Fabianowska-Majewska K. 2013. Folic acid enforces DNA methylation-mediated transcriptional silencing of PTEN, APC and RARbeta2 tumour suppressor genes in breast cancer. *Biochem Biophys Res Commun* 430(2): 623-628.
- Mathur RS, Mathur SP. 2003. In vitro downregulation of growth factors by insulin-like growth factor binding protein-3 in cervical cancer. *Gynecol Oncol* 91(2): 410-415.
- McCabe J, Chang S, Hajibandeh J, Tran MD, Meeder CA, Sharma K, Nguyen DH, Moody M, Keiserman MA, Bergman CJ, Kingsley K. 2010. Folate supplementation induces differential dose-dependent modulation of proliferative phenotypes among cancerous and noncancerous oral cell lines in vitro. *Journal of Dietary Supplements* 7(4): 325-340.
- Meenan J, O'Hallinan E, Scott J, Weir DG. 1997. Epithelial cell folate depletion occurs in neoplastic but not adjacent normal colon mucosa. *Gastroenterology* 112(4): 1163-1168.
- Melnyk S, Pogribna M, Miller BJ, Basnakian AG, Pogribny IP, James SJ. 1999. Uracil misincorporation, DNA strand breaks, and gene amplification are associated with tumorigenic cell transformation in folate deficient/repleted Chinese hamster ovary cells. *Cancer Lett* 146(1): 35-44.
- Mikol YB, Lipkin M. 1984. Methionine dependence in skin fibroblasts of humans affected with familial colon cancer or Gardner's syndrome. *J Natl Cancer Inst* 72(1): 19-22.
- Nagothu KK, Rishi AK, Jaszewski R, Kucuk O, Majumdar APN. 2004. Folic acid-mediated inhibition of serum-induced activation of EGFR promoter in colon cancer cells. *Am. J. Physiol.-Gastroint. Liver Physiol.* 287(3): G541-G546.
- Odagiri Y, Uchida H. 1998. Influence of serum micronutrients on the incidence of kinetochore-positive or -negative micronuclei in human peripheral blood lymphocytes. *Mutat Res* 415(1-2): 35-45.
- Oleinik NV, Krupenko NI, Reuland SN, Krupenko SA. 2006. Leucovorin-induced resistance against FDH growth suppressor effects occurs through DHFR up-regulation. *Biochem Pharmacol* 72(2): 256-266.
- Oleinik NV, Krupenko NI, Krupenko SA. 2010. ALDH1L1 inhibits cell motility via dephosphorylation of cofilin by PP1 and PP2A. *Oncogene* 29(47): 6233-6244.
- Oleinik NV, Helke KL, Kistner-Griffin E, Krupenko NI, Krupenko SA. 2014. Rho GTPases RhoA and Rac1 mediate effects of dietary folate on metastatic potential of A549 cancer cells through the control of cofilin phosphorylation. *J Biol Chem* 289(38): 26383-26394.
- Olivotto M, Caldini R, Chevanne M, Cipolleschi MG. 1983. The respiration-linked limiting step of tumor cell transition from the non-cycling to the cycling state: its inhibition by oxidizable substrates and its relationships to purine metabolism. *J Cell Physiol* 116(2): 149-158.
- Park CS, Cho K, Bae DR, Joo NE, Kim HH, Mabasa L, Fowler AW. 2008. Methyl-donor nutrients inhibit breast cancer cell growth. *In Vitro Cell Dev Biol Anim* 44(7): 268-272.

- Pellis L, Dommels Y, Venema D, Polanen A, Lips E, Baykus H, Kok F, Kampman E, Keijer J. 2008. High folic acid increases cell turnover and lowers differentiation and iron content in human HT29 colon cancer cells. *Br J Nutr* 99(4): 703-708.
- Petersen LF, Brockton NT, Bakkar A, Liu S, Wen J, Weljie AM, Bismar TA. 2011. Elevated physiological levels of folic acid can increase in vitro growth and invasiveness of prostate cancer cells. *BJU Int*.
- Poirier LA, Hoover KL, Ward JM. 1987. EFFECTS OF VITAMIN-B12 AND FOLATE ON HEPATOCARCINOGENESIS IN CHOLINE METHIONINE-DEFICIENT (CMD) RATS. *Federation Proceedings* 46(3): 750-750.
- Reidy JA. 1987. Folate- and deoxyuridine-sensitive chromatid breakage may result from DNA repair during G2. *Mutat Res* 192(3): 217-219.
- Siu MK, Kong DS, Chan HY, Wong ES, Ip PP, Jiang L, Ngan HY, Le XF, Cheung AN. 2012. Paradoxical impact of two folate receptors, FRalpha and RFC, in ovarian cancer: effect on cell proliferation, invasion and clinical outcome. *PLoS One* 7(11): e47201.
- Wang JT, Wu TT, Bai L, Ding L, Hao M, Wang Y. 2013a. [Effect of folate in modulating the expression of DNA methyltransferase 1 and methyl-CpG-binding protein 2 in cervical cancer cell lines]. *Zhonghua Liu Xing Bing Xue Za Zhi* 34(2): 173-177.
- Wang X, Fenech M. 2003. A comparison of folic acid and 5-methyltetrahydrofolate for prevention of DNA damage and cell death in human lymphocytes in vitro. *Mutagenesis* 18(1): 81-86.
- Wang X, Thomas P, Xue J, Fenech M. 2004. Folate deficiency induces aneuploidy in human lymphocytes in vitro-evidence using cytokinesis-blocked cells and probes specific for chromosomes 17 and 21. *Mutat Res* 551(1-2): 167-180.
- Wang YC, Lin WL, Lin YJ, Tang FY, Chen YM, Chiang EPI. 2013b. A novel role of tumor suppressor glycine N-methyltransferase in cellular defense against DNA damage. *Journal of Inherited Metabolic Disease* 36(1): S4.
- Xiao S, Zou J, Ran Z, Xu Q, Tong J. 2007. Experimental study on the killing effect of epigallocatechin-3-gallate combined with folic acid gastric cancer cells. *Chinese Journal of Gastroenterology* 12(3): 135-139.

1.2 Cognition and Vitamin B₁₂

1.2.1 Cognition, Meta-analyses (n=2)

* - In HAWC (n=2);^x - Not Data Extracted (n=0)

- * Clarke R, Bennett D, Parish S, Lewington S, Skeaff M, Eussen S, Lewerin C, Stott DJ, Armitage J, Hankey GJ, Lonn E, Spence JD, Galan P, de Groot LC, Halsey J, Dangour AD, Collins R, Grodstein F, Coll BVTT. 2014. Effects of homocysteine lowering with B vitamins on cognitive aging: meta-analysis of 11 trials with cognitive data on 22,000 individuals. *American Journal of Clinical Nutrition* 100(2): 657-666.
- * Malouf R, Evans JG. 2008. Folic acid with or without vitamin B12 for the prevention and treatment of healthy elderly and demented people. *Cochrane Database of Systematic Reviews*(4).

1.2.2 Cognition and Vitamin B₁₂, Human Studies (n=48)

* - In HAWC (n=27);^x - Not Data Extracted (n=21)

- * Agnew-Blais JC, Wassertheil-Smoller S, Kang JH, Hogan PE, Coker LH, Snetselaar LG, Smoller JW. 2015. Folate, Vitamin B-6, and Vitamin B-12 Intake and Mild Cognitive Impairment and Probable Dementia in the Women's Health Initiative Memory Study. *Journal of the Academy of Nutrition and Dietetics* 115(2): 231-241.
- ^x Andersson I, Gronberg A, Slinde F, Bosaeus I, Larsson S. 2007. Vitamin and mineral status in elderly patients with chronic obstructive pulmonary disease. *Clin Respir J* 1(1): 23-29.
- ^x Annerbo S, Wahlund LO, Lökk J. 2005. The relation between homocysteine levels and development of Alzheimer's disease in mild cognitive impairment patients. *Dement Geriatr Cogn Disord* 20(4): 209-214.
- ^x Bates CJ, Schneede J, Mishria G, Prentice A, Mansoor MA. 2003. Relationship between methylmalonic acid, homocysteine, vitamin B-12 intake and status and socio-economic indices, in a subset of participants in the British National Diet and Nutrition Survey of people aged 65y and over. *European Journal of Clinical Nutrition* 57(2): 349-357.
- * Bell IR, Edman JS, Marby DW, Satlin A, Dreier T, Liptzin B, Cole JO. 1990a. Vitamin B12 and folate status in acute geropsychiatric inpatients: affective and cognitive characteristics of a vitamin nondeficient population. *Biol Psychiatry* 27(2): 125-137.
- * Bell IR, Edman JS, Miller J, Hebben N, Linn RT, Ray D, Kayne HL. 1990b. Relationship of normal serum vitamin B12 and folate levels to cognitive test performance in subtypes of geriatric major depression. *J Geriatr Psychiatry Neurol* 3(2): 98-105.
- * Bell IR, Edman JS, Morrow FD, Marby DW, Mirages S, Perrone G, Kayne HL, Cole JO. 1991. B complex vitamin patterns in geriatric and young adult inpatients with major depression. *J Am Geriatr Soc* 39(3): 252-257.
- ^x Bjorkegren K, Svardsudd K. 2004. A population-based intervention study on elevated serum levels of methylmalonic acid and total homocysteine in elderly people: results after 36 months of follow-up. *J Intern Med* 256(5): 446-452.
- * Bryan J, Calvaresi E. 2004. Associations between dietary intake of folate and vitamins B-12 and B-6 and self-reported cognitive function and psychological well-being in Australian men and women in midlife. *J Nutr Health Aging* 8(4): 226-232.
- ^x Cassidy K, Kotynia-English R, Acres J, Flicker L, Lautenschlager NT, Almeida OP. 2004. Association between lifestyle factors and mental health measures among community-dwelling older women. *Aust N Z J Psychiatry* 38(11-12): 940-947.

- * Cheng D, Kong H, Pang W, Yang H, Lu H, Huang C, Jiang Y. 2014. B vitamin supplementation improves cognitive function in the middle aged and elderly with hyperhomocysteinemia. *Nutr Neurosci*.
- * Clarke R, Sherliker P, Hin H, Molloy AM, Nexo E, Ueland PM, Emmens K, Scott JM, Evans JG. 2008. Folate and vitamin B12 status in relation to cognitive impairment and anaemia in the setting of voluntary fortification in the UK. *Br J Nutr* 100(5): 1054-1059.
- ^x de Jong N, Chin APMJ, de Groot LC, Rutten RA, Swinkels DW, Kok FJ, van Staveren WA. 2001. Nutrient-dense foods and exercise in frail elderly: effects on B vitamins, homocysteine, methylmalonic acid, and neuropsychological functioning. *Am J Clin Nutr* 73(2): 338-346.
- * Doets EL, Ueland PM, Tell GS, Vollset SE, Nygard OK, Van't Veer P, de Groot LC, Nurk E, Refsum H, Smith AD, Eussen SJ. 2014. Interactions between plasma concentrations of folate and markers of vitamin B(12) status with cognitive performance in elderly people not exposed to folic acid fortification: the Hordaland Health Study. *Br J Nutr* 111(6): 1085-1095.
- * Eussen SJ, De Groot LC, Joosten LW, Bloo RJ, Clarke R, Ueland PM, Schneede J, Blom HJ, Hoefnagels WH, Van Staveren WA. 2006. Effect of oral vitamin B-12 with or without folic acid on cognitive function in older people with mild vitamin B-12 deficiency: A randomized, placebo-controlled trial. *American Journal of Clinical Nutrition* 84(2): 361-370.
- ^x Faurshou M, Nielsen OJ, Jensen MK, Hasselbalch HC. 2000. High prevalence of hyperhomocysteinemia due to marginal deficiency of cobalamin or folate in chronic myeloproliferative disorders. *Am J Hematol* 65(2): 136-140.
- ^x Franchi F, Baio G, Bolognesi AG, Bonassi R, Emiliani S, Gobbi G, Luchetti L, Zurla L. 2001. Deficient folate nutritional status and cognitive performances: Results from a retrospective study in male elderly inpatients in a geriatric department. *Archives of Gerontology and Geriatrics*: 145-150.
- * Gultepe M, Ozcan O, Avsar K, Cetin M, Ozdemir AS, Gok M. 2003. Urine methylmalonic acid measurements for the assessment of cobalamin deficiency related to neuropsychiatric disorders. *Clin Biochem* 36(4): 275-282.
- ^x Haan MN, Miller JW, Aiello AE, Whitmer RA, Jagust WJ, Mungas DM, Allen LH, Green R. 2007. Homocysteine, B vitamins, and the incidence of dementia and cognitive impairment: results from the Sacramento Area Latino Study on Aging. *Am J Clin Nutr* 85(2): 511-517.
- ^x Hengstermann S, Laemmler G, Hanemann A, Schweter A, Steinhagen-Thiessen E, Lun A, Schulz RJ. 2009. Total serum homocysteine levels do not identify cognitive dysfunction in multimorbid elderly patients. *J Nutr Health Aging* 13(2): 121-126.
- * Hin H, Clarke R, Sherliker P, Atoyebi W, Emmens K, Birks J, Schneede J, Ueland PM, Nexo E, Scott J, Molloy A, Donaghy M, Frost C, Evans JG. 2006. Clinical relevance of low serum vitamin B12 concentrations in older people: the Banbury B12 study. *Age Ageing* 35(4): 416-422.
- * Hooshmand B, Solomon A, Kareholt I, Rusanen M, Hanninen T, Leiviska J, Winblad B, Laatikainen T, Soininen H, Kivipelto M. 2012. Associations between serum homocysteine, holotranscobalamin, folate and cognition in the elderly: a longitudinal study. *J Intern Med* 271(2): 204-212.
- ^x Hubner U, Alwan A, Jouma M, Tabbaa M, Schorr H, Herrmann W. 2008. Low serum vitamin B12 is associated with recurrent pregnancy loss in Syrian women. *Clin Chem Lab Med* 46(9): 1265-1269.
- ^x Ipçioğlu OM, Özcan Ö, Gültepe M, Tekeli H, Şenol MG. 2008. Functional vitamin B12 deficiency represented by elevated urine methylmalonic acid levels in patients with migraine. *Turkish Journal of Medical Sciences* 38(5): 409-414.
- ^x Koike T, Kuzuya M, Kanda S, Okada K, Izawa S, Enoki H, Iguchi A. 2008. Raised homocysteine and low folate and vitamin B-12 concentrations predict cognitive decline in community-dwelling older Japanese adults. *Clin Nutr* 27(6): 865-871.

- ^x Lee LK, Shahar S, Rajab N. 2009. Serum folate concentration, cognitive impairment, and DNA damage among elderly individuals in Malaysia. *Nutr Res* 29(5): 327-334.
- * Levitt AJ, Karlinsky H. 1992. Folate, vitamin B12 and cognitive impairment in patients with Alzheimer's disease. *Acta Psychiatr Scand* 86(4): 301-305.
- ^x Lewerin C, Jacobsson S, Lindstedt G, Nilsson-Ehle H. 2008. Serum biomarkers for atrophic gastritis and antibodies against *Helicobacter pylori* in the elderly: Implications for vitamin B12, folic acid and iron status and response to oral vitamin therapy. *Scandinavian Journal of Gastroenterology* 43(9): 1050-1056.
- ^x Li L, Cao D, Desmond R, Rahman A, Lah JJ, Levey AI, Zamrini E. 2008. Cognitive performance and plasma levels of homocysteine, vitamin B12, folate and lipids in patients with Alzheimer disease. *Dement Geriatr Cogn Disord* 26(4): 384-390.
- * McCracken C, Hudson P, Ellis R, McCaddon A. 2006. Methylmalonic acid and cognitive function in the Medical Research Council Cognitive Function and Ageing Study. *Am J Clin Nutr* 84(6): 1406-1411.
- ^x McNeill G, Jia X, Whalley LJ, Fox HC, Corley J, Gow AJ, Brett CE, Starr JM, Deary IJ. 2011. Antioxidant and B vitamin intake in relation to cognitive function in later life in the Lothian Birth Cohort 1936. *Eur J Clin Nutr* 65(5): 619-626.
- * Michelakos T, Kousoulis AA, Katsiardanis K, Dessypris N, Anastasiou A, Katsiardani KP, Kanavidis P, Stefanadis C, Papadopoulos FC, Petridou ET. 2013. Serum folate and B12 levels in association with cognitive impairment among seniors: results from the VELESTINO study in Greece and meta-analysis. *Journal of aging and health* 25(4): 589-616.
- * Miller JW, Garrod MG, Allen LH, Haan MN, Green R. 2009. Metabolic evidence of vitamin B-12 deficiency, including high homocysteine and methylmalonic acid and low holotranscobalamin, is more pronounced in older adults with elevated plasma folate. *Am J Clin Nutr* 90(6): 1586-1592.
- * Mills JL, Carter TC, Scott JM, Troendle JF, Gibney ER, Shane B, Kirke PN, Ueland PM, Brody LC, Molloy AM. 2011. Do high blood folate concentrations exacerbate metabolic abnormalities in people with low vitamin B-12 status? *Am J Clin Nutr* 94(2): 495-500.
- * Moore EM, Ames D, Mander AG, Carne RP, Brodaty H, Woodward MC, Boundy K, Ellis KA, Bush AI, Faux NG, Martins RN, Masters CL, Rowe CC, Szoek C, Watters DA. 2014. Among vitamin B12 deficient older people, high folate levels are associated with worse cognitive function: combined data from three cohorts. *J Alzheimers Dis* 39(3): 661-668.
- * Morris MC, Evans DA, Bienias JL, Tangney CC, Hebert LE, Scherr PA, Schneider JA. 2005. Dietary folate and vitamin B12 intake and cognitive decline among community-dwelling older persons. *Arch Neurol* 62(4): 641-645.
- * Morris MS, Jacques PF, Rosenberg IH, Selhub J. 2007. Folate and vitamin B-12 status in relation to anemia, macrocytosis, and cognitive impairment in older Americans in the age of folic acid fortification. *Am J Clin Nutr* 85(1): 193-200.
- * Morris MS, Jacques PF, Rosenberg IH, Selhub J. 2010. Circulating unmetabolized folic acid and 5-methyltetrahydrofolate in relation to anemia, macrocytosis, and cognitive test performance in American seniors. *Am J Clin Nutr* 91(6): 1733-1744.
- * Morris MS, Selhub J, Jacques PF. 2012. Vitamin B-12 and folate status in relation to decline in scores on the mini-mental state examination in the framingham heart study. *J Am Geriatr Soc* 60(8): 1457-1464.
- ^x Naurath HJ, Joosten E, Riezler R, Stabler SP, Allen RH, Lindenbaum J. 1995. Effects of vitamin B12, folate, and vitamin B6 supplements in elderly people with normal serum vitamin concentrations. *Lancet* 346(8967): 85-89.

- * Nilsson K, Gustafson L, Hultberg B. 2001. Improvement of cognitive functions after cobalamin/folate supplementation in elderly patients with dementia and elevated plasma homocysteine. *Int J Geriatr Psychiatry* 16(6): 609-614.
- ^x Robins Wahlin TB, Wahlin A, Winblad B, Backman L. 2001. The influence of serum vitamin B12 and folate status on cognitive functioning in very old age. *Biol Psychol* 56(3): 247-265.
- * Selhub J, Morris MS, Jacques PF, Rosenberg IH. 2009. Folate-vitamin B-12 interaction in relation to cognitive impairment, anemia, and biochemical indicators of vitamin B-12 deficiency. *Am J Clin Nutr* 89(2): 702S-706S.
- * Tettamanti M, Garri MT, Nobili A, Riva E, Lucca U. 2006. Low folate and the risk of cognitive and functional deficits in the very old: the Monzino 80-plus study. *J Am Coll Nutr* 25(6): 502-508.
- ^x Tobin KA, Holven KB, Retterstol K, Strom E, Ose L, Aukrust P, Nenseter MS. 2009. Cystatin C levels in plasma and peripheral blood mononuclear cells among hyperhomocysteinaemic subjects: effect of treatment with B-vitamins. *Br J Nutr* 102(12): 1783-1789.
- * Tucker KL, Qiao N, Scott T, Rosenberg I, Spiro A, 3rd. 2005. High homocysteine and low B vitamins predict cognitive decline in aging men: the Veterans Affairs Normative Aging Study. *Am J Clin Nutr* 82(3): 627-635.
- * Wahlin A, Hill RD, Winblad B, Backman L. 1996. Effects of serum vitamin B12 and folate status on episodic memory performance in very old age: a population-based study. *Psychol Aging* 11(3): 487-496.
- ^x Wahlin A, Fahlander K, Wahlin TB, Bunce D, Backman L. 2008. Vitamin B status and cognitive performance in preclinical and clinical Alzheimer's disease: data from the Kungsholmen Project. *Dement Geriatr Cogn Disord* 25(1): 23-31.

1.2.3 Cognition, Non-human Animal Studies (n=8)

- Barichello T, Generoso JS, Simoes LR, Steckert AV, Moreira AP, Domingui D, Ferrari P, Gubert C, Kapczinski F, Jornada LK, Danielski LG, Petronilho F, Budni J, Quevedo J. 2014. Folic acid prevented cognitive impairment in experimental pneumococcal meningitis. *J Neural Transm*.
- Jansen D, Zerbi V, Arnoldussen IA, Wiesmann M, Rijpma A, Fang XT, Dederen PJ, Mutsaers MP, Broersen LM, Lutjohann D, Miller M, Joosten LA, Heerschap A, Kiliaan AJ. 2013. Effects of specific multi-nutrient enriched diets on cerebral metabolism, cognition and neuropathology in AbetaPPswe-PS1dE9 mice. *PLoS One* 8(9): e75393.
- Nassiri-Asl M, Sarookhani MR, Abbasi E, Zangivand AA, Meh N. 2011. The effects of chronic administration folic acid on memory retrieval in rats. *Pharmacologyonline* 3: 526-535.
- Sable P, Dangat K, Kale A, Joshi S. 2011. Altered brain neurotrophins at birth: consequence of imbalance in maternal folic acid and vitamin B metabolism. *Neuroscience* 190: 127-134.
- Sable PS, Dangat KD, Joshi AA, Joshi SR. 2012. Maternal omega 3 fatty acid supplementation during pregnancy to a micronutrient-imbalanced diet protects postnatal reduction of brain neurotrophins in the rat offspring. *Neuroscience* 217: 46-55.
- Shooshtari MK, Moazedi AA, Parham GA. 2012. Memory and motor coordination improvement by folic acid supplementation in healthy adult male rats. *Iranian Journal of Basic Medical Sciences* 15(6): 1173-1179.
- Tsai HL, Yan JL, Wang SM, Chang SJ. 2009. Neuroprotection against hyperhomocysteinemia-induced selective oxidative stress in brain regions of rats with folic acid or *Dioscorea alata* supplementation. *Current Topics in Nutraceutical Research* 7(2): 73-80.
- Wei W, Liu YH, Zhang CE, Wang Q, Wei Z, Mousseau DD, Wang JZ, Tian Q, Liu GP. 2011. Folate/vitamin-B12 prevents chronic hyperhomocysteinemia-Induced tau hyperphosphorylation and memory deficits in aged rats. *Journal of Alzheimer's Disease* 27(3): 639-650.

1.2.4 Cognition, In Vitro Studies (n=7)

- Budni J, Romero A, Molz S, Martin-de-Saavedra MD, Egea J, Del Barrio L, Tasca CI, Rodrigues AL, Lopez MG. 2011. Neurotoxicity induced by dexamethasone in the human neuroblastoma SH-SY5Y cell line can be prevented by folic acid. *Neuroscience* 190: 346-353.
- Ho PI, Ashline D, Dhitavat S, Ortiz D, Collins SC, Shea TB, Rogers E. 2003. Folate deprivation induces neurodegeneration: roles of oxidative stress and increased homocysteine. *Neurobiol Dis* 14(1): 32-42.
- Ichi S, Nakazaki H, Boshnjaku V, Singh RM, Mania-Farnell B, Xi G, McLone DG, Tomita T, Mayanil CS. 2012. Fetal neural tube stem cells from Pax3 mutant mice proliferate, differentiate, and form synaptic connections when stimulated with folic acid. *Stem Cells Dev* 21(2): 321-330.
- Junaid MA, Kuizon S, Cardona J, Azher T, Murakami N, Pullarkat RK, Brown WT. 2011. Folic acid supplementation dysregulates gene expression in lymphoblastoid cells--implications in nutrition. *Biochem Biophys Res Commun* 412(4): 688-692.
- Lin Y, Desbois A, Jiang S, Hou ST. 2004. Group B vitamins protect murine cerebellar granule cells from glutamate/NMDA toxicity. *Neuroreport* 15(14): 2241-2244.
- Savelkoul PJ, Janickova H, Kuipers AA, Hageman RJ, Kamphuis PJ, Dolezal V, Broersen LM. 2012. A specific multi-nutrient formulation enhances M1 muscarinic acetylcholine receptor responses in vitro. *J Neurochem* 120(4): 631-640.
- Yang YH, Hsieh TJ, Tsai ML, Chen CH, Lin HT, Wu SJ. 2014. Neuroprotective effects of Hu-Yi-Neng, a diet supplement, on SH-SY5Y human neuroblastoma cells. *J Nutr Health Aging* 18(2): 184-190.

1.3 Hypersensitivity-related Outcomes

1.3.1 Asthma in Children, Meta-analysis (n=1)

* - In HAWC (n=1); ^X - Not Data Extracted (n=0)

* Crider KS, Cordero AM, Qi YP, Mulinare J, Dowling NF, Berry RJ. 2013. Prenatal folic acid and risk of asthma in children: a systematic review and meta-analysis. *Am J Clin Nutr* 98(5): 1272-1281.

1.3.2 Hypersensitivity-related Outcomes – Human Studies (n=43)

* - In HAWC (n=39); ^X - Not Data Extracted (n=4)

^X Acs N, Banhidly F, Puho EH, Czeizel AE. 2006. Acute respiratory infections during pregnancy and congenital abnormalities: a population-based case-control study. *Congenit Anom (Kyoto)* 46(2): 86-96.

* Aisen PS, Schneider LS, Sano M, Diaz-Arrastia R, van Dyck CH, Weiner MF, Bottiglieri T, Jin S, Stokes KT, Thomas RG, Thal LJ. 2008. High-dose B vitamin supplementation and cognitive decline in Alzheimer disease: a randomized controlled trial. *JAMA* 300(15): 1774-1783.

* Bekkers MB, Elstgeest LE, Scholtens S, Haveman-Nies A, de Jongste JC, Kerkhof M, Koppelman GH, Gehring U, Smit HA, Wijga AH. 2012. Maternal use of folic acid supplements during pregnancy, and childhood respiratory health and atopy. *Eur Respir J* 39(6): 1468-1474.

* Binkley KE, Leaver C, Ray JG. 2011. Antenatal risk factors for peanut allergy in children. *Allergy Asthma Clin Immunol* 7: 17.

* Bogden JD, Bendich A, Kemp FW, Bruening KS, Shurnick JH, Denny T, Baker H, Louria DB. 1994. Daily micronutrient supplements enhance delayed-hypersensitivity skin test responses in older people. *Am J Clin Nutr* 60(3): 437-447.

* Christian P, Darmstadt GL, Wu L, Khatry SK, Leclercq SC, Katz J, West KP, Jr., Adhikari RK. 2008. The effect of maternal micronutrient supplementation on early neonatal morbidity in rural Nepal: a randomised, controlled, community trial. *Arch Dis Child* 93(8): 660-664.

* Dobo M, Czeizel AE. 1998. Long-term somatic and mental development of children after periconceptional multivitamin supplementation. *Eur J Pediatr* 157(9): 719-723.

* Dunstan JA, West C, McCarthy S, Metcalfe J, Meldrum S, Oddy WH, Tulic MK, D'Vaz N, Prescott SL. 2012. The relationship between maternal folate status in pregnancy, cord blood folate levels, and allergic outcomes in early childhood. *Allergy* 67(1): 50-57.

* Farres MN, Shahin RY, Melek NA, El-Kabarity RH, Arafa NA. 2011. Study of Folate Status Among Egyptian Asthmatics. *Internal Medicine* 50(3): 205-211.

* Gariballa S, Forster S. 2007. Associations between underlying disease and nutritional status following acute illness in older people. *Clin Nutr* 26(4): 466-473.

* Gariballa S, Afandi B, Haltem MA, Yassin J, Alessa A. 2013. Effect of antioxidants and B-group vitamins on risk of infections in patients with type 2 diabetes mellitus. *Nutrients* 5(3): 711-724.

* Granell R, Heron J, Lewis S, Davey Smith G, Sterne JA, Henderson J. 2008. The association between mother and child MTHFR C677T polymorphisms, dietary folate intake and childhood atopy in a population-based, longitudinal birth cohort. *Clin Exp Allergy* 38(2): 320-328.

* Haberg SE, London SJ, Stigum H, Nafstad P, Nystad W. 2009. Folic acid supplements in pregnancy and early childhood respiratory health. *Arch Dis Child* 94(3): 180-184.

- * Haberg SE, London SJ, Nafstad P, Nilsen RM, Ueland PM, Vollset SE, Nystad W. 2011. Maternal folate levels in pregnancy and asthma in children at age 3 years. *Journal of Allergy and Clinical Immunology* 127(1): 262-264.
- * Hamer DH, Sempertegui F, Estrella B, Tucker KL, Rodriguez A, Egas J, Dallal GE, Selhub J, Griffiths JK, Meydani SN. 2009. Micronutrient deficiencies are associated with impaired immune response and higher burden of respiratory infections in elderly Ecuadorians. *J Nutr* 139(1): 113-119.
- * Husemoen LL, Toft U, Fenger M, Jorgensen T, Johansen N, Linneberg A. 2006. The association between atopy and factors influencing folate metabolism: is low folate status causally related to the development of atopy? *Int J Epidemiol* 35(4): 954-961.
- ^x Kaufman RE. 1951. Effect of vitamin B12 in asthma. *Annals of allergy* 9(4): 517-518.
- ^x Kawai K, Meydani SN, Urassa W, Wu D, Mugusi FM, Saathoff E, Bosch RJ, Villamor E, Spiegelman D, Fawzi WW. 2014. Micronutrient supplementation and T cell-mediated immune responses in patients with tuberculosis in Tanzania. *Epidemiol. Infect.* 142(7): 1505-1509.
- * Kemp FW, DeCandia J, Li WJ, Bruening K, Baker H, Rigassio D, Bendich A, Bogden JD. 2002. Relationships between immunity and dietary and serum antioxidants, trace metals, B vitamins, and homocysteine in elderly men and women. *Nutrition Research* 22(1-2): 45-53.
- * Kiefte-de Jong JC, Timmermans S, Jaddoe VW, Hofman A, Tiemeier H, Steegers EA, de Jongste JC, Moll HA. 2012. High circulating folate and vitamin B-12 concentrations in women during pregnancy are associated with increased prevalence of atopic dermatitis in their offspring. *J Nutr* 142(4): 731-738.
- * Levander-Lindgren M. 1957. Hypersensitivity to folic acid in a case of erythroblastomatosis. *Acta medica Scandinavica* 157(3): 233-234.
- * Magdelijns FJ, Mommers M, Penders J, Smits L, Thijs C. 2011. Folic acid use in pregnancy and the development of atopy, asthma, and lung function in childhood. *Pediatrics* 128(1): e135-144.
- * Martinussen MP, Risnes KR, Jacobsen GW, Bracken MB. 2012. Folic acid supplementation in early pregnancy and asthma in children aged 6 years. *Am J Obstet Gynecol* 206(1): 72 e71-77.
- * Mda S, van Raaij JM, de Villiers FP, MacIntyre UE, Kok FJ. 2010. Short-term micronutrient supplementation reduces the duration of pneumonia and diarrheal episodes in HIV-infected children. *J Nutr* 140(5): 969-974.
- * Miyake Y, Sasaki S, Tanaka K, Hirota Y. 2011. Maternal B vitamin intake during pregnancy and wheeze and eczema in Japanese infants aged 16-24 months: the Osaka Maternal and Child Health Study. *Pediatr Allergy Immunol* 22(1 Pt 1): 69-74.
- * Nwaru BI, Erkkola M, Ahonen S, Kaila M, Kronberg-Kippila C, Ilonen J, Simell O, Knip M, Veijola R, Virtanen SM. 2011. Intake of antioxidants during pregnancy and the risk of allergies and asthma in the offspring. *European Journal of Clinical Nutrition* 65(8): 937-943.
- * Oh SY, Chung J, Kim MK, Kwon SO, Cho BH. 2010. Antioxidant nutrient intakes and corresponding biomarkers associated with the risk of atopic dermatitis in young children. *Eur J Clin Nutr* 64(3): 245-252.
- * Okupa AY, Lemanske RF, Jr., Jackson DJ, Evans MD, Wood RA, Matsui EC. 2013. Early-life folate levels are associated with incident allergic sensitization. *J Allergy Clin Immunol* 131(1): 226-228.
- * Pfab F, Willi R, Albert A, Huss-Marp J, Athanasiadis GI, Jakob T, Ollert M, Ring J, Darsow U. 2007. Anaphylactic reaction to folic acid verified by provocation testing. *Allergy* 62(7): 823-824.
- * Sato E, Ohru T, Matsui T, Arai H, Sasaki H. 2001. Folate deficiency and risk of pneumonia in older people. *J Am Geriatr Soc* 49(12): 1739-1740.
- * Satoskar RS, Kulkarni BS, Mehta BM, Sanzgiri RR, Bamji MS. 1962. Serum vitamin B12 and folic acid (P.G.A.) levels in hypoproteinaemia and marasmus in Indian children. *Arch Dis Child* 37: 9-16.

- * Smith J, Empson M, Wall C. 2007. Recurrent anaphylaxis to synthetic folic acid. *Lancet* 370(9588): 652.
- * Strand TA, Taneja S, Bhandari N, Refsum H, Ueland PM, Gjessing HK, Bahl R, Schneede J, Bhan MK, Sommerfelt H. 2007. Folate, but not vitamin B-12 status, predicts respiratory morbidity in north Indian children. *Am J Clin Nutr* 86(1): 139-144.
- * Suboticanec K, Stavljenic A, Bilic-Pesic L, Gorajscan M, Gorajscan D, Brubacher G, Buzina R. 1989. Nutritional status, grip strength, and immune function in institutionalized elderly. *Int J Vitam Nutr Res* 59(1): 20-28.
- ^X Sudfeld CR, Duggan C, Histed A, Manji KP, Meydani SN, Aboud S, Wang M, Giovannucci EL, Fawzi WW. 2013. Effect of multivitamin supplementation on measles vaccine response among HIV-exposed uninfected Tanzanian infants. *Clinical and vaccine immunology* 20(8): 1123-1132.
- * Taneja S, Strand TA, Kumar T, Mahesh M, Mohan S, Manger MS, Refsum H, Yajnik CS, Bhandari N. 2013. Folic acid and vitamin B-12 supplementation and common infections in 6-30-mo-old children in India: a randomized placebo-controlled trial. *Am J Clin Nutr* 98(3): 731-737.
- * Tebi A, Belbraouet S, Chau N, Debry G. 2000. Plasma vitamin, beta-carotene, and alpha-tocopherol status according to age and disease in hospitalized elderly. *Nutrition Research* 20(10): 1395-1408.
- * Thuesen BH, Husemoen LL, Ovesen L, Jorgensen T, Fenger M, Gilderson G, Linneberg A. 2010. Atopy, asthma, and lung function in relation to folate and vitamin B(12) in adults. *Allergy* 65(11): 1446-1454.
- * Tielsch JM, Khattry SK, Stoltzfus RJ, Katz J, LeClerq SC, Adhikari R, Mullany LC, Shresta S, Black RE. 2006. Effect of routine prophylactic supplementation with iron and folic acid on preschool child mortality in southern Nepal: community-based, cluster-randomised, placebo-controlled trial. *Lancet* 367(9505): 144-152.
- * van der Valk RJ, Kieft-de Jong JC, Sonnenschein-van der Voort AM, Duijts L, Hafkamp-de Groen E, Moll HA, Tiemeier H, Steegers EA, Hofman A, Jaddoe VW, de Jongste JC. 2013. Neonatal folate, homocysteine, vitamin B12 levels and methylenetetrahydrofolate reductase variants in childhood asthma and eczema. *Allergy* 68(6): 788-795.
- * Veeranki SP, Gebretsadik T, Dorris SL, Mitchel EF, Hartert TV, Cooper WO, Tylavsky FA, Dupont W, Hartman TJ, Carroll KN. 2014. Association of folic acid supplementation during pregnancy and infant bronchiolitis. *Am J Epidemiol* 179(8): 938-946.
- * Whitrow MJ, Moore VM, Rumbold AR, Davies MJ. 2009. Effect of supplemental folic acid in pregnancy on childhood asthma: a prospective birth cohort study. *Am J Epidemiol* 170(12): 1486-1493.
- * Zetstra-van der Woude PA, De Walle HE, Hoek A, Bos HJ, Boezen HM, Koppelman GH, de Jong-van den Berg LT, Scholtens S. 2014. Maternal high-dose folic acid during pregnancy and asthma medication in the offspring. *Pharmacoepidemiol Drug Saf* 23(10): 1059-1065.

1.3.3 Immunological Endpoints, Non-human Animal Studies (n=29)

- Audet I, Girard CL, Lessard M, Lo Verso L, Beaudoin F, Matte JJ. 2015. Homocysteine metabolism, growth performance, and immune responses in suckling and weanling piglets. *J Anim Sci* 93(1): 147-157.
- Batista Dr AH, Dubé Dr MTZ, Bravo Dr MG. 2012. Effects of folic acid on some morphometric variables of the thymus of adolescent rats with fetal alcohol syndrome. *Efectos del ácido fólico sobre algunas variables morfológicas del timo de ratas adolescentes con síndrome fetal alcohólico* 31(1): 63-72.
- Brett R. 1950. The internal treatment of light dermatoses and other diseases influenced by light. *Deutsche Medizinische Wochenschrift* 75(23): 800-804.
- Cook ME, Springer WT. 1983. Effect of reovirus infection and dietary levels of selected vitamins on immunocompetence of chickens. *Avian Dis* 27(2): 367-377.
- Ebaid H, Bashandy SAE, Alhazza IM, Rady A, El-Shehry S. 2013. Folic acid and melatonin ameliorate carbon tetrachloride-induced hepatic injury, oxidative stress and inflammation in rats. *Nutr. Metab.* 10.

- Field CJ, Van Aerde A, Drager KL, Goruk S, Basu T. 2006. Dietary folate improves age-related decreases in lymphocyte function. *J Nutr Biochem* 17(1): 37-44.
- Gonda TA, Kim YI, Salas MC, Gamble MV, Shibata W, Muthupalani S, Sohn KJ, Abrams JA, Fox JG, Wang TC, Tycko B. 2012. Folic acid increases global DNA methylation and reduces inflammation to prevent helicobacter-associated gastric cancer in mice. *Gastroenterology* 142(4): 824-833.e827.
- Guay F, Matte JJ, Girard CL, Palin MF, Giguere A, Laforest JP. 2004. Effect of folic acid plus glycine supplement on uterine prostaglandin and endometrial granulocyte-macrophage colony-stimulating factor expression during early pregnancy in pigs. *Theriogenology* 61(2-3): 485-498.
- Hollingsworth JW, Maruoka S, Boon K, Garantziotis S, Li Z, Tomfohr J, Bailey N, Potts EN, Whitehead G, Brass DM, Schwartz DA. 2008. In utero supplementation with methyl donors enhances allergic airway disease in mice. *J Clin Invest* 118(10): 3462-3469.
- Jing M, Munyaka PM, Tactacan GB, Rodriguez-Lecompte JC, O K, House JD. 2014. Performance, serum biochemical responses, and gene expression of intestinal folate transporters of young and older laying hens in response to dietary folic acid supplementation and challenge with *Escherichia coli* lipopolysaccharide. *Poult Sci* 93(1): 122-131.
- Kim YI, Hayek M, Mason JB, Meydani SN. 2002. Severe folate deficiency impairs natural killer cell-mediated cytotoxicity in rats. *J Nutr* 132(6): 1361-1367.
- Kong E, Hasan ST, Jang H, Zimmerly EM, Choi SW, Meydani M. 2010. Effect of long-term western style diet and folate supplementation on aortic response and hepatic C-reactive protein level in C57BL/6 mice. *FASEB Journal* 24.
- Kunisawa J, Hashimoto E, Ishikawa I, Kiyono H. 2012. A pivotal role of vitamin B9 in the maintenance of regulatory T cells in vitro and in vivo. *PLoS One* 7(2): e32094.
- Lamanna A, Taviani L. 1955a. [Influence of vitamin B6, folic acid and pantothenic acid on phagocytosis]. *Acta Vitaminol* 9(2): 61-63.
- Lamanna A, Taviani L. 1955b. [Influence of folic acid, pantothenic acid and vitamin B6 on the production of agglutinating antibodies]. *Acta Vitaminol* 9(2): 57-60.
- Lang A, Goldshimth H, Picard O, Barshak I, Bar Meir S, Chowars Y. 2007. Very high and very low dietary folate induce intestinal pro-inflammatory cytokine secretion leading to severe DSS induced colitis in mice. *Gastroenterology* 132(4): A396-A396.
- Li M, Chen J, Li YS, Feng YB, Gu X, Shi CZ. 2006. Folic acid reduces adhesion molecules VCAM-1 expression in aortic of rats with hyperhomocysteinemia. *Int J Cardiol* 106(2): 285-288.
- Lin YH, Lin HY, Shiao SY. 2011. Dietary folic acid requirement of grouper, *Epinephelus malabaricus*, and its effects on non-specific immune responses. *Aquaculture* 317(1-4): 133-137.
- Munyaka PM, Tactacan G, Jing M, O K, House JD, Rodriguez-Lecompte JC. 2012. Immunomodulation in young laying hens by dietary folic acid and acute immune responses after challenge with *Escherichia coli* lipopolysaccharide. *Poult Sci* 91(10): 2454-2463.
- Munyaka PM, Tactacan G, Jing M, O K, House JD, St Paul M, Sharif S, Rodriguez-Lecompte JC. 2013. Response of older laying hens to an *Escherichia coli* lipopolysaccharide challenge when fed diets with or without supplemental folic acid. *Poult Sci* 92(1): 105-113.
- Partearroyo T, Ubeda N, Montero A, Achon M, Varela-Moreiras G. 2013. Vitamin B(12) and folic acid imbalance modifies NK cytotoxicity, lymphocytes B and lymphoproliferation in aged rats. *Nutrients* 5(12): 4836-4848.
- Sawaengsri H, Wang JP, Desautels N, Steluti J, Histed A, Smith D, Wu DY, Meydani SN, Selhub J, Paul L. 2013. Natural killer cell cytotoxicity is reduced in aged female mice fed a high folic acid diet. *Faseb Journal* 27: 1.

- Sawaengsri H, Wang J, Reginaldo C, Smith D, Wu D, Meydani S, Selhub J, Paul L. 2014. Reduced IL-10 production contributes to impaired NK cytotoxicity in old mice fed a high folic acid diet. *FASEB Journal* 28(1).
- Strickland FM, Hewagama A, Wu A, Sawalha AH, Delaney C, Hoeltzel MF, Yung R, Johnson K, Mickelson B, Richardson BC. 2013. Diet influences expression of autoimmune-associated genes and disease severity by epigenetic mechanisms in a transgenic mouse model of lupus. *Arthritis Rheum* 65(7): 1872-1881.
- Tousson E, Beltagy DM, El-Gerbed MSA, Gazia MA, Akela MA. 2012. The ameliorating role of folic acid in rat hippocampus after propylthiouracil-induced hypothyroidism. *Biomedicine and Aging Pathology* 2(3): 104-110.
- Tsai YT, Lin BF. 2009. Effect of dietary folate supplement on oral tolerance development in Dp2 protein sensitized BALB/c mice. *European Journal of Immunology* 39: S701.
- Tsiagbe VK, Straub RJ, Cook ME, Harper AE, Sunde ML. 1987. Critical vitamin supplementation of broiler diets high in alfalfa juice protein. *Poult Sci* 66(11): 1771-1778.
- Warzyszynska J, Sohn KJ, Spring C, Duan A, Kim SE, Carlyle J, Kim YI. 2014. Plasma folate levels are inversely associated with natural killer cell degranulation in mice. *FASEB Journal* 28(1).
- Zhao M, Chen YH, Dong XT, Zhou J, Chen X, Wang H, Wu SX, Xia MZ, Zhang C, Xu DX. 2013. Folic acid protects against lipopolysaccharide-induced preterm delivery and intrauterine growth restriction through its anti-inflammatory effect in mice. *PLoS One* 8(12): e82713.

1.3.4 Immunological Endpoints, In Vitro Studies (n=12)

- Arai T, Yamada H, Namba T, Mori H, Ishii H, Yamashita K, Sasada M, Makino K, Fukuda K. 2004. Effects of intracellular reactive oxygen species generated by 6-formylpterin on T cell functions. *Biochem Pharmacol* 67(6): 1185-1193.
- Au-Yeung KK, Yip JC, Siow YL, O K. 2006. Folic acid inhibits homocysteine-induced superoxide anion production and nuclear factor kappa B activation in macrophages. *Can J Physiol Pharmacol* 84(1): 141-147.
- Bagdonas E, Karouzakis E, Jungel A, Ospelt C, Gay RE, Gay S, Michel BA, Neidhart M. 2012. Methyl supplementation of rheumatoid arthritis synovial fibroblasts regulates the expression of transcription factors and matrix metalloproteinases. *Arthritis Rheum.* 64: S190.
- Chiu WC, Huang RFS. 2009. Effects of folate and macrophages activation on migration of human hepatocellular carcinoma cell lines. *Nutritional Sciences Journal* 34(2): 68-75.
- Fegeier F, Rahmann -Eser M. 1966. Influence of vitamin c and folic acid on protein and rna metabolism in normal and psoriatic skin. autoradiographic experiments. *Arch Jclin.Exp.Derm.* 224(4): 424-436.
- Feng D, Zhou Y, Xia M, Ma J. 2011. Folic acid inhibits lipopolysaccharide-induced inflammatory response in RAW264.7 macrophages by suppressing MAPKs and NF-kappa B activation. *Inflamm. Res.* 60(9): 817-822.
- Hirsch S, Miranda D, Munoz E, Montoya M, Ronco AM, de la Maza MP, Bunout D. 2013. Natural killer cell cytotoxicity is not regulated by folic acid in vitro. *Nutrition* 29(5): 772-776.
- Kunisawa J, Hashimoto E, Ishikawa I, Kiyono H. 2012. A pivotal role of vitamin B9 in the maintenance of regulatory T cells in vitro and in vivo. *PLoS One* 7(2): e32094.
- Nenseter MS, Ueland T, Retterstol K, Strom E, Morkrid L, Landaas S, Ose L, Aukrust P, Holven KB. 2009. Dysregulated RANK ligand/RANK axis in hyperhomocysteinemic subjects: effect of treatment with B-vitamins. *Stroke* 40(1): 241-247.
- Xue J, Zemleni J. 2013. Epigenetic synergies between biotin and folate in the regulation of pro-inflammatory cytokines and repeats. *Scand J Immunol* 78(5): 419-425.

- Zekova M, Markova M. 1980. Effect of certain water soluble vitamins upon the initial phases of phagocytic process. *Khigiena i Zdraveopazvane* 23(4): 330-334.
- Zhao M, Chen YH, Dong XT, Zhou J, Chen X, Wang H, Wu SX, Xia MZ, Zhang C, Xu DX. 2013. Folic acid protects against lipopolysaccharide-induced preterm delivery and intrauterine growth restriction through its anti-inflammatory effect in mice. *PLoS One* 8(12): e82713.

1.4 Thyroid and Diabetes-related Disorders

1.4.1 Thyroid Disorders, Human Studies (n=12)

* - In HAWC (n=10); ^X - Not Data Extracted (n=2)

- * Caplan RH, Davis K, Bengston B, Smith MJ. 1975. Serum folate and vitamin B12 levels in hypothyroid and hyperthyroid patients. *Arch Intern Med* 135(5): 701-704.
- * Colleran KM, Ratliff DM, Burge MR. 2003. Potential association of thyrotoxicosis with vitamin B and folate deficiencies, resulting in risk for hyperhomocysteinemia and subsequent thromboembolic events. *Endocr Pract* 9(4): 290-295.
- * Demirbas B, Ozkaya M, Cakal E, Culha C, Gulcelik N, Koc G, Serter R, Aral Y. 2004. Plasma homocysteine levels in hyperthyroid patients. *Endocr J* 51(1): 121-125.
- * Diekman MJM, van der Put NM, Blom HJ, Tijssen JGP, Wiersinga WM. 2001. Determinants of changes in plasma homocysteine in hyperthyroidism and hypothyroidism. *Clinical Endocrinology* 54(2): 197-204.
- ^X Ford HC, Carter JM, Rendle MA. 1989. Serum and red cell folate and serum vitamin B12 levels in hyperthyroidism. *Am J Hematol* 31(4): 233-236.
- * Gyftaki H, Kesse-Elias M, Koutras D, Pandos P, Papazoglou S, Mouloupoulos S. 1979. Serum vitamin B12 and folic acid levels in hyperthyroidism. *Nuklearmedizin* 18(6): 278-282.
- * Lippi G, Montagnana M, Targher G, Salvagno GL, Guidi GC. 2008. Prevalence of folic Acid and vitamin B12 deficiencies in patients with thyroid disorders. *Am J Med Sci* 336(1): 50-52.
- * Mehmet E, Aybike K, Ganidagli S, Mustafa K. 2012. Characteristics of anemia in subclinical and overt hypothyroid patients. *Endocr J* 59(3): 213-220.
- * Orzechowska-Pawilojc A, Sworczak K, Lewczuk A, Babinska A. 2007. Homocysteine, folate and cobalamin levels in hypothyroid women before and after treatment. *Endocrine Journal* 54(3): 471-476.
- * Orzechowska-Pawilojc A, Siekierska-Hellmann M, Syrenicz A, Sworczak K. 2009. Homocysteine, folate, and cobalamin levels in hyperthyroid women before and after treatment. *Endokrynol. Pol.* 60(6): 443-448.
- ^X Rigas AN, Wilson EA, Montgomery DAD. 1968. Folic acid metabolism in thyroid disease. *Irish Journal of Medical Science* 7(6): 255-261.
- * Stella G, Spada RS, Calabrese S, Bosco P, Anello G, Gueant-Rodriguez RM, Romano A, Benamghar L, Proto C, Castellano A, Fajardo A, Lipari L, Sirna S, Gueant JL. 2007. Association of thyroid dysfunction with vitamin B12, folate and plasma homocysteine levels in the elderly: a population-based study in Sicily. *Clin Chem Lab Med* 45(2): 143-147.

1.4.2 Glycemic Control in Type 2 Diabetics, Meta-analysis (n=1)

* - In HAWC (n=1); ^X - Not Data Extracted (n=0)

- * Sudchada P, Saokaew S, Sridetch S, Incampa S, Jaiyen S, Khaithong W. 2012. Effect of folic acid supplementation on plasma total homocysteine levels and glycemic control in patients with type 2 diabetes: a systematic review and meta-analysis. *Diabetes Res Clin Pract* 98(1): 151-158.

1.4.3 Diabetes-related Disorders, Human Studies (n=100)

*** - In HAWC (n=62); ^X - Not Data Extracted (n=38)**

- * Adaikalakoteswari A, Rabbani N, Waspadji S, Tjokroprawiro A, Kariadi SH, Adam JM, Thornalley PJ. 2012. Disturbance of B-vitamin status in people with type 2 diabetes in Indonesia--link to renal status, glycemic control and vascular inflammation. *Diabetes Res Clin Pract* 95(3): 415-424.
- ^X Aghamohammadi V, Gargari BP, Aliasgharzadeh A. 2011. Effect of folic acid supplementation on homocysteine, serum total antioxidant capacity, and malondialdehyde in patients with type 2 diabetes mellitus. *J Am Coll Nutr* 30(3): 210-215.
- ^X Agostini R, Rossi F, Pajalich R. 2006. Myoinositol/folic acid combination for the treatment of erectile dysfunction in type 2 diabetes men: a double-blind, randomized, placebo-controlled study. *Eur Rev Med Pharmacol Sci* 10(5): 247-250.
- ^X Al-Maskari MY, Waly MI, Ali A, Al-Shuaibi YS, Ouhtit A. 2012. Folate and vitamin B12 deficiency and hyperhomocysteinemia promote oxidative stress in adult type 2 diabetes. *Nutrition* 28(7-8): e23-26.
- ^X Alian Z, Hashemipour M, Dehkordi EH, Hovsepian S, Amini M, Moadab MH, Javanmard SH. 2012. The effects of folic acid on markers of endothelial function in patients with type 1 diabetes mellitus. *Med Arh* 66(1): 12-15.
- ^X Amowitz LL, Ridker PM, Rifai N, Loughrey CM, Komaroff AL. 2004. High prevalence of metabolic syndrome among young women with nonfatal myocardial infarction. *J Womens Health (Larchmt)* 13(2): 165-175; discussion 175.
- * Asemi Z, Karamali M, Esmailzadeh A. 2014. Metabolic response to folate supplementation in overweight women with polycystic ovary syndrome: a randomized double-blind placebo-controlled clinical trial. *Mol Nutr Food Res* 58(7): 1465-1473.
- * Atabek ME, Pirgon O, Karagozogl u E. 2006. Plasma homocysteine levels in children and adolescents with type 1 diabetes. *Indian Pediatr* 43(5): 401-407.
- * Bahmani F, Karamali M, Shakeri H, Asemi Z. 2014. The effects of folate supplementation on inflammatory factors and biomarkers of oxidative stress in overweight and obese women with polycystic ovary syndrome: a randomized, double-blind, placebo-controlled clinical trial. *Clin Endocrinol (Oxf)* 81(4): 582-587.
- * Baltaci D, Kutlucan A, Ozturk S, Karabulut I, Ak Yildirim H, Celer A, Celbek G, Kara IH. 2012. Evaluation of vitamin B12 level in middle-aged obese women with metabolic and nonmetabolic syndrome: Case-control study. *Turkish Journal of Medical Sciences* 42(5): 802-809.
- * Baltaci D, Kutlucan A, Turker Y, Yilmaz A, Karacam S, Deler H, Ucgun T, Kara IH. 2013. Association of vitamin B12 with obesity, overweight, insulin resistance and metabolic syndrome, and body fat composition; primary care-based study. *Medicinski glasnik : official publication of the Medical Association of Zenica-Doboj Canton, Bosnia and Herzegovina* 10(2): 203-210.
- ^X Banhid y F, Dakhlaoui A, Puho EH, Czeizel AA. 2011. Is there a reduction of congenital abnormalities in the offspring of diabetic pregnant women after folic acid supplementation? A population-based case-control study. *Congenit Anom (Kyoto)* 51(2): 80-86.
- ^X Bates JH, Young IS, Galway L, Traub AI, Hadden DR. 1997. Antioxidant status and lipid peroxidation in diabetic pregnancy. *British Journal of Nutrition* 78(4): 523-532.
- * Becker A, Henry RM, Kostense PJ, Jakobs C, Teerlink T, Zwegman S, Dekker JM, Nijpels G, Heine RJ, Bouter LM, Smulders YM, Stehouwer CD. 2003. Plasma homocysteine and S-adenosylmethionine in erythrocytes as determinants of carotid intima-media thickness: different effects in diabetic and non-diabetic individuals. *The Hoorn Study. Atherosclerosis* 169(2): 323-330.

- ^X Cagnacci A, Cannoletta M, Volpe A. 2009. High-dose short-term folate administration modifies ambulatory blood pressure in postmenopausal women. A placebo-controlled study. *Eur J Clin Nutr* 63(10): 1266-1268.
- * Campbell SK, Lynch J, Esterman A, McDermott R. 2012. Pre-pregnancy predictors of diabetes in pregnancy among Aboriginal and Torres Strait Islander women in North Queensland, Australia. *Matern Child Health J* 16(6): 1284-1292.
- ^X Castetbon K, Bonaldi C, Deschamps V, Vernay M, Malon A, Salanave B, Druet C. 2014. Diet in 45- to 74-year-old individuals with diagnosed diabetes: comparison to counterparts without diabetes in a nationally representative survey (Etude Nationale Nutrition Sante 2006-2007). *Journal of the Academy of Nutrition and Dietetics* 114(6): 918-925.
- ^X Chang N, Kim JM, Kim H, Cho YW. 2007. Plasma total homocysteine and macrovascular complications are associated with food and nutrient intake in patients with Type II diabetes mellitus. *Nutr Res Pract* 1(2): 79-83.
- * Chen AR, Zhang HG, Wang ZP, Fu SJ, Yang PQ, Ren JG, Ning YY, Hu XJ, Tian LH. 2010. C-reactive protein, vitamin B12 and C677T polymorphism of N-5,10-methylenetetrahydrofolate reductase gene are related to insulin resistance and risk factors for metabolic syndrome in Chinese population. *Clin Invest Med* 33(5): E290-297.
- * Child DF, Hudson PR, Jones H, Davies GK, De P, Mukherjee S, Brain AM, Williams CP, Harvey JN. 2004. The effect of oral folic acid on glutathione, glycaemia and lipids in Type 2 diabetes. *Diabetes Nutr Metab* 17(2): 95-102.
- ^X Chisholm IA. 1978. Serum cobalamin and folate in the optic neuropathy associated with tobacco smoking. *Can J Ophthalmol* 13(2): 105-109.
- * Dangour AD, Breeze E, Clarke R, Shetty PS, Uauy R, Fletcher AE. 2008. Plasma homocysteine, but not folate or vitamin B-12, predicts mortality in older people in the United Kingdom. *J Nutr* 138(6): 1121-1128.
- * Diakoumopoulou E, Tentolouris N, Kirlaki E, Perrea D, Kitsou E, Psallas M, Doulgarakis D, Katsilambros N. 2005. Plasma homocysteine levels in patients with type 2 diabetes in a Mediterranean population: relation with nutritional and other factors. *Nutr Metab Cardiovasc Dis* 15(2): 109-117.
- * Dinleyici EC, Kirel B, Alatas O, Muslumanoglu H, Kilic Z, Dogruel N. 2006. Plasma total homocysteine levels in children with type 1 diabetes: relationship with vitamin status, methylene tetrahydrofolate reductase genotype, disease parameters and coronary risk factors. *J Trop Pediatr* 52(4): 260-266.
- * Dominguez RO, Marschoff ER, Guareschi EM, Famulari AL, Pagano MA, Serra JA. 2005. Homocysteine, vitamin B 12 and folate in Alzheimer's and vascular dementias: the paradoxical effect of the superimposed type II diabetes mellitus condition. *Clin Chim Acta* 359(1-2): 163-170.
- * Ebesunun MO, Obajobi EO. 2012. Elevated plasma homocysteine in type 2 diabetes mellitus: a risk factor for cardiovascular diseases. *The Pan African medical journal* 12: 48.
- * Erkocoglu M, Ozon ZA, Gocmen R, Alikasifoglu A, Gonc N, Kandemir N. 2013. Carotid intima media thickness in adolescents with increased risk for atherosclerosis. *Turk J Pediatr* 55(5): 510-518.
- ^X Farvid MS, Homayouni F, Amiri Z, Adelmanesh F. 2011. Improving neuropathy scores in type 2 diabetic patients using micronutrients supplementation. *Diabetes Res Clin Pract* 93(1): 86-94.
- * Faulkner MS, Chao WH, Kamath SK, Quinn L, Fritschi C, Maggiore JA, Williams RH, Reynolds RD. 2006. Total homocysteine, diet, and lipid profiles in type 1 and type 2 diabetic and nondiabetic adolescents. *J Cardiovasc Nurs* 21(1): 47-55.
- ^X Fotiou P, Raptis A, Apergis G, Dimitriadis G, Vergados I, Theodossiadis P. 2014. Vitamin status as a determinant of serum homocysteine concentration in type 2 diabetic retinopathy. *Journal of diabetes research* 2014: 807209.

- ^x Frohlich-Reiterer EE, Huber J, Katz H, Suppan E, Obermayer-Pietsch B, Deutschmann A, Demel U, Acham-Roschitz B, Weinhandl G, Ambros-Rudolph CM, Hauer A, Borkenstein MH. 2011. Do children and adolescents with type 1 diabetes mellitus have a higher frequency of parietal cell antibodies than healthy controls? *J Pediatr Gastroenterol Nutr* 52(5): 558-562.
- ^x Gariballa S, Afandi B, Haltem MA, Yassin J, Alessa A. 2013. Effect of antioxidants and B-group vitamins on risk of infections in patients with type 2 diabetes mellitus. *Nutrients* 5(3): 711-724.
- * Giannattasio A, Calevo MG, Minniti G, Gianotti D, Cotellessa M, Napoli F, Lorini R, d'Annunzio G. 2010. Folic acid, vitamin B12, and homocysteine levels during fasting and after methionine load in patients with Type 1 diabetes mellitus. *J Endocrinol Invest* 33(5): 297-299.
- ^x Gonzalez R, Pedro T, Real JT, Martinez-Hervas S, Abellan MR, Lorente R, Priego A, Catala M, Chaves FJ, Ascaso JF, Carmena R. 2010. Plasma homocysteine levels are associated with ulceration of the foot in patients with type 2 diabetes mellitus. *Diabetes Metab Res Rev* 26(2): 115-120.
- * Gu W, Lu J, Yang G, Dou J, Mu Y, Meng J, Pan C. 2008. Plasma homocysteine thiolactone associated with risk of macrovasculopathy in Chinese patients with type 2 diabetes mellitus. *Adv Ther* 25(9): 914-924.
- * Guven MA, Kilinc M, Batukan C, Ekerbicer HC, Aksu T. 2006. Elevated second trimester serum homocysteine levels in women with gestational diabetes mellitus. *Arch Gynecol Obstet* 274(6): 333-337.
- ^x Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- * Hardikar PS, Joshi SM, Bhat DS, Raut DA, Katre PA, Lubree HG, Jere A, Pandit AN, Fall CH, Yajnik CS. 2012. Spuriously high prevalence of prediabetes diagnosed by HbA(1c) in young Indians partly explained by hematological factors and iron deficiency anemia. *Diabetes Care* 35(4): 797-802.
- ^x Havivi E, Bar On H, Reshef A, Stein P, Raz I. 1991. Vitamins and trace metals status in non insulin dependent diabetes mellitus. *Int J Vitam Nutr Res* 61(4): 328-333.
- * Helfenstein T, Fonseca FA, Relvas WG, Santos AO, Dabela ML, Matheus SC, D'Almeida V, Tufik S, Souza FG, Rodrigues PR, Taglieri R, Sousa EF, Izar MC. 2005. Prevalence of myocardial infarction is related to hyperhomocysteinemia but not influenced by C677T methylenetetrahydrofolate reductase and A2756G methionine synthase polymorphisms in diabetic and non-diabetic subjects. *Clin Chim Acta* 355(1-2): 165-172.
- ^x Hunter-Lavin C, Hudson PR, Mukherjee S, Davies GK, Williams CP, Harvey JN, Child DF, Williams JH. 2004. Folate supplementation reduces serum hsp70 levels in patients with type 2 diabetes. *Cell Stress Chaperones* 9(4): 344-349.
- * Idzior-Walus B, Cyganek K, Sztéfko K, Seghieri G, Breschi MC, Walus-Miarka M, Kawalec E, Seretny M, Sieradzki J. 2008. Total plasma homocysteine correlates in women with gestational diabetes. *Arch Gynecol Obstet* 278(4): 309-313.
- * Imamura A, Murakami R, Takahashi R, Cheng XW, Numaguchi Y, Murohara T, Okumura K. 2010. Low folate levels may be an atherogenic factor regardless of homocysteine levels in young healthy nonsmokers. *Metabolism* 59(5): 728-733.
- * Kaya C, Cengiz SD, Satioglu H. 2009a. Obesity and insulin resistance associated with lower plasma vitamin B12 in PCOS. *Reprod Biomed Online* 19(5): 721-726.
- ^x Kaya C, Erkan AF, Cengiz SD, Dunder I, Demirel OE, Bilgihan A. 2009b. Advanced oxidation protein products are increased in women with polycystic ovary syndrome: relationship with traditional and nontraditional cardiovascular risk factors in patients with polycystic ovary syndrome. *Fertil Steril* 92(4): 1372-1377.
- * Kim DS, Kim YK, Park HK, Cho YI, Jeong SK. 2010. Serum folate and low-density lipoprotein particle size. *J Atheroscler Thromb* 17(12): 1218-1225.

- * Krishnaveni GV, Hill JC, Veena SR, Bhat DS, Wills AK, Karat CL, Yajnik CS, Fall CH. 2009. Low plasma vitamin B12 in pregnancy is associated with gestational 'diabetes' and later diabetes. *Diabetologia* 52(11): 2350-2358.
- * Krishnaveni GV, Veena SR, Karat SC, Yajnik CS, Fall CH. 2014. Association between maternal folate concentrations during pregnancy and insulin resistance in Indian children. *Diabetologia* 57(1): 110-121.
- ^x Lazalde-Ramos BP, Zamora-Perez AL, Sosa-Macias M, Guerrero-Velazquez C, Zuniga-Gonzalez GM. 2012. DNA and oxidative damages decrease after ingestion of folic acid in patients with type 2 diabetes. *Arch Med Res* 43(6): 476-481.
- ^x Li J, Shi M, Zhang H, Yan L, Xie M, Zhuang L, Zhu Y, Chen J. 2012. Relation of homocysteine to early nephropathy in patients with Type 2 diabetes. *Clin Nephrol* 77(4): 305-310.
- * Li J, Zhang H, Shi M, Yan L, Xie M. 2014a. Homocysteine is linked to macular edema in type 2 diabetes. *Curr Eye Res* 39(7): 730-735.
- * Li J, Zhang H, Yan L, Xie M, Chen J. 2014b. Fracture is additionally attributed to hyperhomocysteinemia in men and premenopausal women with type 2 diabetes. *J Diabetes Investig* 5(2): 236-241.
- * Liu CP, Lin YL, Lin YH, Pao KY, Wu VC, Su TC, Hung CS, Gau CS, Hwang JJ. 2013. The impact of metabolic syndrome, homocysteine, and b vitamins on carotid artery intima-media thickness in hypertensive patients. *Acta Cardiologica Sinica* 29(1): 56-63.
- ^x Liu LJ, Yin XY, Ikeda K, Sullivan DH, Eisen HJ. 2007. Micronutrients, inflammation and congestive heart failure among the elderly: Nutritional perspectives on primary prevention and clinical treatment. *Clinical and Experimental Pharmacology and Physiology* 34: S14-S16.
- ^x Loria CM, Ingram DD, Feldman JJ, Wright JD, Madans JH. 2000. Serum folate and cardiovascular disease mortality among US men and women. *Archives of Internal Medicine* 160(21): 3258-3262.
- * Mahalle N, Kulkarni MV, Garg MK, Naik SS. 2013. Vitamin B12 deficiency and hyperhomocysteinemia as correlates of cardiovascular risk factors in Indian subjects with coronary artery disease. *Journal of cardiology* 61(4): 289-294.
- ^x Mangge H, Schauenstein K, Stroedter L, Griesl A, Maerz W, Borkenstein M. 2004. Low grade inflammation in juvenile obesity and type 1 diabetes associated with early signs of atherosclerosis. *Exp Clin Endocrinol Diabetes* 112(7): 378-382.
- * Manios Y, Moschonis G, Papandreou C, Siatitsa PE, Iatridi V, Lidoriki I, Lionis C, Chrousos GP. 2014. Female sex, small size at birth and low family income increase the likelihood of insulin resistance in late childhood: the Healthy Growth Study. *Pediatr Diabetes* 15(1): 41-50.
- ^x Marazzi G, Cacciotti L, Pelliccia F, Iaia L, Volterrani M, Caminiti G, Sposato B, Massaro R, Grieco F, Rosano G. 2011. Long-term effects of nutraceuticals (berberine, red yeast rice, policosanol) in elderly hypercholesterolemic patients. *Adv Ther* 28(12): 1105-1113.
- * Mashavi M, Hanah R, Boaz M, Gavish D, Matas Z, Fux A, Shargorodsky M. 2008. Effect of homocysteine-lowering therapy on arterial elasticity and metabolic parameters in metformin-treated diabetic patients. *Atherosclerosis* 199(2): 362-367.
- ^x Mello AL, Cunha SF, Foss-Freitas MC, Vannucchi H. 2012. Evaluation of plasma homocysteine level according to the C677T and A1298C polymorphism of the enzyme MTHFR in type 2 diabetic adults. *Arq Bras Endocrinol Metabol* 56(7): 429-434.
- * Meloni GF, Tonolo GC, Zuppi C, Zappacosta B, Musumeci S. 2005. Hyper-homocysteinemia is not a main feature of juvenile uncomplicated type 1 diabetes. *J Atheroscler Thromb* 12(1): 14-19.
- * Mietus-Snyder ML, Shigenaga MK, Suh JH, Shenvi SV, Lal A, McHugh T, Olson D, Lilenstein J, Krauss RM, Gildengoren G, McCann JC, Ames BN. 2012. A nutrient-dense, high-fiber, fruit-based supplement bar increases HDL cholesterol, particularly large HDL, lowers homocysteine, and raises glutathione in a 2-wk trial. *Faseb Journal* 26(8): 3515-3527.

- * Mullner E, Brath H, Toferer D, Adrigan S, Bulla MT, Stieglmayer R, Wallner M, Marek R, Wagner KH. 2013. Genome damage in peripheral blood lymphocytes of diabetic and non-diabetic individuals after intervention with vegetables and plant oil. *Mutagenesis* 28(2): 205-211.
- * Ndrepepa G, Kastrati A, Braun S, Koch W, Kolling K, Mehilli J, Schomig A. 2008. Circulating homocysteine levels in patients with type 2 diabetes mellitus. *Nutr Metab Cardiovasc Dis* 18(1): 66-73.
- * Ortega-Azorin C, Sorli JV, Asensio EM, Coltell O, Martinez-Gonzalez MA, Salas-Salvado J, Covas MI, Aros F, Lapetra J, Serra-Majem L, Gomez-Gracia E, Fiol M, Saez-Tormo G, Pinto X, Munoz MA, Ros E, Ordovas JM, Estruch R, Corella D. 2012. Associations of the FTO rs9939609 and the MC4R rs17782313 polymorphisms with type 2 diabetes are modulated by diet, being higher when adherence to the Mediterranean diet pattern is low. *Cardiovasc Diabetol* 11: 137.
- * Pena AS, Maftai O, Dowling K, Gent R, Wiltshire E, MacKenzie K, Couper J. 2013. Folate fortification and supplementation do not provide vascular health benefits in type 1 diabetes. *J Pediatr* 163(1): 255-260.
- X Peña AS, Wiltshire E, Gent R, Hirte C, Couper J. 2004. Folic acid improves endothelial function in children and adolescents with type 1 diabetes. *Journal of Pediatrics* 144(4): 500-504.
- X Rosolova H, Simon J, Mayer O, Jr., Racek J, Dierze T, Jacobsen DW. 2002. Unexpected inverse relationship between insulin resistance and serum homocysteine in healthy subjects. *Physiol Res* 51(1): 93-98.
- X Rozza F, de Simone G, Izzo R, De Luca N, Trimarco B. 2009. Nutraceuticals for treatment of high blood pressure values in patients with metabolic syndrome. *High blood pressure & cardiovascular prevention : the official journal of the Italian Society of Hypertension* 16(4): 177-182.
- * Rudy A, Kowalska I, Strackowski M, Kinalska I. 2005. Homocysteine concentrations and vascular complications in patients with type 2 diabetes. *Diabetes Metab* 31(2): 112-117.
- * Russo GT, Di Benedetto A, Alessi E, Ientile R, Antico A, Nicocia G, La Scala R, Di Cesare E, Raimondo G, Cucinotta D. 2006. Mild hyperhomocysteinemia and the common C677T polymorphism of methylene tetrahydrofolate reductase gene are not associated with the metabolic syndrome in Type 2 diabetes. *J Endocrinol Invest* 29(3): 201-207.
- X Russo GT, Di Benedetto A, Magazzu D, Giandalia A, Giorda CB, Ientile R, Previti M, Di Cesare E, Cucinotta D. 2011. Mild hyperhomocysteinemia, C677T polymorphism on methylenetetrahydrofolate reductase gene and the risk of macroangiopathy in type 2 diabetes: a prospective study. *Acta Diabetol* 48(2): 95-101.
- * Sainani GS, Karatela RA. 2009. Association of plasma homocysteine and insulin resistance in coronary artery disease. *Journal of Association of Physicians of India* 57(6): 439-442.
- * Sakuta H, Suzuki T, Yasuda H, Ito T. 2005a. Plasma folate levels in men with type 2 diabetes. *Int J Vitam Nutr Res* 75(5): 307-311.
- X Sakuta H, Suzuki T, Yasuda H, Ito T. 2005b. Adiponectin levels and cardiovascular risk factors in Japanese men with type 2 diabetes. *Endocrine Journal* 52(2): 241-244.
- * Salardi S, Cacciari E, Sassi S, Grossi G, Mainetti B, Dalla Casa C, Pirazzoli P, Cicognani A, Gualandi S. 2000. Homocysteinemia, serum folate and vitamin B12 in very young patients with diabetes mellitus type 1. *J Pediatr Endocrinol Metab* 13(9): 1621-1627.
- * Sanchez-Margalet V, Valle M, Ruz FJ, Gascon F, Mateo J, Goberna R. 2002. Elevated plasma total homocysteine levels in hyperinsulinemic obese subjects. *Journal of Nutritional Biochemistry* 13(2): 75-79.
- * Satyanarayana A, Balakrishna N, Pitla S, Reddy PY, Mudili S, Lopamudra P, Suryanarayana P, Viswanath K, Ayyagari R, Reddy GB. 2011. Status of B-vitamins and homocysteine in diabetic retinopathy: association with vitamin-B12 deficiency and hyperhomocysteinemia. *PLoS One* 6(11): e26747.
- * Seghieri G, Breschi MC, Anichini R, De Bellis A, Alviggi L, Maida I, Franconi F. 2003. Serum homocysteine levels are increased in women with gestational diabetes mellitus. *Metabolism* 52(6): 720-723.

- * Sempertegui F, Estrella B, Tucker KL, Hamer DH, Narvaez X, Sempertegui M, Griffiths JK, Noel SE, Dallal GE, Selhub J, Meydani SN. 2011. Metabolic syndrome in the elderly living in marginal peri-urban communities in Quito, Ecuador. *Public Health Nutr* 14(5): 758-767.
- * Setola E, Monti LD, Galluccio E, Pallosi A, Fragasso G, Paroni R, Magni F, Sandoli EP, Lucotti P, Costa S, Fermo I, Galli-Kienle M, Origgi A, Margonato A, Piatti P. 2004. Insulin resistance and endothelial function are improved after folate and vitamin B12 therapy in patients with metabolic syndrome: relationship between homocysteine levels and hyperinsulinemia. *European Journal of Endocrinology* 151(4): 483-489.
- ^X Shargorodsky M, Boaz M, Pasternak S, Hanah R, Matas Z, Fux A, Beigel Y, Mashavi M. 2009. Serum homocysteine, folate, vitamin B12 levels and arterial stiffness in diabetic patients: which of them is really important in atherogenesis? *Diabetes Metab Res Rev* 25(1): 70-75.
- * Solini A, Santini E, Ferrannini E. 2006. Effect of short-term folic acid supplementation on insulin sensitivity and inflammatory markers in overweight subjects. *Int J Obes (Lond)* 30(8): 1197-1202.
- * Song Y, Cook NR, Albert CM, Van Denburgh M, Manson JE. 2009. Effect of homocysteine-lowering treatment with folic acid and B vitamins on risk of type 2 diabetes in women: a randomized, controlled trial. *Diabetes* 58(8): 1921-1928.
- * Spada RS, Stella G, Calabrese S, Bosco P, Anello G, Gueant-Rodriguez RM, Romano A, Benamghar L, Fontaine T, Gueant JL. 2007. Association of vitamin B12, folate and homocysteine with functional and pathological characteristics of the elderly in a mountainous village in Sicily. *Clin Chem Lab Med* 45(2): 136-142.
- * Stewart CP, Christian P, Schulze KJ, Leclercq SC, West KP, Jr., Khattry SK. 2009. Antenatal micronutrient supplementation reduces metabolic syndrome in 6- to 8-year-old children in rural Nepal. *J Nutr* 139(8): 1575-1581.
- * Stewart CP, Christian P, Schulze KJ, Arguello M, Leclercq SC, Khattry SK, West KP, Jr. 2011. Low maternal vitamin B-12 status is associated with offspring insulin resistance regardless of antenatal micronutrient supplementation in rural Nepal. *J Nutr* 141(10): 1912-1917.
- ^X Straub RH, Rokitzki L, Schumacher T, Hillmann C, Palitzsch KD, Scholmerich J. 1993. No evidence of deficiency of vitamins A, E, beta-carotene, B1, B2, B6, B12 and folate in neuropathic type II diabetic women. *Int J Vitam Nutr Res* 63(3): 239-240.
- * Tarim E, Bagis T, Kilicdag E, Erkanli S, Aslan E, Sezgin N, Kuscü E. 2004. Elevated plasma homocysteine levels in gestational diabetes mellitus. *Acta Obstet Gynecol Scand* 83(6): 543-547.
- ^X van der Wal HH, Comin-Colet J, Klip IT, Enjuanes C, Beverborg NG, Voors AA, Banasiak W, van Veldhuisen DJ, Bruguera J, Ponikowski P, Jankowska EA, van der Meer P. 2015. Vitamin B12 and folate deficiency in chronic heart failure. *Heart* 101(4): 302-310.
- ^X van Oostrom O, de Kleijn DP, Fledderus JO, Pescatori M, Stubbs A, Tuinenburg A, Lim SK, Verhaar MC. 2009. Folic acid supplementation normalizes the endothelial progenitor cell transcriptome of patients with type 1 diabetes: a case-control pilot study. *Cardiovasc Diabetol* 8: 47.
- * Vaya A, Carmona P, Badia N, Perez R, Mijares AH, Corella D. 2011. Homocysteine levels and the metabolic syndrome in a Mediterranean population: a case-control study. *Clin Hemorheol Microcirc* 47(1): 59-66.
- * Vaya A, Rivera L, Hernandez-Mijares A, de la Fuente M, Sola E, Romagnoli M, Alis R, Laiz B. 2012. Homocysteine levels in morbidly obese patients: its association with waist circumference and insulin resistance. *Clin Hemorheol Microcirc* 52(1): 49-56.
- * Wasilewska A, Narkiewicz M, Rutkowski B, Lysiak-Szydłowska W. 2003. Is there any relationship between lipids and vitamin B levels in persons with elevated risk of atherosclerosis? *Med Sci Monit* 9(3): CR147-151.
- ^X Weijun G, Juming L, Guoqing Y, Jingtao D, Qinghua G, Yiming M, Changyu P. 2008. Effects of plasma homocysteine levels on serum HTase/PON activity in patients with type 2 diabetes. *Adv Ther* 25(9): 884-893.

- ^x Wein EE, Basualdo CG, Johnson PA, Basu TK. 1996. Nutrient intakes of a sample of first nations adults with and without diabetes mellitus in Central Alberta. *J. Can. Diet. Assoc.-Rev. Assoc. Can. Diet.* 57(4): 153-161.
- * Wiltshire E, Thomas DW, Baghurst P, Couper J. 2001. Reduced total plasma homocyst(e)ine in children and adolescents with type 1 diabetes. *J Pediatr* 138(6): 888-893.
- * Xun P, Liu K, Loria CM, Bujnowski D, Shikany JM, Schreiner PJ, Sidney S, He K. 2012. Folate intake and incidence of hypertension among American young adults: a 20-y follow-up study. *Am J Clin Nutr* 95(5): 1023-1030.
- * Yajnik CS, Deshpande SS, Jackson AA, Refsum H, Rao S, Fisher DJ, Bhat DS, Naik SS, Coyaji KJ, Joglekar CV, Joshi N, Lubree HG, Deshpande VU, Rege SS, Fall CH. 2008. Vitamin B12 and folate concentrations during pregnancy and insulin resistance in the offspring: the Pune Maternal Nutrition Study. *Diabetologia* 51(1): 29-38.

1.4.4 Thyroid and Diabetes-related Endpoints, Non-human Animal Studies (n=76)

- Achon M, Reyes L, Alonso-Aperte E, Ubeda N, Varela-Moreiras G. 1999. High dietary folate supplementation affects gestational development and dietary protein utilization in rats. *J Nutr* 129(6): 1204-1208.
- Achon M, Alonso-Aperte E, Ubeda N, Varela-Moreiras G. 2007. Supranormal dietary folic acid supplementation: effects on methionine metabolism in weanling rats. *Br J Nutr* 98(3): 490-496.
- Aleliunas RE, Glier MB, Laher I, Green TJ, Devlin AM. 2012. Programming of adiposity and vascular function by prenatal exposure to maternal high folic acid and low vitamin B12 intakes. *Canadian Journal of Cardiology* 28(5): S95.
- Ali ME, Salam MA, Asad MA, Saifuzzaman M, Sarder MM. 2008. Effects of folic acid and vitamin C on arsenic induced mice. *Journal of Pharmacology and Toxicology* 3(6): 471-477.
- Balaghi M, Horne DW, Woodward SC, Wagner C. 1993. Pancreatic one-carbon metabolism in early folate deficiency in rats. *Am J Clin Nutr* 58(2): 198-203.
- Batista Dr AH, Dubé Dr MTZ, Bravo Dr MG. 2012. Effects of folic acid on some morphometric variables of the thymus of adolescent rats with fetal alcohol syndrome. *Efectos del ácido fólico sobre algunas variables morfológicas del timo de ratas adolescentes con síndrome fetal alcohólico* 31(1): 63-72.
- Bloor J, Shukla N, Smith FC, Angelini GD, Jeremy JY. 2010. Folic acid administration reduces neointimal thickening, augments neo-vasa vasorum formation and reduces oxidative stress in saphenous vein grafts from pigs used as a model of diabetes. *Diabetologia* 53(5): 980-988.
- Brown AT, Smith TP, Cruz CP, Poirier LA, Simmons D, Williams DK, Wang Y, Eidt JF, Moursi MM. 2003. Intimal hyperplasia following carotid endarterectomy in an insulin-resistant rat model. *Metabolism* 52(7): 834-839.
- Buettner R, Bettermann I, Hechtel C, Gabele E, Hellerbrand C, Scholmerich J, Bollheimer LC. 2010. Dietary folic acid activates AMPK and improves insulin resistance and hepatic inflammation in dietary rodent models of the metabolic syndrome. *Horm Metab Res* 42(11): 769-774.
- Burdge GC, Lillycrop KA, Jackson AA, Gluckman PD, Hanson MA. 2008. The nature of the growth pattern and of the metabolic response to fasting in the rat are dependent upon the dietary protein and folic acid intakes of their pregnant dams and post-weaning fat consumption. *Br J Nutr* 99(3): 540-549.
- Burdge GC, Lillycrop KA, Phillips ES, Slater-Jefferies JL, Jackson AA, Hanson MA. 2009. Folic acid supplementation during the juvenile-pubertal period in rats modifies the phenotype and epigenotype induced by prenatal nutrition. *J Nutr* 139(6): 1054-1060.
- Buttner R, Wobser H, Wrede C, Schaffler A, Scholmerich J, Buchler C, Bollheimer LC. 2007. Supplementation of folic acid improves insulin resistance in the high fat fed rat. *Exp. Clin. Endocrinol. Diabet.* 115: S71-S71.

- Camurri M. 1953. Histological changes in the endocrine system following treatment with folic acid. *Clinica Nuova*: 91-94.
- Carlin J, George R, Reyes TM. 2013. Methyl Donor Supplementation Blocks the Adverse Effects of Maternal High Fat Diet on Offspring Physiology. *Plos One* 8(5): 9.
- Chmurzynska A, Stachowiak M. 2010. Folic acid supplementation of the maternal diet during gestation decreases expression of PPAR and LXR genes in the progeny. *Journal of Nutrigenetics and Nutrigenomics* 3(2-3): 113.
- Chmurzynska A, Stachowiak M, Gawecki J, Pruszyńska-Oszmalek E, Tubacka M. 2012a. Protein and folic acid content in the maternal diet determine lipid metabolism and response to high-fat feeding in rat progeny in an age-dependent manner. *Genes Nutr* 7(2): 223-234.
- Chmurzynska A, Stachowiak M, Pruszyńska-Oszmalek E. 2012b. Maternal protein and folic acid intake during gestation does not program leptin transcription or serum concentration in rat progeny. *Genes Nutr* 7(2): 217-222.
- Cho CE, Sanchez-Hernandez D, Reza-Lopez SA, Huot PS, Kim YI, Anderson GH. 2013a. High folate gestational and post-weaning diets alter hypothalamic feeding pathways by DNA methylation in Wistar rat offspring. *Epigenetics* 8(7): 710-719.
- Cho CE, Sanchez-Hernandez D, Reza-Lopez SA, Huot PS, Kim YI, Anderson GH. 2013b. Obesogenic phenotype of offspring of dams fed a high multivitamin diet is prevented by a post-weaning high multivitamin or high folate diet. *Int J Obes (Lond)* 37(9): 1177-1182.
- Cho CE. 2014. Role of methyl group vitamins in hypothalamic development of food intake regulation in Wistar rats. *Appl Physiol Nutr Metab* 39(7): 844.
- Cho CE, Pannia E, Huot PSP, Sanchez-Hernandez D, Kubant R, Bazinet RP, Anderson GH. 2014. Folate in a high multivitamin gestational diet causes obesogenic phenotype and epigenetic alterations in hypothalamic feeding pathways in Wistar rat offspring. *FASEB Journal* 28(1).
- Cordero P, Campion J, Milagro FI, Martinez JA. 2013. Transcriptomic and epigenetic changes in early liver steatosis associated to obesity: effect of dietary methyl donor supplementation. *Mol Genet Metab* 110(3): 388-395.
- Dolinoy DC, Huang D, Jirtle RL. 2007. Maternal nutrient supplementation counteracts bisphenol A-induced DNA hypomethylation in early development. *Proc Natl Acad Sci U S A* 104(32): 13056-13061.
- Duplessis M, Girard CL, Santschi DE, Laforest JP, Durocher J, Pellerin D. 2014. Effects of folic acid and vitamin B12 supplementation on culling rate, diseases, and reproduction in commercial dairy herds. *J Dairy Sci* 97(4): 2346-2354.
- Engelham SF, Haase A, Langley-Evans SC. 2010. Supplementation of a maternal low-protein diet in rat pregnancy with folic acid ameliorates programming effects upon feeding behaviour in the absence of disturbances to the methionine-homocysteine cycle. *Br J Nutr* 103(7): 996-1007.
- Forbes JC, Petterson O. 1950. Effect of B complex vitamins on liver and heart glycogen levels of hyperthyroid rats. *Proceeding of the Society for Experimental Biology and Medicine* 74(3): 630-632.
- Garcia-Sanz P, Mirasierra M, Vallejo M. 2011. Increased risk of intrauterine malformations associated with gestational hyperglycemia in Alx3-deficient mice. *Endocrine Reviews* 32(3).
- Gareskog M, Eriksson UJ, Wentzel P. 2006. Combined supplementation of folic acid and vitamin E diminishes diabetes-induced embryotoxicity in rats. *Birth Defects Res A Clin Mol Teratol* 76(6): 483-490.
- Giudicelli F, Brabant AL, Grit I, Parnet P, Amarger V. 2013. Excess of methyl donor in the perinatal period reduces postnatal leptin secretion in rat and interacts with the effect of protein content in diet. *PLoS One* 8(7): e68268.

- Godzien J, Ciborowski M, Angulo S, Ruperez FJ, Martinez MP, Senorans FJ, Cifuentes A, Ibanez E, Barbas C. 2011. Metabolomic approach with LC-QTOF to study the effect of a nutraceutical treatment on urine of diabetic rats. *J Proteome Res* 10(2): 837-844.
- Godzien J, García-Martínez D, Martínez-Alcazar P, Ruperez FJ, Barbas C. 2013. Effect of a nutraceutical treatment on diabetic rats with targeted and CE-MS non-targeted approaches. *Metabolomics* 9(SUPPL.1): 188-202.
- Gonzalez Muniesa P, Cordero P, Campion J, Milagro FI, Martinez JA. 2013. Transcriptomic and epigenetic profile in high-fat diet-induced early liver steatosis and the preventive effect of dietary methyl donor supplementation. *Obesity Facts* 6: 51.
- Gursu MF, Onderci M, Gulcu F, Sahin K. 2004. Effects of vitamin C and folic acid supplementation on serum paraoxonase activity and metabolites induced by heat stress in vivo. *Nutrition Research* 24(2): 157-164.
- Higa R, Kurtz M, Mazzucco MB, Musikant D, White V, Jawerbaum A. 2012. Folic acid and safflower oil supplementation interacts and protects embryos from maternal diabetes-induced damage. *Mol Hum Reprod* 18(5): 253-264.
- Hoile SP, Lillycrop KA, Grenfell LR, Hanson MA, Burdge GC. 2012. Increasing the folic acid content of maternal or post-weaning diets induces differential changes in phosphoenolpyruvate carboxykinase mRNA expression and promoter methylation in rats. *Br J Nutr* 108(5): 852-857.
- Huang Y, He Y, Sun X, He Y, Li Y, Sun C. 2014a. Maternal high folic acid supplement promotes glucose intolerance and insulin resistance in male mouse offspring fed a high-fat diet. *Int J Mol Sci* 15(4): 6298-6313.
- Huang Y, Liu T, Sun C. 2014b. Little beneficial effect of maternal vitamin supplement on metabolic disturbances in the offspring from the obese mother mice. *J Matern Fetal Neonatal Med*: 1-4.
- Ibrahim W, Tousson E, Ali EM, Mansour MA. 2011. Folic acid alleviates oxidative stress and hyperhomocysteinemia involved in testicular dysfunction of hypothyroid rats. *Gen Comp Endocrinol* 174(2): 143-149.
- Ibrahim W, Tousson E, El-Masry T, Arafa N, Akela M. 2012. The effect of folic acid as an antioxidant on the hypothalamic monoamines in experimentally induced hypothyroid rat. *Toxicology and Industrial Health* 28(3): 253-261.
- Joshi S, Rao S, Girigosavi S, Daware M, Kale A, Hegde M. 2004. Differential effects of fish oil and folic acid supplementation during pregnancy in rats on cognitive performance and serum glucose in their offspring. *Nutrition* 20(5): 465-472.
- Kapoor P, Ansari MN, Bhandari U. 2008. Modulatory effect of curcumin on methionine-induced hyperlipidemia and hyperhomocysteinemia in albino rats. *Indian J Exp Biol* 46(7): 534-540.
- Lam TY, Seto SW, Au AL, Poon CC, Li RW, Lam HY, Lau WS, Chan SW, Ngai SM, Leung GP, Lee SM, Tsui SK, Kwan YW. 2009. Folic acid supplementation modifies beta-adrenoceptor-mediated in vitro lipolysis of obese/diabetic (+db/+db) mice. *Exp Biol Med (Maywood)* 234(9): 1047-1055.
- Langley-Evans SC, Haase A, Engham SF. 2007. Fetal programming of hyperinsulinaemia by exposure to 4 low protein in the rat is reversed by addition of folic acid to the maternal diet. *Early Human Development* 83: S135-S135.
- Li WH, Xiao Q, Li SY, Shang ZP, Wu TG. 2006. Influence of folic acid on myocardial apoptosis in rats with type 2 diabetes mellitus. *Chinese Journal of Clinical Rehabilitation* 10(44): 47-50.
- Maciejewska M, Prusiewicz-Witaszek U. 1993. The effect of folic acid addition on insulin level and some carbohydrate metabolism indices in male rats fed with excess of methionine. *Arch Vet Pol* 33(3-4): 217-221.
- Majumdar S, Mukherjee S, Maiti A, Karmakar S, Das AS, Mukherjee M, Nanda A, Mitra C. 2009. Folic acid or combination of folic acid and vitamin B12 prevents short-term arsenic trioxide-induced systemic and mitochondrial dysfunction and DNA damage. *Environmental Toxicology* 24(4): 377-387.

- Marvin HN, Kelley B, Totter JR. 1950a. THE EFFECTS OF HIGH-GLYCINE DIETS, WITH OR WITHOUT PTEROYLGLUTAMIC ACID (PGA) AND VITAMIN-B12, ON GROWTH AND ENDOCRINE ORGANS OF RATS. *Anatomical Record* 106(2): 220-220.
- Marvin HN, Totter JR, Day PL. 1950b. The effects of pteroylglutamic acid deficiency and pteroylglutamic acid replacement on the endocrine glands of the immature chick. *Endocrinology* 46(2): 156-165.
- Mejos KKR, Lim EM, Kim HW, Chang N. 2013. Paternal folate deficiency influences hepatic DNA methylation, IGF-1, IGF-2 and IGF-1R expression in the rat pup. *FASEB Journal* 27.
- Memon S, Pratten MK. 2013. Teratogenic effects of diabetic conditions in chick heart in ovo and in micromass culture may be prevented by addition of vitamin C and folic acid. *Reprod Toxicol* 35: 117-124.
- Mukherjee S, Das D, Mukherjee M, Das AS, Mitra C. 2006. Synergistic effect of folic acid and vitamin B12 in ameliorating arsenic-induced oxidative damage in pancreatic tissue of rat. *J Nutr Biochem* 17(5): 319-327.
- Nieman KM, Hartz CS, Szegedi SS, Garrow TA, Sparks JD, Schaalinske KL. 2006. Folate status modulates the induction of hepatic glycine N-methyltransferase and homocysteine metabolism in diabetic rats. *Am J Physiol Endocrinol Metab* 291(6): E1235-1242.
- Olson JD, Aleiunas RE, Glier MB, Aljaadi AM, Green TJ, Devlin AM. 2013. Programming of glucose homeostasis by developmental exposure to folic acid and vitamin b12 imbalance in female mice. *Canadian Journal of Diabetes* 37: S70.
- Oyama K, Sugimura Y, Murase T, Uchida A, Hayasaka S, Oiso Y, Murata Y. 2009. Folic acid prevents congenital malformations in the offspring of diabetic mice. *Endocrine Journal* 56(1): 29-37.
- Pannia E, Cho CE, Kubant R, Sanchez-Hernandez D, Huot PS, Chatterjee D, Fleming A, Anderson GH. 2014. A high multivitamin diet fed to Wistar rat dams during pregnancy increases maternal weight gain later in life and alters homeostatic, hedonic and peripheral regulatory systems of energy balance. *Behav Brain Res* 278c: 1-11.
- Pote MS, Noronha JM, Kesavan V. 1995. AN ANTIATHEROGENIC ROLE FOR FOLIC-ACID IN EXPERIMENTAL DIABETES. *Journal of Clinical Biochemistry and Nutrition* 18(3): 157-164.
- Prusiewicz-Witaszek U, Maciejewska M. 1994. Effect of various amounts of folic acid added to rat food on food intake and some parameters of carbohydrate metabolism. *Arch Vet Pol* 34(3-4): 261-266.
- Rezaei M, Sabetkasaei M, Kalantari N, Hedayati M, Abadi A, Omidvar N. 2011. Effect of folic acid on serum leptin, ghrelin concentration, and feed intake in male Wistar rats. *Physiology and Pharmacology* 14(4): 426-434.
- Roe ND, He EY, Wu Z, Ren J. 2013. Folic acid reverses nitric oxide synthase uncoupling and prevents cardiac dysfunction in insulin resistance: role of Ca²⁺/calmodulin-activated protein kinase II. *Free Radic Biol Med* 65: 234-243.
- Salama AF, Tousson E, Ibrahim W, Hussein WM. 2013. Biochemical and histopathological studies of the PTU-induced hypothyroid rat kidney with reference to the ameliorating role of folic acid. *Toxicology and Industrial Health* 29(7): 600-608.
- Seto SW, Lam TY, Or PM, Lee WY, Au AL, Poon CC, Li RW, Chan SW, Yeung JH, Leung GP, Lee SM, Ngai SM, Kwan YW. 2010. Folic acid consumption reduces resistin level and restores blunted acetylcholine-induced aortic relaxation in obese/diabetic mice. *J Nutr Biochem* 21(9): 872-880.
- Sheng CY, Yin L, Han Y, Guo QH, Chen XX. 2003. Plasma homocysteine and peripheral neuropathy of type 2 diabetes. *Chinese Journal of Neuroscience* 19(3): 190-193.
- Shukla N, Angelini GD, Jeremy JY. 2008. The administration of folic acid reduces intravascular oxidative stress in diabetic rabbits. *Metabolism: Clinical and Experimental* 57(6): 774-781.

- Sittig LJ, Herzing LB, Xie H, Batra KK, Shukla PK, Redei EE. 2012. Excess folate during adolescence suppresses thyroid function with permanent deficits in motivation and spatial memory. *Genes Brain Behav* 11(2): 193-200.
- Tedeschi G, Angeli G, Gualandi G. 1956. [Influence of vitamin B12, folic acid and methionine on body growth, hemopoiesis and lipid content of liver in rats on a high protein diet treated with ethionine]. *Boll Soc Ital Biol Sper* 32(7-8): 630-633.
- Tousson E, Beltagy DM, El-Gerbed MSA, Gazia MA, Akela MA. 2012a. The ameliorating role of folic acid in rat hippocampus after propylthiouracil-induced hypothyroidism. *Biomedicine and Aging Pathology* 2(3): 104-110.
- Tousson E, Ibrahim W, Arafa N, Akela MA. 2012b. Monoamine concentrations changes in the PTU-induced hypothyroid rat brain and the ameliorating role of folic acid. *Hum. Exp. Toxicol.* 31(3): 282-289.
- Viswanathan G, Nair CP. 1996. Altered metabolism of folates and lipids in hyperthyroid and hypothyroid rats. *Indian J Biochem Biophys* 33(4): 311-314.
- Wentzel P, Eriksson UJ. 2005a. A diabetes-like environment increases malformation rate and diminishes prostaglandin E(2) in rat embryos: reversal by administration of vitamin E and folic acid. *Birth Defects Res A Clin Mol Teratol* 73(7): 506-511.
- Wentzel P, Eriksson UJ. 2005b. Vitamin E and folic acid administration normalizes diabetes-induced disturbances of PGE2 concentration in rat embryos in vivo and in vitro. *Diabetes* 54: A676-A676.
- Wentzel P, Gareskog M, Eriksson UJ. 2005. Folic acid supplementation diminishes diabetes- and glucose-induced dysmorphogenesis in rat embryos in vivo and in vitro. *Diabetes* 54(2): 546-553.
- Wu TG, Li WH, Lin ZQ, Wang LX. 2008. Effects of folic acid on cardiac myocyte apoptosis in rats with streptozotocin-induced diabetes mellitus. *Cardiovasc Drugs Ther* 22(4): 299-304.
- Xu R, Fan Y, Xiang J, Zhan M. 2012. [Effect of the folic acid and vitamin B2 on the diabetes mellitus rats with diabetic nephropathy]. *Wei Sheng Yan Jiu* 41(6): 911-915.
- Yuan Q, Zhao S, Liu S, Zhang Y, Fu J, Wang F, Liu Q, Ling EA, Hao A. 2013. Folic acid supplementation changes the fate of neural progenitors in mouse embryos of hyperglycemic and diabetic pregnancy. *J Nutr Biochem* 24(7): 1202-1212.
- Zabihi S, Eriksson UJ, Wentzel P. 2007. Folic acid supplementation affects ROS scavenging enzymes, enhances Vegf-A, and diminishes apoptotic state in yolk sacs of embryos of diabetic rats. *Reprod Toxicol* 23(4): 486-498.
- Zuniga-Gonzalez GM, Batista-Gonzalez CM, Gomez-Meda BC, Ramos-Ibarra ML, Zamora-Perez AL, Munoz-Magallanes T, Ramos-Valdes C, Gallegos-Arreola MP. 2007. Micronuclei in diabetes: folate supplementation diminishes micronuclei in diabetic patients but not in an animal model. *Mutat Res* 634(1-2): 126-134.

1.4.5 Thyroid and Diabetes-related Endpoints, In Vitro Studies (n=4)

- Adaikalakoteswari A, Moore J, McTernan PG, Kumar S, Saravanan P, Tripathi G. 2011. Low B12 and high folate: A novel regulator of cholesterol biosynthesis in human adipocytes. *Diabetologia* 54: S294-S295.
- De Long NE, Hyslop JR, Raha S, Hardy DB, Holloway AC. 2014. Fluoxetine-induced pancreatic beta cell dysfunction: New insight into the benefits of folic acid in the treatment of depression. *J Affect Disord* 166: 6-13.
- Jia DY, Liu HJ, Wang FW, Liu SM, Ling EA, Liu K, Hao AJ. 2008. Folic acid supplementation affects apoptosis and differentiation of embryonic neural stem cells exposed to high glucose. *Neurosci Lett* 440(1): 27-31.
- McCarthy C, Adaikalakoteswari A, Moore J, Harte AL, Brown A, McTernan PG, Saravanan P, Tripathi G. 2011. Folate and vitamin B12 imbalance induces endoplasmic reticulum stress in human adipocytes. *Diabetologia* 54: S291.

2.0 OTHER HEALTH EFFECT CATEGORIES

2.1 Cardiovascular Outcomes – Human Studies (n=486)

- Abdelmouttaleb I, Danchin N, Aimone-Gastin I, Namour F, Angioi M, Gelot MA, Bennani N, Lambert D, Jeandel C, Gueant JL. 2000. Homocysteine, vitamins B6, B12, folate, and risk of coronary artery disease in patients undergoing diagnostic coronary angiography. *Amino Acids* 18(2): 139-146.
- Abdulle AM, Pathan JY, Moussa N, Gariballa S. 2010. Association between homocysteine and endothelial dysfunction markers in stroke disease. *Nutr Neurosci* 13(1): 2-6.
- Abularrage CJ, Sidawy AN, White PW, Aidinian G, DeZee KJ, Weiswasser JM, Arora S. 2007. Effect of folic acid and vitamins B6 and B12 on microcirculatory vasoreactivity in patients with hyperhomocysteinemia. *Vascular and Endovascular Surgery* 41(4): 339-345.
- Aflaki E, Mehryar M, Nazarinia MA, Habibagahi Z, Rajaei A, Ranjbar-Omrani G. 2008. The relation between serum homocysteine level and eye involvement in Behcet's disease. *Arch Iran Med* 11(6): 625-628.
- Agostini R, Rossi F, Pajalich R. 2006. Myoinositol/folic acid combination for the treatment of erectile dysfunction in type 2 diabetes men: a double-blind, randomized, placebo-controlled study. *Eur Rev Med Pharmacol Sci* 10(5): 247-250.
- Ajabnoor MA, MN AL-A, Banjar Z, Rafee AA, Sheweita SA. 2003. Homocysteine level and other biochemical parameters in cardiovascular disease patients with diabetes mellitus. *Med Sci Monit* 9(12): CR523-527.
- Aksoy M, Basar Y, Salmayenli N, Ayalp K, Genc FA, Dilege S, Kayabali M, Baktiroglu S, Kurtoglu M. 2006. Hyperhomocysteinemia in patients with arterial occlusive disease. *Surg Today* 36(4): 327-331.
- Akyurek O, Akbal E, Gunes F. 2014. Increase in the risk of ST elevation myocardial infarction is associated with homocysteine level. *Arch Med Res* 45(6): 501-506.
- al-Awami M, Schillinger M, Maca T, Gschwandtner M, Bieglmayer C, Wagner O, Minar E. 2002. Homocysteine levels in patients with Raynaud's phenomenon. *Vasa* 31(2): 87-90.
- Al-Delaimy WK, Rexrode KM, Hu FB, Albert CM, Stampfer MJ, Willett WC, Manson JE. 2004. Folate intake and risk of stroke among women. *Stroke* 35(6): 1259-1263.
- Albert CM, Cook NR, Gaziano JM, Zaharris E, MacFadyen J, Danielson E, Buring JE, Manson JE. 2008. Effect of folic acid and B vitamins on risk of cardiovascular events and total mortality among women at high risk for cardiovascular disease: a randomized trial. *JAMA* 299(17): 2027-2036.
- Almeida OP, Marsh K, Alfonso H, Flicker L, Davis TM, Hankey GJ. 2010. B-vitamins reduce the long-term risk of depression after stroke: The VITATOPS-DEP trial. *Ann Neurol* 68(4): 503-510.
- Alroy S, Preis M, Barzilai M, Cassel A, Lavie L, Halon DA, Amir O, Lewis BS, Flugelman MY. 2007. Endothelial cell dysfunction in women with cardiac syndrome X and MTHFR C677T mutation. *Isr Med Assoc J* 9(4): 321-325.
- Amowitz LL, Ridker PM, Rifai N, Loughrey CM, Komaroff AL. 2004. High prevalence of metabolic syndrome among young women with nonfatal myocardial infarction. *J Womens Health (Larchmt)* 13(2): 165-175; discussion 175.
- Andersson SE, Edvinsson ML, Edvinsson L. 2005. Reduction of homocysteine in elderly with heart failure improved vascular function and blood pressure control but did not affect inflammatory activity. *Basic Clin Pharmacol Toxicol* 97(5): 306-310.
- Andreassi MG, Botto N, Cocci F, Battaglia D, Antonioli E, Masetti S, Manfredi S, Colombo MG, Biagini A, Clerico A. 2003. Methylenetetrahydrofolate reductase gene C677T polymorphism, homocysteine, vitamin B12, and DNA damage in coronary artery disease. *Hum Genet* 112(2): 171-177.

- Angeline T, Jeyaraj N, Tsongalis GJ. 2007. MTHFR Gene polymorphisms, B-vitamins and hyperhomocystinemia in young and middle-aged acute myocardial infarction patients. *Exp Mol Pathol* 82(3): 227-233.
- Arauz A, Hoyos L, Cantu C, Jara A, Martinez L, Garcia I, Fernandez Mde L, Alonso E. 2007. Mild hyperhomocysteinemia and low folate concentrations as risk factors for cervical arterial dissection. *Cerebrovasc Dis* 24(2-3): 210-214.
- Arcand J, Floras V, Ahmed M, Al-Hesayen A, Ivanov J, Allard JP, Newton GE. 2009. Nutritional inadequacies in patients with stable heart failure. *J Am Diet Assoc* 109(11): 1909-1913.
- Armitage JM, Bowman L, Clarke RJ, Wallendszus K, Bulbulia R, Rahimi K, Haynes R, Parish S, Sleight P, Peto R, Collins R. 2010. Effects of homocysteine-lowering with folic acid plus vitamin B12 vs placebo on mortality and major morbidity in myocardial infarction survivors: a randomized trial. *JAMA* 303(24): 2486-2494.
- Aronow WS, Ahn C, Schoenfeld MR. 1997. Association between plasma homocysteine and extracranial carotid arterial disease in older persons. *Am J Cardiol* 79(10): 1432-1433.
- Aronow WS, Ahn C. 1998. Association between plasma homocysteine and peripheral arterial disease in older persons. *Coron Artery Dis* 9(1): 49-50.
- Aronson DC, Onkenhout W, Raben A, Oudenhoven L, Brommer EJP, Vanbockel JH. 1994. IMPAIRED HOMOCYSTEINE METABOLISM - A RISK FACTOR IN YOUNG-ADULTS WITH ATHEROSCLEROTIC ARTERIAL OCCLUSIVE DISEASE OF THE LEG. *British Journal of Surgery* 81(8): 1114-1118.
- Arroliga AC, Sandur S, Jacobsen DW, Tewari S, Mustafa M, Mascha EJ, Robinson K. 2003. Association between hyperhomocysteinemia and primary pulmonary hypertension. *Respir Med* 97(7): 825-829.
- Ashjzadeh N, Fathi M, Shariat A. 2013. Evaluation of Homocysteine Level as a Risk Factor among Patients with Ischemic Stroke and Its Subtypes. *Iran J Med Sci* 38(3): 233-239.
- Assanelli D, Bonanome A, Grassi M, Archetti S, Negrini R, Pezzini A, Curello S, Visioli F. 2004a. Determinants of early-onset cardiovascular disease: a case-control study of young myocardial infarction patients. *Ital Heart J* 5(8): 604-611.
- Assanelli D, Bonanome A, Pezzini A, Albertini F, Maccalli P, Grassi M, Archetti S, Negrini R, Visioli F. 2004b. Folic acid and Vitamin E supplementation effects on homocysteinemia, endothelial function and plasma antioxidant capacity in young myocardial-infarction patients. *Pharmacological Research* 49(1): 79-84.
- Atta HM, El-Rehany MA, Raheim SA, Galal AM. 2008. Lowering homocysteine decreases levels and expression of VEGF(165) and endostatin. *J Surg Res* 146(2): 202-210.
- Ay H, Arsava EM, Tokgozoglu SL, Ozer N, Saribas O. 2003. Hyperhomocysteinemia is associated with the presence of left atrial thrombus in stroke patients with nonvalvular atrial fibrillation. *Stroke* 34(4): 909-912.
- Aydin A, Vardar R, Evrengul H, Ungan M, Yilmaz M, Payzin S. 2001. Does Helicobacter pylori infection have a role in coronary artery disease? *Turkish Journal of Gastroenterology* 12(4): 287-293.
- Aydin M, Gokkusu C, Ozkok E, Tulubas F, Unlucerci Y, Pamukcu B, Ozbek Z, Umman B. 2009. Association of genetic variants in Methylenetetrahydrofolate Reductase and Paraoxonase-1 genes with homocysteine, folate and vitamin B12 in coronary artery disease. *Mol Cell Biochem* 325(1-2): 199-208.
- Baccarelli A, Cassano PA, Litonjua A, Park SK, Suh H, Sparrow D, Vokonas P, Schwartz J. 2008. Cardiac autonomic dysfunction: effects from particulate air pollution and protection by dietary methyl nutrients and metabolic polymorphisms. *Circulation* 117(14): 1802-1809.
- Bachmann CG, Guth N, Helmschmied K, Armstrong VW, Paulus W, Happe S. 2008. Homocysteine in restless legs syndrome. *Sleep Med* 9(4): 388-392.
- Bahar B, Nevbahar T, Sara H, Saliha A, Dilek Ö, Işıl M, Oya B. 2000. Plasma homocysteine levels in acute coronary syndromes. *Heart* 83(SUPPL. 2).

- Balogh E, Bereczky Z, Katona E, Koszegi Z, Edes I, Muszbek L, Czuriga I. 2012. Interaction between homocysteine and lipoprotein(a) increases the prevalence of coronary artery disease/myocardial infarction in women: a case-control study. *Thromb Res* 129(2): 133-138.
- Bandarian F, Fakhrzadeh H, Heshmat R, Nouri M, Larijani B. 2009. Association of serum homocysteine and coronary heart disease in an Iranian urban population. *Acta Cardiologica Sinica* 25(3): 142-146.
- Barghash NA, Elewa SM, Hamdi EA, Barghash AA, El Dine R. 2004. Role of plasma homocysteine and lipoprotein (a) in coronary artery disease. *British Journal of Biomedical Science* 61(2): 78-83.
- Bayir A, Ak A, Ozdinc S, Seydanoglu A, Kostekci SK, Kara F. 2010. Acute-phase vitamin B12 and folic acid levels in patients with ischemic and hemorrhagic stroke: is there a relationship with prognosis? *Neurol Res* 32(2): 115-118.
- Bazzano LA, He J, Ogden LG, Loria C, Vupputuri S, Myers L, Whelton PK. 2002. Dietary intake of folate and risk of stroke in US men and women: NHANES I Epidemiologic Follow-up Study. *National Health and Nutrition Examination Survey. Stroke* 33(5): 1183-1188.
- Beccia M, Mele MC, Ferrari M, Ranieri M, Barini A, Rasura M. 2004. Young stroke and basal plasma and post-methionine load homocysteine and cysteine levels 1 year after the acute event: do plasma folates make the difference? *Eur J Neurol* 11(4): 269-275.
- Bechir M, Enseleit F, Chenevard R, Muntwyler J, Luscher TF, Noll G. 2005. Folic acid improves baroreceptor sensitivity in hypertension. *Journal of Cardiovascular Pharmacology* 45(1): 44-48.
- Becker A, Henry RM, Kostense PJ, Jakobs C, Teerlink T, Zweegman S, Dekker JM, Nijpels G, Heine RJ, Bouter LM, Smulders YM, Stehouwer CD. 2003. Plasma homocysteine and S-adenosylmethionine in erythrocytes as determinants of carotid intima-media thickness: different effects in diabetic and non-diabetic individuals. *The Hoorn Study. Atherosclerosis* 169(2): 323-330.
- Bellamy MF, McDowell IFW, Ramsey MW, Brownlee M, Newcombe RG, Lewis MJ. 1999. Oral folate enhances endothelial function in hyperhomocysteinaemic subjects. *European Journal of Clinical Investigation* 29(8): 659-662.
- Bertoia ML, Pai JK, Cooke JP, Joosten MM, Mittleman MA, Rimm EB, Mukamal KJ. 2014. Plasma homocysteine, dietary B vitamins, betaine, and choline and risk of peripheral artery disease. *Atherosclerosis* 235(1): 94-101.
- Bertsch T, Mielke O, Holy S, Zimmer W, Casarin W, Aufenanger J, Walter S, Muehlhauser F, Kuehl S, Ragoschke A, Fassbender K. 2001. Homocysteine in cerebrovascular disease: an independent risk factor for subcortical vascular encephalopathy. *Clin Chem Lab Med* 39(8): 721-724.
- Bhagwat VR, Yadav AS, Rathod IM. 2009. Homocysteine, lipid indices and antioxidants in patients with ischaemic heart disease from Maharashtra, India. *Singapore Med J* 50(4): 418-424.
- Bhargava S, Ali A, Bhargava EK, Manocha A, Kankra M, Das S, Mohan Srivastava L. 2012. Lowering homocysteine and modifying nutritional status with folic acid and vitamin B(12) in Indian patients of vascular disease. *J Clin Biochem Nutr* 50(3): 222-226.
- Biselli PM, Guerzoni AR, de Godoy MF, Eberlin MN, Haddad R, Carvalho VM, Vannucchi H, Pavarino-Bertelli EC, Goloni-Bertollo EM. 2010. Genetic polymorphisms involved in folate metabolism and concentrations of methylmalonic acid and folate on plasma homocysteine and risk of coronary artery disease. *J Thromb Thrombolysis* 29(1): 32-40.
- Blacher J, Czernichow S, Paillard F, Ducimetiere P, Hercberg S, Galan P, Grp SSR. 2013. Cardiovascular effects of B-vitamins and/or N-3 fatty acids: The Su.Fol.Om3 trial. *International Journal of Cardiology* 167(2): 508-513.
- Blankenberg S, Rupprecht HJ, Peetz D, Bickel C, Hofman KP, Tiret L, Meyer J. 2002. Homocysteine, methylenetetrahydrofolate reductase/C677t genotype and risk for coronary heart disease (The Atherogene study). *Deutsche Medizinische Wochenschrift* 127(14): 729-734.

- Bleie O, Strand E, Ueland PM, Vollset SE, Refsum H, Igland J, Nordrehaug JE, Nygard OK. 2011. Coronary blood flow in patients with stable coronary artery disease treated long term with folic acid and vitamin B12. *Coron Artery Dis* 22(4): 270-278.
- Bolat A, Gursel O, Kurekci E, Atay A, Ozcan O. 2013. Blood parameters changes in cord blood of newborns of hypertensive mothers. *Eur J Pediatr* 172(11): 1501-1509.
- Bonaa KH, Njolstad I, Ueland PM, Schirmer H, Tverdal A, Steigen T, Wang H, Nordrehaug JE, Arnesen E, Rasmussen K, Investigators NT. 2006. Homocysteine lowering and cardiovascular events after acute myocardial infarction. *New England Journal of Medicine* 354(15): 1578-1588.
- Bosco P, Gueant-Rodriguez RM, Anello G, Spada R, Romano A, Fajardo A, Caraci F, Ferri R, Gueant JL. 2006a. Association of homocysteine (but not of MTHFR 677 C>T, MTR 2756 A>G, MTRR 66 A>G and TCN2 776 C>G) with ischaemic cerebrovascular disease in Sicily. *Thromb Haemost* 96(2): 154-159.
- Bosco P, Guéant-Rodriguez RM, Anello G, Spada R, Romano A, Fajardo A, Caraci F, Ferri R, Guéant JL. 2006b. Association of homocystein (but not MTHFR 677 C>T, MTR 2756 A>G, MTRR 66A>G and TCN2 776 C>G) with ischaemic cerebrovascular disease in Sicily. *Thrombosis and Haemostasis* 96(2): 154-159.
- Boufidou AI, Makedou AD, Adamidis DN, Karvounis HI, Gourassas JT, Kesidis HT, Makedou KG, Papadopoulos CE, Parharidis GE, Louridas GE. 2004. Association between plasma homocysteine levels and coronary artery disease: a population-based study in northern Greece. *Curr Med Res Opin* 20(2): 175-180.
- Brattstrom L, Israelsson B, Norrving B, Bergqvist D, Thorne J, Hultberg B, Hamfelt A. 1990. Impaired homocysteine metabolism in early-onset cerebral and peripheral occlusive arterial disease. Effects of pyridoxine and folic acid treatment. *Atherosclerosis* 81(1): 51-60.
- Brilakis ES, McConnell JP, Ballman KV, Klee GG, Berger PB. 2002. Lack of association between plasma homocysteine and angiographic coronary artery disease in the era of fortification of cereal grain flour with folic acid. *Atherosclerosis* 165(2): 375-381.
- Brinkworth GD, Noakes M, Moran LJ, Norman R, Clifton PM. 2006. Flow-mediated dilatation in overweight and obese women with polycystic ovary syndrome. *BJOG* 113(11): 1308-1314.
- Bunout D, Petermann M, Hirsch S, de la Maza P, Suazo M, Barrera G, Kauffman R. 2000. Low serum folate but normal homocysteine levels in patients with atherosclerotic vascular disease and matched healthy controls. *Nutrition* 16(6): 434-438.
- Cagnacci A, Cannoletta M, Volpe A. 2009. High-dose short-term folate administration modifies ambulatory blood pressure in postmenopausal women. A placebo-controlled study. *Eur J Clin Nutr* 63(10): 1266-1268.
- Cagnacci A, Cannoletta M, Xholli A, Piacenti I, Palma F, Palmieri B. 2014. Folate administration decreases oxidative status and blood pressure in postmenopausal women. *European Journal of Nutrition*.
- Cantu C, Alonso E, Jara A, Martinez L, Rios C, Fernandez Mde L, Garcia I, Barinagarrementeria F. 2004. Hyperhomocysteinemia, low folate and vitamin B12 concentrations, and methylene tetrahydrofolate reductase mutation in cerebral venous thrombosis. *Stroke* 35(8): 1790-1794.
- Cardo E, Monros E, Colome C, Artuch R, Campistol J, Pineda M, Vilaseca MA. 2000. Children with stroke: polymorphism of the MTHFR gene, mild hyperhomocysteinemia, and vitamin status. *J Child Neurol* 15(5): 295-298.
- Carlsson CM, Pharo LM, Aeschlimann SE, Mitchell C, Underbakke G, Stein JH. 2004. Effects of multivitamins and low-dose folic acid supplements on flow-mediated vasodilation and plasma homocysteine levels in older adults. *Am Heart J* 148(3): E11.
- Carrero JJ, López-Huertas E, Salmerón LM, Baró L, Ros E. 2005. Daily supplementation with (n-3) PUFAs, oleic acid, folic acid, and vitamins B-6 and E increases pain-free walking distance and improves risk factors in men with peripheral vascular disease. *Journal of Nutrition* 135(6): 1393-1399.

- Cattaneo M, Lombardi R, Lecchi A, Bucciarelli P, Mannucci PM. 2001. Low plasma levels of vitamin B(6) are independently associated with a heightened risk of deep-vein thrombosis. *Circulation* 104(20): 2442-2446.
- Celik T, Kardesoglu E, Iyisoy A, Ozcan O, Kilic S, Yaman H. 2009. Urinary methylmalonic acid in patients with acute myocardial infarction. *Med Princ Pract* 18(3): 217-222.
- Chambers JC, Obeid OA, Refsum H, Ueland P, Hackett D, Hooper J, Turner RM, Thompson SG, Kooner JS. 2000a. Plasma homocysteine concentrations and risk of coronary heart disease in UK Indian Asian and European men. *Lancet* 355(9203): 523-527.
- Chambers JC, Ueland PM, Obeid OA, Wrigley J, Refsum H, Kooner JS. 2000b. Improved vascular endothelial function after oral B vitamins: An effect mediated through reduced concentrations of free plasma homocysteine. *Circulation* 102(20): 2479-2483.
- Chao CL, Chien KL, Lee YT. 1999. Effect of short-term vitamin (folic acid, vitamins B6 and B12) administration on endothelial dysfunction induced by post-methionine load hyperhomocysteinemia. *American Journal of Cardiology* 84(11): 1359-1361.
- Chasan-Taber L, Selhub J, Rosenberg IH, Malinow MR, Terry P, Tishler PV, Willett W, Hennekens CH, Stampfer MJ. 1996. A prospective study of folate and vitamin B6 and risk of myocardial infarction in US physicians. *J Am Coll Nutr* 15(2): 136-143.
- Chasan-Taber L, Selhub J, Rosenberg IH, Malinow MR, Terry P, Tishler PV, Willett W, Hennekens CH, Stampfer MJ. 1996. A prospective study of folate and vitamin B-6 and risk of myocardial infarction in US physicians. *Journal of the American College of Nutrition* 15(2): 136-143.
- Chen Y, Factor-Litvak P, Howe GR, Graziano JH, Brandt-Rauf P, Parvez F, van Geen A, Ahsan H. 2007. Arsenic exposure from drinking water, dietary intakes of B vitamins and folate, and risk of high blood pressure in Bangladesh: a population-based, cross-sectional study. *Am J Epidemiol* 165(5): 541-552.
- Cheng SW, Ting AC, Wong J. 1997. Fasting total plasma homocysteine and atherosclerotic peripheral vascular disease. *Ann Vasc Surg* 11(3): 217-223.
- Chia S, Wilson R, Ludlam CA, Webb DJ, Flapan AD, Newby DE. 2005. Endothelial dysfunction in patients with recent myocardial infarction and hyperhomocysteinemia: effects of vitamin supplementation. *Clin Sci (Lond)* 108(1): 65-72.
- Child DF, Hudson PR, Jones H, Davies GK, De P, Mukherjee S, Brain AM, Williams CP, Harvey JN. 2004. The effect of oral folic acid on glutathione, glycaemia and lipids in Type 2 diabetes. *Diabetes Nutr Metab* 17(2): 95-102.
- Chiplonkar SA, Agte VV, Tarwadi KV, Paknikar KM, Diwate UP. 2004. Micronutrient deficiencies as predisposing factors for hypertension in lacto-vegetarian Indian adults. *J Am Coll Nutr* 23(3): 239-247.
- Christensen B, Frosst P, Lussier-Cacan S, Selhub J, Goyette P, Rosenblatt DS, Genest J, Jr., Rozen R. 1997. Correlation of a common mutation in the methylenetetrahydrofolate reductase gene with plasma homocysteine in patients with premature coronary artery disease. *Arterioscler Thromb Vasc Biol* 17(3): 569-573.
- Christensen B, Landaas S, Stensvold I, Djurovic S, Retterstol L, Ringstad J, Berg K, Thelle DS. 1999. Whole blood folate, homocysteine in serum, and risk of first acute myocardial infarction. *Atherosclerosis* 147(2): 317-326.
- Ciccarone E, Di Castelnuovo A, Assanelli D, Archetti S, Ruggeri G, Salcuni N, Donati MB, Capani F, Iacoviello L. 2003. Homocysteine levels are associated with the severity of peripheral arterial disease in Type 2 diabetic patients. *J Thromb Haemost* 1(12): 2540-2547.
- Coppola A, D'Angelo A, Fermo I, Mazzola G, Di Minno MN, Cajani A, Sala A, Folco G, Tremoli E, Di Minno G. 2005. Reduced in vivo oxidative stress following 5-methyltetrahydrofolate supplementation in patients with early-onset thrombosis and 677TT methylenetetrahydrofolate reductase genotype. *Br J Haematol* 131(1): 100-108.

- Dalery K, Lussier-Cacan S, Selhub J, Davignon J, Latour Y, Genest J, Jr. 1995a. Homocysteine and coronary artery disease in French Canadian subjects: relation with vitamins B12, B6, pyridoxal phosphate, and folate. *Am J Cardiol* 75(16): 1107-1111.
- Dalery K, Lussiercacan S, Selhub J, Davignon J, Latour Y, Genest J. 1995b. HOMOCYSTEINE AND CORONARY-ARTERY DISEASE IN FRENCH-CANADIAN SUBJECTS - RELATION WITH VITAMINS B-12, B-6, PYRIDOXAL-PHOSPHATE, AND FOLATE. *American Journal of Cardiology* 75(16): 1107-1111.
- Dalmeijer GW, Olthof MR, Verhoef P, Bots ML, van der Schouw YT. 2008. Prospective study on dietary intakes of folate, betaine, and choline and cardiovascular disease risk in women. *Eur J Clin Nutr* 62(3): 386-394.
- Dangour AD, Breeze E, Clarke R, Shetty PS, Uauy R, Fletcher AE. 2008. Plasma homocysteine, but not folate or vitamin B-12, predicts mortality in older people in the United Kingdom. *J Nutr* 138(6): 1121-1128.
- de Jong SC, Stehouwer CD, van den Berg M, Geurts TW, Bouter LM, Rauwerda JA. 1999. Normohomocysteinaemia and vitamin-treated hyperhomocysteinaemia are associated with similar risks of cardiovascular events in patients with premature peripheral arterial occlusive disease. A prospective cohort study. *J Intern Med* 246(1): 87-96.
- de Moraes AC, Gracia-Marco L, Iglesia I, Gonzalez-Gross M, Breidenassel C, Ferrari M, Molnar D, Gomez-Martinez S, Androutsos O, Kafatos A, Cuenca-Garcia M, Sjostrom M, Gottrand F, Widhalm K, Carvalho HB, Moreno LA. 2014. Vitamins and iron blood biomarkers are associated with blood pressure levels in European adolescents. The HELENA study. *Nutrition* 30(11-12): 1294-1300.
- De Tuesta AMD, Ribo MDR, Belinchon O, Marchena PJ, Bruscas MJ, Val E, Cortes A, Nieto JA. 2005. Low levels of vitamin B-12 and venous thromboembolic disease in elderly men. *Journal of Internal Medicine* 258(3): 244-249.
- Delpont R, Ubbink JB, Vermaak WJ, Rossouw H, Becker PJ, Joubert J. 1997. Hyperhomocysteinaemia in black patients with cerebral thrombosis. *QJM* 90(10): 635-639.
- den Heijer M, Willems HP, Blom HJ, Gerrits WB, Cattaneo M, Eichinger S, Rosendaal FR, Bos GM. 2007. Homocysteine lowering by B vitamins and the secondary prevention of deep vein thrombosis and pulmonary embolism: A randomized, placebo-controlled, double-blind trial. *Blood* 109(1): 139-144.
- Deol PS, Barnes TA, Dampier K, John Pasi K, Oppenheimer C, Pavord SR. 2004. The effects of folic acid supplements on coagulation status in pregnancy. *Br J Haematol* 127(2): 204-208.
- Diaz DETAM, Ribo MD, Belinchon O, Marchena PJ, Bruscas MJ, Val E, Cortes A, Nieto JA. 2005. Low levels of vitamin B12 and venous thromboembolic disease in elderly men. *J Intern Med* 258(3): 244-249.
- Dinavahi R, Cossrow N, Kushner H, Falkner B. 2003. Plasma homocysteine concentration and blood pressure in young adult African Americans. *Am J Hypertens* 16(9 Pt 1): 767-770.
- Dinckal MH, Aksoy N, Aksoy M, Davutoglu V, Soydinc S, Kirilmaz A, Dinckal N, Akdemir Y. 2003. Effect of homocysteine-lowering therapy on vascular endothelial function and exercise performance in coronary patients with hyperhomocysteinaemia. *Acta Cardiologica* 58(5): 389-396.
- Djalali M, Hoseiny SRA, Siassi F, Fardad N, Ghiasvand R, Neyestani TR. 2007. Study of methionine, vitamin B12, and folic acid status in coronary atherosclerotic male patients. *Iran J. Public Health* 36(3): 52-59.
- Dong N, Wang B, Chu L, Xiao L. 2013. Plasma homocysteine concentrations in the acute phase after central retinal vein occlusion in a Chinese population. *Curr Eye Res* 38(11): 1153-1158.
- Dong N, Xu B, Tang X. 2014. Plasma homocysteine concentrations in acute and convalescent changes of central retinal vein occlusion in a Chinese population. *Invest Ophthalmol Vis Sci* 55(7): 4057-4062.
- Doshi S, McDowell I, Moat S, Lewis M, Goodfellow J. 2003. Folate improves endothelial function in patients with coronary heart disease. *Clinical Chemistry and Laboratory Medicine* 41(11): 1505-1512.

- Doshi SN, McDowell IFW, Moat SJ, Payne N, Durrant HJ, Lewis MJ, Goodfellow J. 2002. Folic acid improves endothelial function in coronary artery disease via mechanisms largely independent of homocysteine lowering. *Circulation* 105(1): 22-26.
- Doshi SN, Moat SJ, Lewis MJ, McDowell IFW, Giddings JC, Goodfellow J. 2004. Short-term high-dose folic acid does not alter markers of endothelial cell damage in patients with coronary heart disease. *International Journal of Cardiology* 94(2-3): 203-207.
- Dragoni S, Gori T, Di Stolfo G, Sicuro S, Forconi S, Parker JD. 2005. Folic acid does not limit endothelial dysfunction induced by ischemia and reperfusion: A human study. *Journal of Cardiovascular Pharmacology* 46(4): 494-497.
- Drogan D, Klipstein-Grobusch K, Dierkes J, Weikert C, Boeing H. 2006. Dietary intake of folate equivalents and risk of myocardial infarction in the European Prospective Investigation into Cancer and Nutrition (EPIC)--Potsdam study. *Public Health Nutr* 9(4): 465-471.
- Ducros V, Barro C, Yver J, Pernod G, Polack B, Carpentier P, Desruet MD, Bosson JL. 2009. Should Plasma Homocysteine Be Used as a Biomarker of Venous Thromboembolism? A Case-Control Study. *Clin. Appl. Thromb.-Hemost.* 15(5): 517-522.
- Duffey L, Naumovski N, Ng X, Blades B, Yates Z, Travers C, Lewis P, Sturm J, Veysey M, Roach PD, Lucock MD. 2006. G80A reduced folate carrier SNP influences the absorption and cellular translocation of dietary folate and its association with blood pressure in an elderly population. *Life Sciences* 79(10): 957-966.
- Durga J, Bots ML, Schouten EG, Kok FJ, Verhoef P. 2005. Low concentrations of folate, not hyperhomocysteinemia, are associated with carotid intima-media thickness. *Atherosclerosis* 179(2): 285-292.
- Durga J, Bots ML, Schouten EG, Grobbee DE, Kok FJ, Verhoef P. 2011. Effect of 3 y of folic acid supplementation on the progression of carotid intima-media thickness and carotid arterial stiffness in older adults. *Am J Clin Nutr* 93(5): 941-949.
- Duthie SJ, Horgan G, de Roos B, Rucklidge G, Reid M, Duncan G, Pirie L, Basten GP, Power HJ. 2010. Blood Folate Status and Expression of Proteins Involved in Immune Function, Inflammation, and Coagulation: Biochemical and Proteomic Changes in the Plasma of Humans in Response to Long-Term Synthetic Folic Acid Supplementation. *Journal of Proteome Research* 9(4): 1941-1950.
- Ebbing M, Bleie O, Ueland PM, Nordrehaug JE, Nilsen DW, Vollset SE, Refsum H, Pedersen EK, Nygard O. 2008. Mortality and cardiovascular events in patients treated with homocysteine-lowering B vitamins after coronary angiography: a randomized controlled trial. *JAMA* 300(7): 795-804.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Ebbing M, Bonna KH, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Nilsen DW, Refsum H, Tverdal A, Vollset SE, Schirmer H, Bleie O, Steigen T, Midttun O, Fredriksen Å, Pedersen ER, Nygå rd O. 2010a. Combined analyses and extended follow-up of two randomized controlled homocysteine-lowering B-vitamin trials: Original Article. *Journal of Internal Medicine* 268(4): 367-382.
- Ebbing M, Bonna KH, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Nilsen DW, Refsum H, Tverdal A, Vollset SE, Schirmer H, Bleie O, Steigen T, Midttun O, Fredriksen A, Pedersen ER, Nygard O. 2010b. Combined analyses and extended follow-up of two randomized controlled homocysteine-lowering B-vitamin trials. *J Intern Med* 268(4): 367-382.
- Ebly EM, Schaefer JP, Campbell NRC, Hogan DB. 1998. Folate status, vascular disease and cognition in elderly Canadians. *Age and Ageing* 27(4): 485-491.
- Ekim M, Sekeroglu MR, Balahoroglu R, Ozkol H, Ekim H. 2014. Roles of the Oxidative Stress and ADMA in the Development of Deep Venous Thrombosis. *Biochemistry research international* 2014: 703128.

- Evrengul H, Tanriverdi H, Kuru O, Enli Y, Yuksel D, Kilic A, Kaftan A, Kirac S, Kilic M. 2007. Elevated homocysteine levels in patients with slow coronary flow: relationship with *Helicobacter pylori* infection. *Helicobacter* 12(4): 298-305.
- Faccenda F, Andria G, Orefice G, Campanella G, Cioffi V, Galasso R, Guida L, de Franchis R, Raineri L, Rubba P. 1998. Low circulating vitamin B-12, B-6 and folate leading to marked hyperhomocysteinemia - associations with premature cerebral and peripheral vascular disease. *Nutr. Metab. Cardiovasc. Dis.* 8(6): 351-356.
- Fakhrzadeh H, Ghotbi S, Pourebrahim R, Heshmat R, Nouri M, Shafaei A, Larijani B. 2005. Plasma homocysteine concentration and blood pressure in healthy Iranian adults: the Tehran Homocysteine Survey (2003-2004). *J Hum Hypertens* 19(11): 869-876.
- Falkner B, Sherif K, Michel S, Kushner H. 2000. Dietary nutrients and blood pressure in urban minority adolescents at risk for hypertension. *Arch Pediatr Adolesc Med* 154(9): 918-922.
- Faurshou M, Nielsen OJ, Jensen MK, Hasselbalch HC. 2000. High prevalence of hyperhomocysteinemia due to marginal deficiency of cobalamin or folate in chronic myeloproliferative disorders. *Am J Hematol* 65(2): 136-140.
- Fernández-Miranda C, Yebra M, Aranda JL, Gómez P, Martínez J, Núñez V, Gómez de la Cámara A. 2007. Effect of folic acid treatment on carotid intima-media thickness of patients with coronary disease. *International Journal of Cardiology* 118(3): 345-349.
- Ferrazzi P, Di Micco P, Quaglia I, Rossi LS, Bellatorre AG, Gaspari G, Rota LL, Lodigiani C. 2005. Homocysteine, MTHFR C677T gene polymorphism, folic acid and vitamin B 12 in patients with retinal vein occlusion. *Thromb J* 3: 13.
- Fimognari FL, Loffredo L, Di Simone S, Sampietro F, Pastorelli R, Monaldo M, Violi F, D'Angelo A. 2009. Hyperhomocysteinemia and poor vitamin B status in chronic obstructive pulmonary disease. *Nutr Metab Cardiovasc Dis* 19(9): 654-659.
- Fiorina P, Lanfredini M, Montanari A, Peca MG, Veronelli A, Mello A, Astorri E, Craveri A. 1998. Plasma homocysteine and folate are related to arterial blood pressure in type 2 diabetes mellitus. *Am J Hypertens* 11(9): 1100-1107.
- Folsom AR, Nieto FJ, McGovern PG, Tsai MY, Malinow MR, Eckfeldt JH, Hess DL, Davis CE. 1998. Prospective study of coronary heart disease incidence in relation to fasting total homocysteine, related genetic polymorphisms, and B vitamins: the Atherosclerosis Risk in Communities (ARIC) study. *Circulation* 98(3): 204-210.
- Ford ES, Byers TE, Giles WH. 1998. Serum folate and chronic disease risk: findings from a cohort of United States adults. *International Journal of Epidemiology* 27(4): 592-598.
- Ford ES, Giles WH. 2000. Serum vitamins, carotenoids, and angina pectoris: findings from the National Health and Nutrition Examination Survey III. *Ann Epidemiol* 10(2): 106-116.
- Forman JP, Rimm EB, Stampfer MJ, Curhan GC. 2005. Folate intake and the risk of incident hypertension among US women. *JAMA* 293(3): 320-329.
- Forman JP, Stampfer MJ, Curhan GC. 2009. Diet and lifestyle risk factors associated with incident hypertension in women. *JAMA* 302(4): 401-411.
- Franchi F, Baio G, Bolognesi AG, Bonassi R, Emiliani S, Gobbi G, Luchetti L, Zurla L. 2001. Deficient folate nutritional status and cognitive performances: Results from a retrospective study in male elderly inpatients in a geriatric department. *Archives of Gerontology and Geriatrics*: 145-150.
- Frick B, Rudzite V, Schröcksnadel K, Kalnins U, Erglis A, Trusinskis K, Fuchs D. 2003. Homocysteine, B Vitamins and Immune Activation in Coronary Heart Disease. *Pteridines* 14(3): 82-87.

- Fujimura H, Kawasaki T, Sakata T, Ariyoshi H, Kato H, Monden M, Miyata T. 2000. Common C677T polymorphism in the methylenetetrahydrofolate reductase gene increases the risk for deep vein thrombosis in patients with predisposition of thrombophilia. *Thromb Res* 98(1): 1-8.
- Galan P, Kesse-Guyot E, Czernichow S, Briancon S, Blacher J, Hercberg S. 2010. Effects of B vitamins and omega 3 fatty acids on cardiovascular diseases: a randomised placebo controlled trial. *BMJ* 341: c6273.
- Garcia-Pinilla JM, Espinosa-Caliani S, Gomez-Doblas JJ, Jimenez-Navarro M, Gaitan MJ, Ortega-Jimenez MV, Ruiz-Galdon M, Reyes-Engel A, de Teresa-Galvan E. 2007. Influence of high homocysteine and low folate plasmatic levels in medium-term prognosis after acute coronary syndromes. *International Journal of Cardiology* 118(2): 220-226.
- Garcia G, Trejos J, Restrepo B, Landazuri P. 2007. Homocysteine, folate and vitamin B12 in Colombian patients with coronary disease. *Arq Bras Cardiol* 89(2): 71-76, 79-85.
- Gariballa S, Forster S. 2007. Associations between underlying disease and nutritional status following acute illness in older people. *Clin Nutr* 26(4): 466-473.
- Gellekink H, Blom HJ, den Heijer M. 2007. Associations of common polymorphisms in the thymidylate synthase, reduced folate carrier and 5-aminoimidazole-4-carboxamide ribonucleotide transformylase/inosine monophosphate cyclohydrolase genes with folate and homocysteine levels and venous thrombosis risk. *Clinical Chemistry and Laboratory Medicine* 45(4): 471-476.
- Genser D, Prachar H, Hauer R, Halbmayer WM, Mlczoch J, Elmadfa I. 2002. Relation of homocysteine, vitamin B(12), and folate to coronary in-stent restenosis. *Am J Cardiol* 89(5): 495-499.
- Giambene B, Sodi A, Sofi F, Marcucci R, Fedi S, Abbate R, Prisco D, Menchini U. 2009. Evaluation of traditional and emerging cardiovascular risk factors in patients with non-arteritic anterior ischemic optic neuropathy: a case-control study. *Graefes Arch Clin Exp Ophthalmol* 247(5): 693-697.
- Giannoukas AD, Sfyroeras GS, Griffin M, Saleptsis V, Nicolaidis AN. 2010. Association of plaque echostructure and cardiovascular risk factors with symptomatic carotid artery disease. *J Cardiovasc Surg (Torino)* 51(2): 245-251.
- Gibelin P, Serre S, Candito M, Houcher B, Berthier F, Baudouy M. 2006. Prognostic value of homocysteinemia in patients with congestive heart failure. *Clin Chem Lab Med* 44(7): 813-816.
- Gil TY, Sung CY, Shim SS, Hong YM. 2008. Intima-media thickness and pulse wave velocity in hypertensive adolescents. *J Korean Med Sci* 23(1): 35-40.
- Giles WH, Kittner SJ, Anda RF, Croft JB, Casper ML. 1995. Serum folate and risk for ischemic stroke. First National Health and Nutrition Examination Survey epidemiologic follow-up study. *Stroke* 26(7): 1166-1170.
- Giles WH, Croft JB, Greenlund KJ, Ford ES, Kittner SJ. 1998a. Total homocyst(e)ine concentration and the likelihood of nonfatal stroke: results from the Third National Health and Nutrition Examination Survey, 1988-1994. *Stroke* 29(12): 2473-2477.
- Giles WH, Kittner SJ, Croft JB, Anda RF, Casper ML, Ford ES. 1998b. Serum folate and risk for coronary heart disease: results from a cohort of US adults. *Ann Epidemiol* 8(8): 490-496.
- Giles WH, Croft JB, Greenlund KJ, Ford ES, Kittner SJ. 2000. Association between total homocyst(e)ine and the likelihood for a history of acute myocardial infarction by race and ethnicity: Results from the Third National Health and Nutrition Examination Survey. *Am Heart J* 139(3): 446-453.
- Gokkusu C, Tulubas F, Unlucerci Y, Ozkok E, Umman B, Aydin M. 2010. Homocysteine and pro-inflammatory cytokine concentrations in acute heart disease. *Cytokine* 50(1): 15-18.
- Golbahar J, Aminzadeh MA, Sharifkazemi MB, Rezaian GR. 2005a. Association of red blood cell 5-methyltetrahydrofolate and severity of coronary artery disease: a cross-sectional study from Shiraz, southern Iran. *Heart Vessels* 20(5): 203-206.

- Golbahar J, Rezaian G, Fathi Z, Aminzadeh MA. 2005b. Association of low red blood cell folate concentrations with coronary artery disease in Iranians: a matched case-control study. *J Vasc Res* 42(4): 325-330.
- Golbahar J, Mostafavi E. 2012. Association between low red blood cell 5-methyltetrahydrofolate and hyperhomocysteinaemia with hypertension : a cross-sectional study. *High blood pressure & cardiovascular prevention : the official journal of the Italian Society of Hypertension* 19(4): 229-235.
- Gommans J, Yi Q, Eikelboom JW, Hankey GJ, Chen C, Rodgers H. 2013. The effect of homocysteine-lowering with B-vitamins on osteoporotic fractures in patients with cerebrovascular disease: substudy of VITATOPS, a randomised placebo-controlled trial. *BMC Geriatr* 13: 88.
- Gopinath B, Wang JJ, Flood VM, Burlutsky G, Wong TY, Mitchell P. 2009. The associations between blood levels of homocysteine, folate, vitamin B12, and retinal vascular caliber. *Am J Ophthalmol* 148(6): 902-909.
- Gori T, Burstein JM, Ahmed S, Miner SE, Al-Hesayen A, Kelly S, Parker JD. 2001. Folic acid prevents nitroglycerin-induced nitric oxide synthase dysfunction and nitrate tolerance: a human in vivo study. *Circulation* 104(10): 1119-1123.
- Gori T, Saunders L, Ahmed S, Parker JD. 2003. Effect of folic acid on nitrate tolerance in healthy volunteers: differences between arterial and venous circulation. *J Cardiovasc Pharmacol* 41(2): 185-190.
- Graf S, Nikfardjam M, Khorsand A, Ofluoglu S, Nekolla S, Dudczak R, Maurer G, Kletter K, Huber K, Pirich C. 2006. ¹³N-ammonia rest/stress PET: folic acid improves global coronary vasoreactivity in coronary artery disease patients with normal or elevated homocysteine levels. *Nuklearmedizin* 45(6): 248-253.
- Graham IM, Daly LE, Refsum HM, Robinson K, Brattstrom LE, Ueland PM, Palma-Reis RJ, Boers GH, Sheahan RG, Israelsson B, Uiterwaal CS, Meleady R, McMaster D, Verhoef P, Witteman J, Rubba P, Bellet H, Wautrecht JC, de Valk HW, Sales Luis AC, Parrot-Rouland FM, Tan KS, Higgins I, Garcon D, Andria G, et al. 1997. Plasma homocysteine as a risk factor for vascular disease. The European Concerted Action Project. *JAMA* 277(22): 1775-1781.
- Grigoletti SS, Guindani G, Moraes RS, Ribeiro JP, Sprinz E. 2013. Short-term folinic acid supplementation improves vascular reactivity in HIV-infected individuals: A randomized trial. *Nutrition* 29(6): 886-891.
- Gueant-Rodriguez RM, Spada R, Moreno-Garcia M, Anello G, Bosco P, Lagrost L, Romano A, Elia M, Gueant JL. 2011. Homocysteine is a determinant of ApoA-I and both are associated with ankle brachial index, in an ambulatory elderly population. *Atherosclerosis* 214(2): 480-485.
- Gueant Rodriguez RM, Spada R, Pooya S, Jeannesson E, Moreno Garcia MA, Anello G, Bosco P, Elia M, Romano A, Alberto JM, Juilliere Y, Gueant JL. 2013. Homocysteine predicts increased NT-pro-BNP through impaired fatty acid oxidation. *Int J Cardiol* 167(3): 768-775.
- Guo H, Lee JD, Ueda T, Shan J, Wang J. 2003. Plasma homocysteine levels in patients with early coronary artery stenosis and high risk factors. *Jpn Heart J* 44(6): 865-871.
- Guo H, Chi J, Xing Y, Wang P. 2009. Influence of folic acid on plasma homocysteine levels & arterial endothelial function in patients with unstable angina. *Indian J Med Res* 129(3): 279-284.
- Gupta A, Moustapha A, Jacobsen DW, Goormastic M, Tuzcu EM, Hobbs R, Young J, James K, McCarthy P, van Lente F, Green R, Robinson K. 1998. High homocysteine, low folate, and low vitamin B6 concentrations: prevalent risk factors for vascular disease in heart transplant recipients. *Transplantation* 65(4): 544-550.
- Hackam DG, Peterson JC, Spence JD. 2000. What level of plasma homocyst(e)ine should be treated? Effects of vitamin therapy on progression of carotid atherosclerosis in patients with homocyst(e)ine levels above and below 14 micromol/L. *Am J Hypertens* 13(1 Pt 1): 105-110.
- Han SC, Guo Y, Sun GJ, Gu YY. 2002. Relation of plasma homocysteine with folic acid and Vitamine B12 in patients with cerebral infarction. *Chinese Journal of Clinical Rehabilitation* 6(19): 2970-2971.

- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Hanratty CG, McAuley DF, McGrath LT, Young IS, Johnston GD. 2001. Hyperhomocysteinaemia in young adults is not associated with impaired endothelial function. *Clin Sci (Lond)* 100(1): 67-72.
- Hariri M, Maghsoudi Z, Darvishi L, Askari G, Hajishafiee M, Ghasemi S, Khorvash F, Iraj B, Ghiasvand R. 2013. B Vitamins and Antioxidants Intake is Negatively Correlated with Risk of Stroke in Iran. *International journal of preventive medicine* 4(Suppl 2): S284-289.
- He JA, Hu XH, Fan YY, Yang J, Zhang ZS, Liu CW, Yang DH, Zhang J, Xin SJ, Zhang Q, Duan ZQ. 2010. Hyperhomocysteinaemia, low folate concentrations and methylene tetrahydrofolate reductase C677T mutation in acute mesenteric venous thrombosis. *Eur J Vasc Endovasc Surg* 39(4): 508-513.
- He K, Merchant A, Rimm EB, Rosner BA, Stampfer MJ, Willett WC, Ascherio A. 2004. Folate, vitamin B6, and B12 intakes in relation to risk of stroke among men. *Stroke* 35(1): 169-174.
- Held C, Sumner G, Sheridan P, McQueen M, Smith S, Dagenais G, Yusuf S, Lonn E. 2008. Correlations between plasma homocysteine and folate concentrations and carotid atherosclerosis in high-risk individuals: baseline data from the Homocysteine and Atherosclerosis Reduction Trial (HART). *Vasc Med* 13(4): 245-253.
- Helfenstein T, Fonseca FA, Relvas WG, Santos AO, Dabela ML, Matheus SC, D'Almeida V, Tufik S, Souza FG, Rodrigues PR, Taglieri R, Sousa EF, Izar MC. 2005. Prevalence of myocardial infarction is related to hyperhomocysteinemia but not influenced by C677T methylenetetrahydrofolate reductase and A2756G methionine synthase polymorphisms in diabetic and non-diabetic subjects. *Clin Chim Acta* 355(1-2): 165-172.
- Hermans MP, Gala JL, Buyschaert M. 2006. The MTHFR CT polymorphism confers a high risk for stroke in both homozygous and heterozygous T allele carriers with Type 2 diabetes. *Diabet Med* 23(5): 529-536.
- Hernandez-Diaz S, Martinez-Losa E, Fernandez-Jarne E, Serrano-Martinez M, Martinez-Gonzalez MA. 2002. Dietary folate and the risk of nonfatal myocardial infarction. *Epidemiology* 13(6): 700-706.
- Herrmann M, Muller S, Kindermann I, Gunther L, Konig J, Bohm M, Herrmann W. 2007. Plasma B vitamins and their relation to the severity of chronic heart failure. *Am J Clin Nutr* 85(1): 117-123.
- Hirayama F, Lee AH, Terasawa K, Kagawa Y. 2010. Folate intake associated with lung function, breathlessness and the prevalence of chronic obstructive pulmonary disease. *Asia Pac J Clin Nutr* 19(1): 103-109.
- Hirsch S, Pia De la Maza M, Yanez P, Glasinovic A, Petermann M, Barrera G, Gattas V, Escobar E, Bunout D. 2002. Hyperhomocysteinemia and endothelial function in young subjects: effects of vitamin supplementation. *Clin Cardiol* 25(11): 495-501.
- Hirsch S, Sanchez H, Albala C, de la Maza MP, Barrera G, Leiva L, Bunout D. 2009. Colon cancer in Chile before and after the start of the flour fortification program with folic acid. *Eur J Gastroenterol Hepatol* 21(4): 436-439.
- Ho CH, Kuo BI, Kong CW, Chau WK, Hsu HC, Gau JP, Yu YB. 2005. Influence of methylenetetrahydrofolate reductase (MTHFR) C677T polymorphism, B vitamins and other factors on plasma homocysteine and risk of thromboembolic disease in Chinese. *J Chin Med Assoc* 68(12): 560-565.
- Hoch AZ, Pajewski NM, Hoffmann RG, Schimke JE, Gutterman DD. 2009. Possible relationship of folic acid supplementation and improved flow-mediated dilation in premenopausal, eumenorrheic athletic women. *J. Sport. Sci. Med.* 8(1): 123-129.
- Hoch AZ, Lynch SL, Jurva JW, Schimke JE, Gutterman DD. 2010. Folic acid supplementation improves vascular function in amenorrheic runners. *Clin J Sport Med* 20(3): 205-210.

- Hoch AZ, Papanek P, Szabo A, Widlansky ME, Gutterman DD. 2011. Folic acid supplementation improves vascular function in professional dancers with endothelial dysfunction. *PM R* 3(11): 1005-1012.
- Hodis HN, Mack WJ, Dustin L, Mahrer PR, Azen SP, Detrano R, Selhub J, Alaupovic P, Liu CR, Liu CH, Hwang J, Wilcox AG, Selzer RH. 2009. High-dose B vitamin supplementation and progression of subclinical atherosclerosis: a randomized controlled trial. *Stroke* 40(3): 730-736.
- Holmquist C, Larsson S, Wolk A, de Faire U. 2003. Multivitamin supplements are inversely associated with risk of myocardial infarction in men and women--Stockholm Heart Epidemiology Program (SHEEP). *J Nutr* 133(8): 2650-2654.
- Horvath B, Szapary L, Debreceni L, Feher G, Kenyeres P, Fulop A, Battyani I, Toth K. 2009. Effect of Sclerovit on endothelial dysfunction, hemorheological parameters, platelet aggregation, plasma concentration of homocysteine and progression of atherosclerosis in patients with vascular diseases. *Clin Hemorheol Microcirc* 42(1): 19-28.
- Huang Y, Luo Z, Zhu W, Zhang Q, Ruan X, Zhong Q. 2002a. [Investigation of relationship between pregnancy induced hypertension syndrome and homocysteine, folic acid and vitamin B(12)]. *Zhonghua Fu Chan Ke Za Zhi* 37(4): 208-210.
- Huang Y, Zhao Yi Y, Li S. 2002b. [Hyperhomocysteine, methylenetetrahydrofolate reductase gene, and other risk factors in ischemic stroke]. *Zhonghua Yi Xue Za Zhi* 82(2): 119-122.
- Hughes CM, Woodside JV, McGartland C, Roberts MJ, Nicholls DP, McKeown PP. 2012. Nutritional intake and oxidative stress in chronic heart failure. *Nutr Metab Cardiovasc Dis* 22(4): 376-382.
- Huh HJ, Chi HS, Shim EH, Jang S, Park CJ. 2006. Gene--nutrition interactions in coronary artery disease: correlation between the MTHFR C677T polymorphism and folate and homocysteine status in a Korean population. *Thromb Res* 117(5): 501-506.
- Humphreys K, Cross G, Frith P, Cafarella P. 2008. Nutritional status and dietary intake of outpatients with chronic obstructive pulmonary disease. *Nutr. Diet.* 65(2): 168-174.
- Hus I, Sokolowska B, Walter-Croneck A, Chrapko M, Nowaczynska A, Dmoszynska A. 2013. Assessment of plasma prothrombotic factors in patients with Buerger's disease. *Blood Coagul Fibrinolysis* 24(2): 133-139.
- Ilhan N, Kucuksu M, Kaman D, Ozbay Y. 2008. The 677 C/T MTHFR polymorphism is associated with essential hypertension, coronary artery disease, and higher homocysteine levels. *Arch Med Res* 39(1): 125-130.
- Imamura A, Murakami R, Takahashi R, Cheng XW, Numaguchi Y, Murohara T, Okumura K. 2010. Low folate levels may be an atherogenic factor regardless of homocysteine levels in young healthy nonsmokers. *Metabolism* 59(5): 728-733.
- Imasa MS, Gomez NT, Nevado JB, Jr. 2009. Folic acid-based intervention in non-ST elevation acute coronary syndromes. *Asian Cardiovasc Thorac Ann* 17(1): 13-21.
- Iqbal MP, Ishaq M, Kazmi KA, Yousuf FA, Mehboobali N, Ali SA, Khan AH, Waqar MA. 2005. Role of vitamins B6, B12 and folic acid on hyperhomocysteinemia in a Pakistani population of patients with acute myocardial infarction. *Nutr Metab Cardiovasc Dis* 15(2): 100-108.
- Iqbal MP, Mehboobali N, Tareen AK, Yakub M, Iqbal SP, Iqbal K, Haider G. 2013. Association of body iron status with the risk of premature acute myocardial infarction in a Pakistani population. *PLoS One* 8(6): e67981.
- Ishihara J, Iso H, Inoue M, Iwasaki M, Okada K, Kita Y, Kokubo Y, Okayama A, Tsugane S. 2008a. Intake of folate, vitamin B6 and vitamin B12 and the risk of CHD: the Japan Public Health Center-Based Prospective Study Cohort I. *J Am Coll Nutr* 27(1): 127-136.
- Ishihara J, Iso H, Inoue M, Iwasaki M, Okada K, Kita Y, Kokubo Y, Okayama A, Tsugane S, Grp JS. 2008b. Intake of folate, vitamin B-6 and vitamin B-12 and the risk of CHD: The japan public health center-based prospective study cohort I. *Journal of the American College of Nutrition* 27(1): 127-136.

- Israelsson B, Brattstrom LE, Hultberg BL. 1988. Homocysteine and myocardial infarction. *Atherosclerosis* 71(2-3): 227-233.
- Jacob N, Cacoub P, Hausfater P, Tazi Z, Hamidou S, Godeau P, Foglietti MJ, Piette JC. 2000. [Hyperhomocysteinemia and arterial or venous thrombosis. Retrospective study of 75 cases]. *Presse Med* 29(6): 287-293.
- Jalali SF, Hosseini AS, Farsani ZS, Bijani A. 2012. Serum homocysteine, folate and B12 concentration in patients with coronary artery disease: A case-control study. *HealthMED* 6(10): 3506-3511.
- Jamison RL, Hartigan P, Kaufman JS, Goldfarb DS, Warren SR, Guarino PD, Gaziano JM. 2007. Effect of homocysteine lowering on mortality and vascular disease in advanced chronic kidney disease and end-stage renal disease: a randomized controlled trial. *JAMA* 298(10): 1163-1170.
- Jang YS, Park HY, Lee JH, Ryu HJ, Kim JY, Kim OY. 2002. A polymorphism of the methylenetetrahydrofolate reductase and methionine synthase gene in CAD patients: association with plasma folate, vitamin B-12 and homocysteine. *Nutrition Research* 22(9): 965-976.
- Jehlička P, Stožický F, Mayer O, Varvařovská J, Racek J, Trefil L, Siala K. 2009. Asymmetric dimethylarginine and the effect of folate substitution in children with familial hypercholesterolemia and diabetes mellitus type 1. *Physiological Research* 58(2): 179-184.
- Jemaa R, Achouri A, Kallel A, Ali SB, Mourali S, Feki M, Elasmı M, Taieb SH, Sanhaji H, Omar S, Mechmeche R, Kaabachi N. 2008. Association between the 2756A> G variant in the gene encoding methionine synthase and myocardial infarction in Tunisian patients. *Clin Chem Lab Med* 46(10): 1364-1368.
- Jiang R, Hu FB, Giovannucci EL, Rimm EB, Stampfer MJ, Spiegelman D, Rosner BA, Willett WC. 2003. Joint association of alcohol and folate intake with risk of major chronic disease in women. *Am J Epidemiol* 158(8): 760-771.
- Kahleova R, Palyzova D, Zvara K, Zvarova J, Hrach K, Novakova I, Hyanek J, Bendlova B, Kozich V. 2002. Essential hypertension in adolescents: association with insulin resistance and with metabolism of homocysteine and vitamins. *Am J Hypertens* 15(10 Pt 1): 857-864.
- Kara N, Senes M, Coskun O, Inan L, Saydam G, Yucel D. 2009. Urinary methylmalonic acid levels in patients with acute ischemic stroke. *Clin Biochem* 42(7-8): 578-583.
- Karakurum Goksel B, Karatas M, Nebioglu A, Sezgin N, Tan M, Seydaoglu G, Benli S, Karaca S, Arlier Z, Yerdelen D. 2007. Subclinical hypothyroidism, hyperhomocysteinemia and dyslipidemia: investigating links with ischemic stroke in Turkish patients. *Neurol Res* 29(8): 871-876.
- Karatela RA, Sainani GS. 2009. Plasma homocysteine in obese, overweight and normal weight hypertensives and normotensives. *Indian Heart J* 61(2): 156-159.
- Kaye JM, Stanton KG, McCann VJ, Vasikaran SD, Burke V, Taylor RR, van Bockxmeer FM. 2002. Homocysteine, folate, methylene tetrahydrofolate reductase genotype and vascular morbidity in diabetic subjects. *Clin Sci (Lond)* 102(6): 631-637.
- Kelemen LE, Anand SS, Hegele RA, Stampfer MJ, Rosner B, Willett WC, Montague PA, Lonn E, Vuksan V, Teo KK, Devanesen S, Yusuf S. 2004. Associations of plasma homocysteine and the methylenetetrahydrofolate reductase C677T polymorphism with carotid intima media thickness among South Asian, Chinese and European Canadians. *Atherosclerosis* 176(2): 361-370.
- Kelly PJ, Shih VE, Kistler JP, Barron M, Lee H, Mandell R, Furie KL. 2003. Low vitamin B6 but not homocyst(e)ine is associated with increased risk of stroke and transient ischemic attack in the era of folic acid grain fortification. *Stroke* 34(6): e51-54.
- Kerins DM, Koury MJ, Capdevila A, Rana S, Wagner C. 2001. Plasma S-adenosylhomocysteine is a more sensitive indicator of cardiovascular disease than plasma homocysteine. *Am J Clin Nutr* 74(6): 723-729.

- Khan U, Crossley C, Kalra L, Rudd A, Wolfe CD, Collinson P, Markus HS. 2008. Homocysteine and its relationship to stroke subtypes in a UK black population: the south London ethnicity and stroke study. *Stroke* 39(11): 2943-2949.
- Khandanpour N, Armon MP, Jennings B, Finglas PM, Willis G, Clark A, Meyer FJ. 2009. Randomized clinical trial of folate supplementation in patients with peripheral arterial disease. *Br J Surg* 96(9): 990-998.
- Khandanpour N, Jennings B, Armon MP, Wright A, Willis G, Clark A, Meyer FJ. 2011. Do novel risk biomarkers reflect the severity of peripheral arterial disease? *Angiology* 62(2): 126-133.
- Kim DS, Burt AA, Ranchalis JE, Richter RJ, Marshall JK, Nakayama KS, Jarvik ER, Eintracht JF, Rosenthal EA, Furlong CE, Jarvik GP. 2012. Dietary cholesterol increases paraoxonase 1 enzyme activity. *J Lipid Res* 53(11): 2450-2458.
- Kim NK, Choi BO, Jung WS, Choi YJ, Choi KG. 2003. Hyperhomocysteinemia as an independent risk factor for silent brain infarction. *Neurology* 61(11): 1595-1599.
- Kirtania K, Ahmed S, Sultana N, Hossain MZ, Rahman MM. 2010. Study on serum vitamin B12 and folic acid in patients of ischaemic stroke. *J Dhaka Med Coll.* 19(2): 115-117.
- Klerk M, Verhoef P, Verbruggen B, Schouten EG, Blom HJ, Bos GM, den Heijer M. 2002. Effect of homocysteine reduction by B-vitamin supplementation on markers of clotting activation. *Thromb Haemost* 88(2): 230-235.
- Klerk M, Lievers KJ, Kluijtmans LA, Blom HJ, den Heijer M, Schouten EG, Kok FJ, Verhoef P. 2003. The 2756A>G variant in the gene encoding methionine synthase: its relation with plasma homocysteine levels and risk of coronary heart disease in a Dutch case-control study. *Thromb Res* 110(2-3): 87-91.
- Kliemann M, Pra D, Muller LL, Hermes L, Horta JA, Reckziegel MB, Burgos MS, Maluf SW, Franke SI, Silva J. 2012. DNA damage in children and adolescents with cardiovascular disease risk factors. *Anais da Academia Brasileira de Ciencias* 84(3): 833-840.
- Koc F, Ardic I, Erdem S, Kalay N, Ozbek K, Yarlioglu M, Ceyhan K, Celik A, Kadi H, Taner A, Sahin S, Onalan O, Kaya MG. 2010. Relationship between L-arginine/asymmetric dimethylarginine, homocysteine, folic acid, vitamin B levels, and coronary artery ectasia. *Coron Artery Dis* 21(8): 445-449.
- Kocer A, Ince N, Canbulat CE, Sargin M. 2004. Serum vitamin B12 and folic Acid levels in acute cerebral atherothrombotic infarction. *Tohoku J Exp Med* 204(2): 155-161.
- Kolling K, Ndrepepa G, Koch W, Braun S, Mehilli J, Schomig A, Kastrati A. 2004. Methylenetetrahydrofolate reductase gene C677T and A1298C polymorphisms, plasma homocysteine, folate, and vitamin B12 levels and the extent of coronary artery disease. *Am J Cardiol* 93(10): 1201-1206.
- Konecky N, Malinow MR, Tunick PA, Freedberg RS, Rosenzweig BP, Katz ES, Hess DL, Upson B, Leung B, Perez J, Kronzon I. 1997. Correlation between plasma homocyst(e)ine and aortic atherosclerosis. *Am Heart J* 133(5): 534-540.
- Konrad C, Muller GA, Langer C, Kuhlenbaumer G, Berger K, Nabavi DG, Dziewas R, Stogbauer F, Ringelstein EB, Junker R. 2004. Plasma homocysteine, MTHFR C677T, CBS 844ins68bp, and MTHFD1 G1958A polymorphisms in spontaneous cervical artery dissections. *J Neurol* 251(10): 1242-1248.
- Kopjas TL. 1965. Treatment of chronic diffuse peripheral arteriosclerotic vascular disease with folic acid and vitamins B and C. *J Am Geriatr Soc* 13(10): 935-937.
- Kullo IJ. 2006. HOPE 2: can supplementation with folic acid and B vitamins reduce cardiovascular risk? *Nat Clin Pract Cardiovasc Med* 3(8): 414-415.
- Kurt R, Yilmaz Y, Ermis F, Kalayoglu Besisik S, Polat N, Elitok A, Oflaz H, Karan MA. 2010. Folic Acid and vitamin B12 supplementation improves coronary flow reserve in elderly subjects with vitamin B12 deficiency. *Arch Med Res* 41(5): 369-372.

- Lalouschek W, Aull S, Korninger L, Mannhalter C, Pabinger-Fasching I, Schmid RW, Schnider P, Zeiler K. 1998. 677C to T mutation in the 5,10-methylenetetrahydrofolate reductase (MTHFR) gene and plasma homocyst(e)ine levels in patients with TIA or minor stroke. *J Neurol Sci* 155(2): 156-162.
- Lamas GA, Boineau R, Goertz C, Mark DB, Rosenberg Y, Stylianou M, Rozema T, Nahin RL, Lindblad L, Lewis EF, Drisko J, Lee KL. 2013. Oral high-dose multivitamins and minerals after myocardial infarction: A randomized trial. *Annals of internal medicine* 159(12): 797-804.
- Lane JS, Magno CP, Lane KT, Chan T, Hoyt DB, Greenfield S. 2008. Nutrition impacts the prevalence of peripheral arterial disease in the United States. *J Vasc Surg* 48(4): 897-904.
- Lange H, Suryapranata H, De Luca G, Börner C, Dille J, Kallmayer K, Pasalary MN, Scherer E, Dambrink JHE. 2004. Folate therapy and in-stent restenosis after coronary stenting. *New England Journal of Medicine* 350(26): 2673-2681.
- Larsson SC, Mannisto S, Virtanen MJ, Kontto J, Albanes D, Virtamo J. 2008. Folate, vitamin B6, vitamin B12, and methionine intakes and risk of stroke subtypes in male smokers. *Am J Epidemiol* 167(8): 954-961.
- Lattanzio R, Sampietro F, Ramoni A, Fattorini A, Brancato R, D'Angelo A. 2006. Moderate hyperhomocysteinemia and early-onset central retinal vein occlusion. *Retina* 26(1): 65-70.
- Lavie L, Perelman A, Lavie P. 2001. Plasma homocysteine levels in obstructive sleep apnea: association with cardiovascular morbidity. *Chest* 120(3): 900-908.
- Lee BJ, Lin PT, Liaw YP, Chang SJ, Cheng CH, Huang YC. 2003. Homocysteine and risk of coronary artery disease: Folate is the important determinant of plasma homocysteine concentration. *Nutrition* 19(7-8): 577-583.
- Lee YH, Kim TY, Hong YM. 2009. Metalloproteinase-3 genotype as a predictor of cardiovascular risk in hypertensive adolescents. *Korean Circ J* 39(8): 328-334.
- Leowattana W, Mahanonda N, Bhuripunyo K, Pokum S. 2000. Association between serum homocysteine, vitamin B12, folate and Thai coronary artery disease patients. *J Med Assoc Thai* 83(5): 536-542.
- Li Z, Ye R, Zhang L, Li H, Liu J, Ren A. 2013. Folic acid supplementation during early pregnancy and the risk of gestational hypertension and preeclampsia. *Hypertension* 61(4): 873-879.
- Liem A, Reynierse-Buitenwerf GH, Zwinderman AH, Jukema JW, Van Veldhuisen DJ. 2003. Secondary prevention with folic acid: Effects on clinical outcomes. *Journal of the American College of Cardiology* 41(12): 2105-2113.
- Lin JS, Shen MC, Cheng WC, Tsay W, Wang YC, Lin BB, Hung MH. 2002. Age, sex and vitamin status affect plasma level of homocysteine, but hyperhomocysteinemia is possibly not an important risk factor for venous thrombophilia in Taiwanese Chinese. *Br J Haematol* 117(1): 159-163.
- Lin PT, Cheng CH, Wei JC, Huang YC. 2008a. Low plasma pyridoxal 5'-phosphate concentration and MTHFR 677C-->T genotypes are associated with increased risk of hypertension. *Int J Vitam Nutr Res* 78(1): 33-40.
- Lin YH, Pao KY, Yang WS, Wu VC, Chen YJ, Lin YL, Tsai WS, Tsai IJ, Gau CS, Hwang JJ. 2008b. Waist-to-hip ratio correlates with homocysteine levels in male patients with coronary artery disease. *Clin Chem Lab Med* 46(1): 125-130.
- Lindqvist M, Hellstrom A, Henriksson AE. 2012. Abdominal aortic aneurysm and the association with serum levels of Homocysteine, vitamins B6, B12 and Folate. *American journal of cardiovascular disease* 2(4): 318-322.
- Liu CP, Lin YL, Lin YH, Pao KY, Wu VC, Su TC, Hung CS, Gau CS, Hwang JJ. 2013. The impact of metabolic syndrome, homocysteine, and b vitamins on carotid artery intima-media thickness in hypertensive patients. *Acta Cardiologica Sinica* 29(1): 56-63.
- Liu CS, Chiang TH, Kuo CL, Ou CC, Lii CK, I SH, Wei YH, Chen HW. 2005. Contribution of plasma folic acid and homocysteine levels to the mean carotid intima media thickness in smokers. *Nutrition Research* 25(9): 835-845.

- Liu LJ, Yin XY, Ikeda K, Sullivan DH, Eisen HJ. 2007. Micronutrients, inflammation and congestive heart failure among the elderly: Nutritional perspectives on primary prevention and clinical treatment. *Clinical and Experimental Pharmacology and Physiology* 34: S14-S16.
- Loland KH, Bleie O, Blix AJ, Strand E, Ueland PM, Refsum H, Ebbing M, Nordrehaug JE, Nygard O. 2010. Effect of homocysteine-lowering B vitamin treatment on angiographic progression of coronary artery disease: a Western Norway B Vitamin Intervention Trial (WENBIT) substudy. *Am J Cardiol* 105(11): 1577-1584.
- Lolin YI, Sanderson JE, Cheng SK, Chan CF, Pang CP, Woo KS, Masarei JR. 1996. Hyperhomocysteinaemia and premature coronary artery disease in the Chinese. *Heart* 76(2): 117-122.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Loria CM, Ingram DD, Feldman JJ, Wright JD, Madans JH. 2000. Serum folate and cardiovascular disease mortality among US men and women. *Archives of Internal Medicine* 160(21): 3258-3262.
- Luo D, Yan S, Cheng X, Song Y. 2009. [Levels of homocysteine and polymorphisms of homocysteine metabolism-related enzymes in patients with type 2 diabetes mellitus and coronary heart disease]. *Wei Sheng Yan Jiu* 38(1): 39-42.
- Lupattelli G, Rufini S, Locati EH, Lombardini R, Ciuffetti G, Siepi D, Mannarino E. 1999. Hyperhomocyst(e)inemia is associated with carotid atherosclerosis. *Angiology* 50(10): 823-830.
- Lutsey PL, Steffen LM, Virnig BA, Folsom AR. 2009. Diet and incident venous thromboembolism: the Iowa Women's Health Study. *Am Heart J* 157(6): 1081-1087.
- Luu HN, Kingah PL, North K, Boerwinkle E, Volcik KA. 2011. Interaction of folate intake and the paraoxonase Q192R polymorphism with risk of incident coronary heart disease and ischemic stroke: the atherosclerosis risk in communities study. *Ann Epidemiol* 21(11): 815-823.
- Ma J, Stampfer MJ, Hennekens CH, Frosst P, Selhub J, Horsford J, Malinow MR, Willett WC, Rozen R. 1996. Methylenetetrahydrofolate reductase polymorphism, plasma folate, homocysteine, and risk of myocardial infarction in US physicians. *Circulation* 94(10): 2410-2416.
- MacKenzie KE, Wiltshire EJ, Gent R, Hirte C, Piotto L, Couper JJ. 2006. Folate and vitamin B6 rapidly normalize endothelial dysfunction in children with type 1 diabetes mellitus. *Pediatrics* 118(1): 242-253.
- Macko RF, Kittner SJ, Ivey FM, Epstein A, Sparks MJ, Hebel JR, Johnson CC, Wityk RJ, Ueland PM, Refsum H. 2002. Effects of vitamin therapy on plasma total homocysteine, endothelial injury markers, and fibrinolysis in stroke patients. *J Stroke Cerebrovasc Dis* 11(1): 1-8.
- Mahalle N, Kulkarni MV, Garg MK, Naik SS. 2013. Vitamin B12 deficiency and hyperhomocysteinemia as correlates of cardiovascular risk factors in Indian subjects with coronary artery disease. *Journal of cardiology* 61(4): 289-294.
- Mainou Cid C, Garcia Giralt N, Vilaseca Busca MA, Ferrer Codina I, Meco Lopez JF, Mainou Pinto A, Pinto Sala X, Grinberg Vaisman D, Balcells Comas S. 2002. [Hyperhomocystinemia and 677C T methylenetetrahydrofolate reductase polymorphism as a cardiovascular risk factor in childhood]. *An Esp Pediatr* 56(5): 402-408.
- Makarewicz-Wujec M, Kozłowska-Wojciechowska M. 2011. Nutrient intake and serum level of gamma-glutamyltransferase, MCP-1 and homocysteine in early stages of heart failure. *Clin Nutr* 30(1): 73-78.
- Malerba M, Gisondi P, Radaeli A, Sala R, Pinton PGC, Girolomoni G. 2006. Plasma homocysteine and folate levels in patients with chronic plaque psoriasis. *British Journal of Dermatology* 155(6): 1165-1169.
- Mangoni AA, Sherwood RA, Asonganyi B, Ouldred EL, Thomas S, Jackson SH. 2005a. Folic acid: a marker of endothelial function in type 2 diabetes? *Vasc Health Risk Manag* 1(1): 79-83.

- Mangoni AA, Sherwood RA, Asonganyi B, Swift CG, Thomas S, Jackson SHD. 2005b. Short-term oral folic acid supplementation enhances endothelial function in patients with type 2 diabetes. *American Journal of Hypertension* 18(2): 220-226.
- Manizheh SM, Mandana S, Hassan A, Amir GH, Mahlisha KS, Morteza G. 2009. Comparison study on the effect of prenatal administration of high dose and low dose folic acid. *Saudi Med J* 30(1): 88-97.
- Mann JFE, Sheridan P, McQueen MJ, Held C, Malcolm J, Arnold O, Fodor G, Yusuf S, Lonn EM, Invest H-. 2008. Homocysteine lowering with folic acid and B vitamins in people with chronic kidney disease - results of the renal Hope-2 study. *Nephrology Dialysis Transplantation* 23(2): 645-653.
- Marasini B, Casari S, Bestetti A, Maioli C, Cugno M, Zeni S, Turri O, Guagnellini E, Biondi ML. 2000. Homocysteine concentration in primary and systemic sclerosis associated Raynaud's phenomenon. *J Rheumatol* 27(11): 2621-2623.
- Marcucci R, Betti I, Cecchi E, Poli D, Giusti B, Fedi S, Lapini I, Abbate R, Gensini GF, Prisco D. 2004. Hyperhomocysteinemia and vitamin B6 deficiency: new risk markers for nonvalvular atrial fibrillation? *Am Heart J* 148(3): 456-461.
- Markus HS, Ali N, Swaminathan R, Sankaralingam A, Molloy J, Powell J. 1997. A common polymorphism in the methylenetetrahydrofolate reductase gene, homocysteine, and ischemic cerebrovascular disease. *Stroke* 28(9): 1739-1743.
- Marouf R, Zubaid M, Mojiminiyi OA, Qurtom M, Abdella NA, Al Wazzan H, Al Humood S. 2006. Determinants of plasma homocysteine in relation to hematological and biochemical variables in patients with acute myocardial infarction. *South Med J* 99(8): 811-816.
- Marouf R, Mojiminiyi O, Qurtom M, Abdella N, Al Wazzan H, Al Humood S, Al Mazeedy M. 2007. Plasma homocysteine and hematological factors in patients with venous thromboembolic diseases in Kuwait. *Acta Haematol* 117(2): 98-105.
- Martin H, Lindblad B, Norman M. 2007. Endothelial function in newborn infants is related to folate levels and birth weight. *Pediatrics* 119(6): 1152-1158.
- Martinelli I, Battaglioli T, Pedotti P, Cattaneo M, Mannucci PM. 2003. Hyperhomocysteinemia in cerebral vein thrombosis. *Blood* 102(4): 1363-1366.
- Martinez-Berriotxo A, Ruiz-Irastorza G, Egurbide MV, Rueda M, Aguirre C. 2004. Homocysteine, antiphospholipid antibodies and risk of thrombosis in patients with systemic lupus erythematosus. *Lupus* 13(12): 927-933.
- Mashavi M, Hanah R, Boaz M, Gavish D, Matas Z, Fux A, Shargorodsky M. 2008. Effect of homocysteine-lowering therapy on arterial elasticity and metabolic parameters in metformin-treated diabetic patients. *Atherosclerosis* 199(2): 362-367.
- Matsui T, Arai H, Yuzuriha T, Yao H, Miura M, Hashimoto S, Higuchi S, Matsushita S, Morikawa M, Kato A, Sasaki H. 2001. Elevated plasma homocysteine levels and risk of silent brain infarction in elderly people. *Stroke* 32(5): 1116-1119.
- Mazur P, Kozynacka A, Durajski L, Glowacki R, Pfitzner R, Fijorek K, Sadowski J, Undas A. 2012. Nvarepsilon-homocysteinyl-lysine isopeptide is associated with progression of peripheral artery disease in patients treated with folic acid. *Eur J Vasc Endovasc Surg* 43(5): 588-593.
- Mazza A, Motti C, Nulli A, Marra G, Gnasso A, Pastore A, Federici G, Cortese C. 2000. Lack of association between carotid intima-media thickness and methylenetetrahydrofolate reductase gene polymorphism or serum homocysteine in non-insulin-dependent diabetes mellitus. *Metabolism* 49(6): 718-723.
- McEneny J, Couston C, McKibben B, Young IS, Woodside JV. 2007. Folate: in vitro and in vivo effects on VLDL and LDL oxidation. *Int J Vitam Nutr Res* 77(1): 66-72.

- McGimpsey SJ, Woodside JV, Bamford L, Gilchrist SE, Graydon R, McKeeman GC, Young IS, Hughes AE, Patterson CC, O'Reilly D, McGibbon D, Chakravarthy U. 2005. Retinal vein occlusion, homocysteine, and methylene tetrahydrofolate reductase genotype. *Invest Ophthalmol Vis Sci* 46(12): 4712-4716.
- McKeag NA, McKinley MC, Harbinson MT, Noad RL, Dixon LH, McGinty A, Neville CE, Woodside JV, McKeown PP. 2014. The effect of multiple micronutrient supplementation on left ventricular ejection fraction in patients with chronic stable heart failure: A randomized, placebo-controlled trial. *JACC: Heart Failure* 2(3): 308-317.
- McMahon JA, Skeaff CM, Williams SM, Green TJ. 2007. Lowering homocysteine with B vitamins has no effect on blood pressure in older adults. *J Nutr* 137(5): 1183-1187.
- Mejia Mohamed EH, Tan KS, Ali JM, Mohamed Z. 2011. TT genotype of the methylenetetrahydrofolate reductase C677T polymorphism is an important determinant for homocysteine levels in multi-ethnic Malaysian ischaemic stroke patients. *Ann Acad Med Singapore* 40(4): 186-186.
- Melhem A, Desai A, Hofmann MA. 2009. Acute myocardial infarction and pulmonary embolism in a young man with pernicious anemia-induced severe hyperhomocysteinemia. *Thromb J* 7: 5.
- Merchant AT, Hu FB, Spiegelman D, Willett WC, Rimm EB, Ascherio A. 2003. The use of B vitamin supplements and peripheral arterial disease risk in men are inversely related. *J Nutr* 133(9): 2863-2867.
- Merchant AT, Msamanga G, Villamor E, Saathoff E, O'Brien M, Hertzmark E, Hunter DJ, Fawzi WW. 2005. Multivitamin supplementation of HIV-positive women during pregnancy reduces hypertension. *J Nutr* 135(7): 1776-1781.
- Messedi M, Frigui M, Ben Mahfoudh K, Feki H, Ben Mahfoudh ST, Mnif J, Bahloul Z, Ayadi F. 2011. Intima-media thickness of carotid artery in patients with Behcet's disease. *Arch Med Res* 42(5): 398-404.
- Mietus-Snyder ML, Shigenaga MK, Suh JH, Shenvi SV, Lal A, McHugh T, Olson D, Lillenstein J, Krauss RM, Gildengoren G, McCann JC, Ames BN. 2012. A nutrient-dense, high-fiber, fruit-based supplement bar increases HDL cholesterol, particularly large HDL, lowers homocysteine, and raises glutathione in a 2-wk trial. *Faseb Journal* 26(8): 3515-3527.
- Miller JW, Green R, Mungas DM, Reed BR, Jagust WJ. 2002. Homocysteine, vitamin B6, and vascular disease in AD patients. *Neurology* 58(10): 1471-1475.
- Moat SJ, Madhavan A, Taylor SY, Payne N, Allen RH, Stabler SP, Goodfellow J, McDowell IFW, Lewis MJ, Lang D. 2006. High- but not low-dose folic acid improves endothelial function in coronary artery disease. *European Journal of Clinical Investigation* 36(12): 850-859.
- Moens AL, Claeys MJ, Wuyts FL, Goovaerts I, Van Hertbruggen E, Wendelen LC, Van Hoof VO, Vrints CJ. 2007. Effect of folic acid on endothelial function following acute myocardial infarction. *Am J Cardiol* 99(4): 476-481.
- Moghaddasi M, Mamarabadi M, Mirzadeh S, Freydoonnejad AA, Razjouyan H. 2010. Homocysteine, vitamin B12 and folate levels in Iranian patients with ischemic stroke. *Neurol Res* 32(9): 953-956.
- Mujibul Haq AM, AS MG, Huque MM. 2011. Serum total homocysteine and lipoprotein (a) levels in acute myocardial infarction and their response to treatment with vitamins. *J Coll Physicians Surg Pak* 21(5): 266-270.
- Murr C, Meinitzer A, Grammer T, Schroecksnadel K, Bohm BO, Marz W, Fuchs D. 2009. Association between asymmetric dimethylarginine and neopterin in patients with and without angiographic coronary artery disease. *Scand J Immunol* 70(1): 63-67.
- Muscari A, Mele MC, Bastagli L, Poggiopollini G, Tomassetti V, Drago G, Legnani C, Barini A, Cappelletti O, Boni P, Puddu P. 2001. Conditional risk factors in men with previous myocardial infarction: relevance of C3 and homocysteine. *Acta Cardiol* 56(5): 303-311.
- Nagaraja D, Noone ML, Bharatkumar VP, Christopher R. 2008. Homocysteine, folate and vitamin B(12) in puerperal cerebral venous thrombosis. *J Neurol Sci* 272(1-2): 43-47.

- Nagga K, Rajani R, Mardh E, Borch K, Mardh S, Marcusson J. 2003. Cobalamin, folate, methylmalonic acid, homocysteine, and gastritis markers in dementia. *Dementia and Geriatric Cognitive Disorders* 16(4): 269-275.
- Nair KG, Nair SR, Ashavaid TF, Dalal JJ, Eghlim FF. 2002. Methylenetetrahydrofolate reductase gene mutation and hyperhomocysteinemia as a risk factor for coronary heart disease in the Indian population. *J Assoc Physicians India* 50 Suppl: 9-15.
- Namazi MH, Motamedi MR, Safi M, Vakili H, Saadat H, Nazari N. 2006. Efficacy of folic acid therapy for prevention of in-stent restenosis: A randomized clinical trial. *Archives of Iranian Medicine* 9(2): 108-110.
- Naqvi AZ, Davis RB, Mukamal KJ. 2014. Nutrient intake and peripheral artery disease in adults: key considerations in cross-sectional studies. *Clin Nutr* 33(3): 443-447.
- Nazeminezhad R, Tajfard M, Latiff LA, Mouhebati M, Esmaeily H, Ferns GA, Ghayour-Mobarhan M, Rahimi HR. 2014. Dietary intake of patients with angiographically defined coronary artery disease and that of healthy controls in Iran. *Eur J Clin Nutr* 68(1): 109-113.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Ng KC, Yong QW, Chan SP, Cheng A. 2002. Homocysteine, folate and vitamin B12 as risk factors for acute myocardial infarction in a Southeast Asian population. *Ann Acad Med Singapore* 31(5): 636-640.
- Nilsson K, Gustafson L, Hultberg B. 2006. Plasma homocysteine, cobalamin/folate status, and vascular disease in a large population of psychogeriatric patients. *Dementia and Geriatric Cognitive Disorders* 22(4): 358-366.
- Nilsson K, Gustafson L, Hultberg B. 2007. Elevated plasma homocysteine concentration in elderly patients with mental illness is mainly related to the presence of vascular disease and not the diagnosis. *Dementia and Geriatric Cognitive Disorders* 24(3): 162-168.
- Ntaios G, Savopoulos C, Karamitsos D, Economou I, Destanis E, Chrysogonidis I, Pidonia I, Zebekakis P, Polatides C, Sion M, Grekas D, Hatzitolios A. 2010. The effect of folic acid supplementation on carotid intima-media thickness in patients with cardiovascular risk: a randomized, placebo-controlled trial. *Int J Cardiol* 143(1): 16-19.
- Nusier MK, El-Dwairi QA. 2007. Effects of vitamin B12 and folic acid on hyperhomocysteinemia in patients with acute myocardial infarction. *Journal of Health Science* 53(1): 16-22.
- O'Grady HL, Leahy A, McCormick PH, Fitzgerald P, Kelly C, Bouchier-Hayes DJ. 2002. Oral folic acid improves endothelial dysfunction in cigarette smokers. *Journal of Surgical Research* 106(2): 342-345.
- Obeid R, Hakki T, Jouma M, Herrmann W. 2003. The risk of venous thromboembolism associated with the factor V Leiden mutation and low B-vitamin status. *Clin Chem Lab Med* 41(10): 1357-1362.
- Oger E, Lacut K, Le Gal G, Couturaud F, Guenet D, Abalain JH, Roguedas AM, Mottier D. 2006. Hyperhomocysteinemia and low B vitamin levels are independently associated with venous thromboembolism: results from the EDITH study: a hospital-based case-control study. *J Thromb Haemost* 4(4): 793-799.
- Oken E, Ning Y, Rifas-Shiman SL, Rich-Edwards JW, Olsen SF, Gillman MW. 2007. Diet during pregnancy and risk of preeclampsia or gestational hypertension. *Ann Epidemiol* 17(9): 663-668.
- Olthof MR, Bots ML, Katan MB, Verhoef P. 2006a. Acute effect of folic acid, betaine, and serine supplements on flow-mediated dilation after methionine loading: a randomized trial. *PLoS Clin Trials* 1(1): e4.
- Olthof MR, Bots ML, Katan MB, Verhoef P. 2006b. Effect of folic acid and betaine supplementation on flow-mediated dilation: a randomized, controlled study in healthy volunteers. *PLoS Clin Trials* 1(2): e10.

- Omar S, Ghorbel IB, Feki H, Souissi M, Feki M, Houman H, Kaabachi N. 2007. Hyperhomocysteinemia is associated with deep venous thrombosis of the lower extremities in Tunisian patients. *Clin Biochem* 40(1-2): 41-45.
- Omrani HQ, Shandiz EE, Qabai M, Chaman R, Fard HA, Qaffarpoor M. 2011. Hyperhomocysteinemia, folate and B12 vitamin in Iranian patients with acute ischemic stroke. *ARYA atherosclerosis* 7(3): 97-101.
- Onat A, Hergenc G, Kucukdurmaz Z, Can G, Ayhan E, Bulur S. 2008. Serum folate is associated with coronary heart disease independently of homocysteine in Turkish men. *Clin Nutr* 27(5): 732-739.
- Oncel C, Demir S, Guler S, Cenikli U, Tabak E, Kiroglu Y. 2009. Association between cholesterols, homocysteine and silent brain infarcts. *Intern Med J* 39(3): 150-155.
- Oner T, Guven B, Tavli V, Mese T, Yilmazer MM, Demirpençe S. 2014. Postural orthostatic tachycardia syndrome (POTS) and vitamin B12 deficiency in adolescents. *Pediatrics* 133(1): e138-142.
- Oudi ME, Aouni Z, Mazigh C, Khochkar R, Gazoueni E, Haouela H, Machghoul S. 2010. Homocysteine and markers of inflammation in acute coronary syndrome. *Exp Clin Cardiol* 15(2): e25-28.
- Ozkan Y, Ozkan E, Simsek B. 2002. Plasma total homocysteine and cysteine levels as cardiovascular risk factors in coronary heart disease. *Int J Cardiol* 82(3): 269-277.
- Pac FA, Ozerol E, Ozerol IH, Temel I, Ege E, Yologlu S, Sezgin N, Sahin K, Emmiler M, Pac M, Aslan H. 2005. Homocysteine, lipid profile, nitric oxide, vitamin B12, and folate values in patients with premature coronary artery disease and their children. *Angiology* 56(3): 253-257.
- Panayiotou A, Nicolaides A, Griffin M, Tyllis T, Georgiou N, Martin RM, Bond D, Tziakouri-Shiakalli C, Fessas C, Deltas C. 2009. Serum total homocysteine, folate, 5,10-methylenetetrahydrofolate reductase (MTHFR) 677C-->T genotype and subclinical atherosclerosis. *Expert Opin Ther Targets* 13(1): 1-11.
- Pancharuniti N, Lewis CA, Sauberlich HE, Perkins LL, Go RC, Alvarez JO, Macaluso M, Acton RT, Copeland RB, Cousins AL, et al. 1994. Plasma homocyst(e)ine, folate, and vitamin B-12 concentrations and risk for early-onset coronary artery disease. *Am J Clin Nutr* 59(4): 940-948.
- Panigrahi I, Chatterjee T, Biswas A, Behari M, Choudhry PV, Saxena R. 2006. Role of MTHFR C677T polymorphism in ischemic stroke. *Neurol India* 54(1): 48-50; discussion 51-42.
- Papandreou D, Malindretos P, Arvanitidou M, Makedou A, Rousso I. 2010. Homocysteine lowering with folic acid supplements in children: effects on blood pressure. *Int J Food Sci Nutr* 61(1): 11-17.
- Paradisi G, Cucinelli F, Mele MC, Barini A, Lanzone A, Caruso A. 2004. Endothelial function in post-menopausal women: effect of folic acid supplementation. *Hum Reprod* 19(4): 1031-1035.
- Park Y. 2010. Intakes of vegetables and related nutrients such as vitamin B complex, potassium, and calcium, are negatively correlated with risk of stroke in Korea. *Nutr Res Pract* 4(4): 303-310.
- Pasupathi P, Rao YY, Farook J, Bakthavathsalam G, Bejoy B, Chinnaswamy P, Saravanan G. 2009. Role of homocysteine, vitamins B6, B12 and folic acid in acute myocardial infarction patients. *Journal of Clinical and Diagnostic Research* 3(5): 1770-1775.
- Pathansali R, Mangoni AA, Creagh-Brown B, Lan ZC, Ngow GL, Yuan XF, Ouldred EL, Sherwood RA, Swift CG, Jackson SH. 2006. Effects of folic acid supplementation on psychomotor performance and hemorheology in healthy elderly subjects. *Arch Gerontol Geriatr* 43(1): 127-137.
- Paul B, Whiting MJ, De Pasquale CG, Mangoni AA. 2010. Acute effects of 5-methyltetrahydrofolate on endothelial function and asymmetric dimethylarginine in patients with chronic heart failure. *Nutr. Metab. Cardiovasc. Dis.* 20(5): 341-349.
- Peeters AC, van Landeghem BA, Graafsma SJ, Kranendonk SE, Hermus AR, Blom HJ, den Heijer M. 2007. Low vitamin B6, and not plasma homocysteine concentration, as risk factor for abdominal aortic aneurysm: a retrospective case-control study. *J Vasc Surg* 45(4): 701-705.

- Pena AS, Wiltshire E, Gent R, Piotto L, Hirte C, Couper J. 2007. Folic acid does not improve endothelial function in obese children and adolescents. *Diabetes Care* 30(8): 2122-2127.
- Pena AS, Maftei O, Dowling K, Gent R, Wiltshire E, MacKenzie K, Couper J. 2013. Folate fortification and supplementation do not provide vascular health benefits in type 1 diabetes. *J Pediatr* 163(1): 255-260.
- Peña AS, Wiltshire E, Gent R, Hirte C, Couper J. 2004. Folic acid improves endothelial function in children and adolescents with type 1 diabetes. *Journal of Pediatrics* 144(4): 500-504.
- Peterson JC, Spence JD. 1998. Vitamins and progression of atherosclerosis in hyper-homocyst(e)inaemia. *Lancet* 351(9098): 263.
- Petri M, Roubenoff R, Dallal GE, Nadeau MR, Selhub J, Rosenberg IH. 1996. Plasma homocysteine as a risk factor for atherothrombotic events in systemic lupus erythematosus. *Lancet* 348(9035): 1120-1124.
- Pidal D, Sanchez Vidal MT, Rodriguez JC, Corte MD, Pravia P, Guinea O, Pidal I, Bongera M, Escribano D, Gonzalez LO, Diez MC, Venta R, Vizoso FJ. 2009. Relationship between arterial vascular calcifications seen on screening mammograms and biochemical markers of endothelial injury. *Eur J Radiol* 69(1): 87-92.
- Polyak Z, Stern F, Berner YN, Sela BA, Gomori JM, Isayev M, Doolman R, Levy S, Dror Y. 2003. Hyperhomocysteinemia and vitamin score: correlations with silent brain ischemic lesions and brain atrophy. *Dement Geriatr Cogn Disord* 16(1): 39-45.
- Potter K, Lenzo N, Eikelboom JW, Arnolda LF, Beer C, Hankey GJ. 2009. Effect of long-term homocysteine reduction with B vitamins on arterial wall inflammation assessed by fluorodeoxyglucose positron emission tomography: a randomised double-blind, placebo-controlled trial. *Cerebrovasc Dis* 27(3): 259-265.
- Pullin CH, Ashfield-Watt PA, Burr ML, Clark ZE, Lewis MJ, Moat SJ, Newcombe RG, Powers HJ, Whiting JM, McDowell IF. 2001. Optimization of dietary folate or low-dose folic acid supplements lower homocysteine but do not enhance endothelial function in healthy adults, irrespective of the methylenetetrahydrofolate reductase (C677T) genotype. *J Am Coll Cardiol* 38(7): 1799-1805.
- Qiu L, Yan SK, Song YH. 2003. [Hyperhomocysteinemia and deep-vein thrombosis]. *Zhongguo Yi Xue Ke Xue Yuan Xue Bao* 25(6): 706-709.
- Qureshi M, Khsandwala H, Haq IU, Prasad K. 2003. Elevated levels of plasma homocysteine in hypertensive patients with diabetes mellitus. *J Cardiovasc Pharmacol Ther* 8(4): 261-266.
- Rallidis LS, Gialeraki A, Komporozos C, Vavoulis P, Pavlakis G, Travlou A, Lekakis I, Kremastinos DT. 2008. Role of methylenetetrahydrofolate reductase 677C->T polymorphism in the development of premature myocardial infarction. *Atherosclerosis* 200(1): 115-120.
- Rautiainen S, Akesson A, Levitan EB, Morgenstern R, Mittleman MA, Wolk A. 2010. Multivitamin use and the risk of myocardial infarction: a population-based cohort of Swedish women. *Am J Clin Nutr* 92(5): 1251-1256.
- Ray JG, Mamdani MM. 2002. Association between folic acid food fortification and hypertension or preeclampsia in pregnancy. *Arch Intern Med* 162(15): 1776-1777.
- Ray JG, Kearon C, Yi Q, Sheridan P, Lonn E. 2007. Homocysteine-lowering therapy and risk for venous thromboembolism: a randomized trial. *Ann Intern Med* 146(11): 761-767.
- Refai TM, Al-Salem IH, Nkansa-Dwamena D, Al-Salem MH. 2002. Hyperhomocysteinemia and risk of thrombosis in systemic lupus erythematosus patients. *Clin Rheumatol* 21(6): 457-461.
- Remacha AF, Souto JC, Pinana JL, Sarda MP, Queralto JM, Marti-Fabregas J, Garcia-Moll X, Fernandez C, Rodriguez A, Cuesta J. 2011. Vitamin B12 deficiency, hyperhomocysteinemia and thrombosis: a case and control study. *Int J Hematol* 93(4): 458-464.
- Rimm EB, Willett WC, Hu FB, Sampson L, Colditz GA, Manson JE, Hennekens C, Stampfer MJ. 1998. Folate and vitamin B6 from diet and supplements in relation to risk of coronary heart disease among women. *JAMA* 279(5): 359-364.

- Robinson K, Arheart K, Refsum H, Brattstrom L, Boers G, Ueland P, Rubba P, Palma-Reis R, Meleady R, Daly L, Witteman J, Graham I. 1998. Low circulating folate and vitamin B6 concentrations: risk factors for stroke, peripheral vascular disease, and coronary artery disease. European COMAC Group. *Circulation* 97(5): 437-443.
- Rodrigues CA, Morelli VM, RC DAS, D'Almeida V, Lourenco DM. 2007. Homocysteine reduction by B-vitamin supplementation increases t-PA and PAI-1 levels in patients with venous thromboembolism. *J Thromb Haemost* 5(1): 195-198.
- Rosengarten B, Osthaus S, Auch D, Kaps M. 2003. Effects of acute hyperhomocysteinemia on the neurovascular coupling mechanism in healthy young adults. *Stroke* 34(2): 446-451.
- Rozza F, de Simone G, Izzo R, De Luca N, Trimarco B. 2009. Nutraceuticals for treatment of high blood pressure values in patients with metabolic syndrome. *High blood pressure & cardiovascular prevention : the official journal of the Italian Society of Hypertension* 16(4): 177-182.
- Russo GT, Di Benedetto A, Magazzu D, Giandalia A, Giorda CB, Ientile R, Previti M, Di Cesare E, Cucinotta D. 2011. Mild hyperhomocysteinemia, C677T polymorphism on methylenetetrahydrofolate reductase gene and the risk of macroangiopathy in type 2 diabetes: a prospective study. *Acta Diabetol* 48(2): 95-101.
- Sachdev PS, Valenzuela MJ, Brodaty H, Wang XL, Looi J, Lorentz L, Howard L, Jones M, Zagami AS, Gillies D, Wilcken DEL. 2003. Homocysteine as a risk factor for cognitive impairment in stroke patients. *Dementia and Geriatric Cognitive Disorders* 15(3): 155-162.
- Sadeghian S, Fallahi F, Salarifar M, Davoodi G, Mahmoodian M, Fallah N, Darvish S, Karimi A. 2006. Homocysteine, vitamin B12 and folate levels in premature coronary artery disease. *BMC Cardiovasc Disord* 6: 38.
- Safarinejad MR, Safarinejad S, Shafiei N. 2010. Role of methylenetetrahydrofolate reductase gene polymorphisms (C677T, A1298C, and G1793A) in the development of early onset vasculogenic erectile dysfunction. *Arch Med Res* 41(6): 410-422.
- Salemi G, Gueli MC, D'Amelio M, Saia V, Mangiapane P, Aridon P, Ragonese P, Lupo I. 2009. Blood levels of homocysteine, cysteine, glutathione, folic acid, and vitamin B12 in the acute phase of atherothrombotic stroke. *Neurol Sci* 30(4): 361-364.
- Sam RC, Burns PJ, Hobbs SD, Marshall T, Wilmink AB, Silverman SH, Bradbury AW. 2003. The prevalence of hyperhomocysteinemia, methylene tetrahydrofolate reductase C677T mutation, and vitamin B12 and folate deficiency in patients with chronic venous insufficiency. *J Vasc Surg* 38(5): 904-908.
- Saposnik G, Ray JG, Sheridan P, McQueen M, Lonn E. 2009. Homocysteine-lowering therapy and stroke risk, severity, and disability: additional findings from the HOPE 2 trial. *Stroke* 40(4): 1365-1372.
- Saricaoglu MS, Karakurt A, Sengun A, Hasiripi H. 2006. Plasma homocysteine levels and vitamin B status in patients with Pseudoexfoliation syndrome. *Saudi Med J* 27(6): 833-837.
- Sato Y, Honda Y, Iwamoto J, Kanoko T, Satoh K. 2005. Effect of folate and mecobalamin on hip fractures in patients with stroke: a randomized controlled trial. *JAMA* 293(9): 1082-1088.
- Scazzone C, Bono A, Tornese F, Arsena R, Schillaci R, Butera D, Cottone S. 2014. Correlation between low folate levels and hyperhomocysteinemia, but not with vitamin B12 in hypertensive patients. *Ann Clin Lab Sci* 44(3): 286-290.
- Scheurig AC, Thorand B, Fischer B, Heier M, Koenig W. 2008. Association between the intake of vitamins and trace elements from supplements and C-reactive protein: results of the MONICA/KORA Augsburg study. *Eur J Clin Nutr* 62(1): 127-137.
- Schmitz C, Lindpaintner K, Verhoef P, Gaziano JM, Buring J. 1996. Genetic polymorphism of methylenetetrahydrofolate reductase and myocardial infarction. A case-control study. *Circulation* 94(8): 1812-1814.

- Schnyder G, Roffi M, Pin R, Flammer Y, Lange H, Eberli FR, Meier B, Turi ZG, Hess OM. 2001. Decreased rate of coronary restenosis after lowering of plasma homocysteine levels. *New England Journal of Medicine* 345(22): 1593-1600.
- Schnyder G, Roffi M, Flammer Y, Pin R, Hess OM. 2002. Effect of homocysteine-lowering therapy with folic acid, vitamin B12, and vitamin B6 on clinical outcome after percutaneous coronary intervention: the Swiss Heart study: a randomized controlled trial. *JAMA* 288(8): 973-979.
- Schroeksnadel K, Grammer TB, Boehm BO, Marz W, Fuchs D. 2010. Total homocysteine in patients with angiographic coronary artery disease correlates with inflammation markers. *Thromb Haemost* 103(5): 926-935.
- Schutte AE, Huisman HW, Van Rooyen JM, Oosthuizen W, Jerling JC. 2003a. Sensitivity of the Finometer device in detecting acute and medium-term changes in cardiovascular function. *Blood Press Monit* 8(5): 195-201.
- Schutte AE, van Rooyen JM, Huisman HW, Kruger HS, Malan NT, De Ridder JH. 2003b. Dietary risk markers that contribute to the aetiology of hypertension in black South African children: the THUSA BANA study. *J Hum Hypertens* 17(1): 29-35.
- Schutte AE, Huisman HW, Oosthuizen W, van Rooyen JM, Jerling JC. 2004. Cardiovascular effects of oral Supplementation of vitamin C, E and folic acid in young healthy males. *Int J Vitam Nutr Res* 74(4): 285-293.
- Schwartz SM, Siscovick DS, Malinow MR, Rosendaal FR, Beverly RK, Hess DL, Psaty BM, Longstreth WT, Jr., Koepsell TD, Raghunathan TE, Reitsma PH. 1997. Myocardial infarction in young women in relation to plasma total homocysteine, folate, and a common variant in the methylenetetrahydrofolate reductase gene. *Circulation* 96(2): 412-417.
- Selhub J, Jacques PF, Bostom AG, D'Agostino RB, Wilson PW, Belanger AJ, O'Leary DH, Wolf PA, Schaefer EJ, Rosenberg IH. 1995. Association between plasma homocysteine concentrations and extracranial carotid-artery stenosis. *N Engl J Med* 332(5): 286-291.
- Selhub J, Jacques PF, Bostom AG, D'Agostino RB, Wilson PW, Belanger AJ, O'Leary DH, Wolf PA, Rush D, Schaefer EJ, Rosenberg IH. 1996. Relationship between plasma homocysteine, vitamin status and extracranial carotid-artery stenosis in the Framingham Study population. *J Nutr* 126(4 Suppl): 1258S-1265S.
- Sen S, Reddy PL, Grewal RP, Busby M, Chang P, Hinderliter A. 2010. Hyperhomocysteinemia is Associated with Aortic Atheroma Progression in Stroke/TIA Patients. *Front Neurol* 1: 131.
- Seo H, Oh H, Park H, Park M, Jang Y, Lee M. 2010. Contribution of dietary intakes of antioxidants to homocysteine-induced low density lipoprotein (LDL) oxidation in atherosclerotic patients. *Yonsei Med J* 51(4): 526-533.
- Setola E, Monti LD, Galluccio E, Palloshi A, Fragasso G, Paroni R, Magni F, Sandoli EP, Lucotti P, Costa S, Fermo I, Galli-Kienle M, Origgi A, Margonato A, Piatti P. 2004. Insulin resistance and endothelial function are improved after folate and vitamin B12 therapy in patients with metabolic syndrome: relationship between homocysteine levels and hyperinsulinemia. *European Journal of Endocrinology* 151(4): 483-489.
- Shargorodsky M, Boaz M, Pasternak S, Hanah R, Matas Z, Fux A, Beigel Y, Mashavi M. 2009. Serum homocysteine, folate, vitamin B12 levels and arterial stiffness in diabetic patients: which of them is really important in atherogenesis? *Diabetes Metab Res Rev* 25(1): 70-75.
- Shirodaria C, Antoniades C, Lee J, Jackson CE, Robson MD, Francis JM, Moat SJ, Ratnatunga C, Pillai R, Refsum H, Neubauer S, Channon KM. 2007. Global improvement of vascular function and redox state with low-dose folic acid: implications for folate therapy in patients with coronary artery disease. *Circulation* 115(17): 2262-2270.
- Siragusa S, Malato A, Cigna V, Anastasio R, Coco LL, Casuccio A, Ciaccio M. 2007. The risk of recurrent cardiovascular events in patients with increased plasma homocysteine levels is reduced by short but not long-term therapy with folate and B vitamins. *Thromb Res* 121(1): 51-53.

- Siri PW, Verhoef P, Kok FJ. 1998. Vitamins B6, B12, and folate: association with plasma total homocysteine and risk of coronary atherosclerosis. *J Am Coll Nutr* 17(5): 435-441.
- Smolkova B, Dusinska M, Raslova K, Barancokova M, Kazimirova A, Horska A, Spustova V, Collins A. 2004. Folate levels determine effect of antioxidant supplementation on micronuclei in subjects with cardiovascular risk. *Mutagenesis* 19(6): 469-476.
- Soderstrom E, Eliasson M, Johnson O, Hallmans G, Weinehall L, Jansson JH, Hulldin J. 2013. Plasma folate, but not homocysteine, is associated with Apolipoprotein A1 levels in a non-fortified population. *Lipids Health Dis* 12: 74.
- Sodi A, Giambene B, Marcucci R, Sofi F, Fedi S, Abbate R, Prisco D, Menchini U. 2011. ATHEROSCLEROTIC AND THROMBOPHILIC RISK FACTORS IN PATIENTS WITH ISCHEMIC CENTRAL RETINAL VEIN OCCLUSION. *Retin.- J. Retin. Vit. Dis.* 31(4): 724-729.
- Sodi Pallares E, Marinez Garza H, et al. 1949. Content of folic acid in normal and diseased human hearts. *Arch Biochem* 22(1): 31.
- Sofi F, Marcucci R, Bolli P, Giambene B, Sodi A, Fedi S, Menchini U, Gensini GF, Abbate R, Prisco D. 2008. Low vitamin B6 and folic acid levels are associated with retinal vein occlusion independently of homocysteine levels. *Atherosclerosis* 198(1): 223-227.
- Sosin MD, Patel JV, Bhatia GS, Hughes EA, Davis RC, Lip GY. 2008. Effects of white European, African Caribbean and South Asian ethnicity on homocysteine levels in patients with systolic heart failure. *Int J Cardiol* 129(1): 69-75.
- Spada RS, Stella G, Calabrese S, Bosco P, Anello G, Gueant-Rodriguez RM, Romano A, Benamghar L, Fontaine T, Gueant JL. 2007. Association of vitamin B12, folate and homocysteine with functional and pathological characteristics of the elderly in a mountainous village in Sicily. *Clin Chem Lab Med* 45(2): 136-142.
- Spence JD, Blake C, Landry A, Fenster A. 2003. Measurement of carotid plaque and effect of vitamin therapy for total homocysteine. *Clin Chem Lab Med* 41(11): 1498-1504.
- Spence JD, Bang H, Chambless LE, Stampfer MJ. 2005. Vitamin Intervention For Stroke Prevention trial: an efficacy analysis. *Stroke* 36(11): 2404-2409.
- Stamler J, Elliott P, Appel L, Chan Q, Buzzard M, Dennis B, Dyer AR, Elmer P, Greenland P, Jones D, Kesteloot H, Kuller L, Labarthe D, Liu K, Moag-Stahlberg A, Nichaman M, Okayama A, Okuda N, Robertson C, Rodriguez B, Stevens M, Ueshima H, Horn LV, Zhou B. 2003. Higher blood pressure in middle-aged American adults with less education-role of multiple dietary factors: the INTERMAP study. *J Hum Hypertens* 17(9): 655-775.
- Stammler F, Diehm C, Hsu E, Stockinger K, Amendt K. 1996. [The prevalence of hyperhomocysteinemia in thromboangiitis obliterans. Does homocysteine play a role pathogenetically?]. *Dtsch Med Wochenschr* 121(46): 1417-1423.
- Stanger O, Semmelrock HJ, Wonisch W, Bos U, Pabst E, Wascher TC. 2002. Effects of folate treatment and homocysteine lowering on resistance vessel reactivity in atherosclerotic subjects. *J Pharmacol Exp Ther* 303(1): 158-162.
- Stanger O, Weger M, Obeid R, Temmel W, Meinitzer A, Steinbrugger I, Schmut O, Herrmann W. 2005. Impairment of homocysteine metabolism in patients with retinal vascular occlusion and non-arteritic ischemic optic neuropathy. *Clin Chem Lab Med* 43(10): 1020-1025.
- Steegers-Theunissen RP, Van Iersel CA, Peer PG, Nelen WL, Steegers EA. 2004. Hyperhomocysteinemia, pregnancy complications, and the timing of investigation. *Obstet Gynecol* 104(2): 336-343.
- Stewart CP, Christian P, Schulze KJ, Leclercq SC, West KP, Jr., Khattry SK. 2009. Antenatal micronutrient supplementation reduces metabolic syndrome in 6- to 8-year-old children in rural Nepal. *J Nutr* 139(8): 1575-1581.

- Stricker H, Soldati G, Balmelli T, Mombelli G. 2001. Homocysteine, vitamins and gene mutations in peripheral arterial disease. *Blood Coagul Fibrinolysis* 12(6): 469-475.
- Sydow K, Schwedhelm E, Arakawa N, Bode-Boger SM, Tsikas D, Hornig B, Frolich JC, Boger RH. 2003. ADMA and oxidative stress are responsible for endothelial dysfunction in hyperhomocyst(e)inemia: effects of L-arginine and B vitamins. *Cardiovasc Res* 57(1): 244-252.
- Szabo de Edelenyi F, Vergnaud AC, Ahluwalia N, Julia C, Hercberg S, Blacher J, Galan P. 2011. Effect of B-vitamins and n-3 PUFA supplementation for 5 years on blood pressure in patients with CVD. *Br J Nutr*: 1-7.
- Szczeklik A, Sanak M, Jankowski M, Dropinski J, Czachor R, Musial J, Axenti I, Twardowska M, Brzostek T, Tendera M. 2001. Mutation A1298C of methylenetetrahydrofolate reductase: risk for early coronary disease not associated with hyperhomocysteinemia. *Am J Med Genet* 101(1): 36-39.
- Talikoti P, Bobby Z, Hamide A. 2014. Hyperhomocysteinemia, Insulin Resistance and High HS- CRP Levels in Prehypertension. *Journal of clinical and diagnostic research : JCDR* 8(8): Cc07-09.
- Tamai Y, Wada K, Tsuji M, Nakamura K, Sahashi Y, Watanabe K, Yamamoto K, Ando K, Nagata C. 2011. Dietary intake of vitamin B12 and folic acid is associated with lower blood pressure in Japanese preschool children. *Am J Hypertens* 24(11): 1215-1221.
- Tan NC, Venketasubramanian N, Saw SM, Tjia HT. 2002. Hyperhomocyst(e)inemia and risk of ischemic stroke among young Asian adults. *Stroke* 33(8): 1956-1962.
- Tavani A, Pelucchi C, Parpinel M, Negri E, La Vecchia C. 2004. Folate and vitamin B(6) intake and risk of acute myocardial infarction in Italy. *Eur J Clin Nutr* 58(9): 1266-1272.
- Tawakol A, Migrino RQ, Aziz KS, Waitkowska J, Holmvang G, Alpert NM, Muller JE, Fischman AJ, Gewirtz H. 2005. High-dose folic acid acutely improves coronary vasodilator function in patients with coronary artery disease. *J Am Coll Cardiol* 45(10): 1580-1584.
- Tebi A, Belbraouet S, Chau N, Debry G. 2000. Plasma vitamin, beta-carotene, and alpha-tocopherol status according to age and disease in hospitalized elderly. *Nutrition Research* 20(10): 1395-1408.
- Thambyrajah J, Landray MJ, Jones HJ, McGlynn FJ, Wheeler DC, Townend JN. 2001. A randomized double-blind placebo-controlled trial of the effect of homocysteine-lowering therapy with folic acid on endothelial function in patients with coronary artery disease. *J Am Coll Cardiol* 37(7): 1858-1863.
- Theriault S, Giguere Y, Masse J, Lavoie SB, Girouard J, Bujold E, Forest JC. 2013. Absence of association between serum folate and preeclampsia in women exposed to food fortification. *Obstet Gynecol* 122(2 Pt 1): 345-351.
- Till U, Rohl P, Jentsch A, Till H, Muller A, Bellstedt K, Plonne D, Fink HS, Vollandt R, Sliwka U, Herrmann FH, Petermann H, Riezler R. 2005. Decrease of carotid intima-media thickness in patients at risk to cerebral ischemia after supplementation with folic acid, Vitamins B6 and B12. *Atherosclerosis* 181(1): 131-135.
- Timmermans S, Jaddoe VW, Silva LM, Hofman A, Raat H, Steegers-Theunissen RP, Steegers EA. 2011. Folic acid is positively associated with uteroplacental vascular resistance: the Generation R study. *Nutr Metab Cardiovasc Dis* 21(1): 54-61.
- Title LM, Cummings PM, Giddens K, Genest JJ, Jr., Nassar BA. 2000. Effect of folic acid and antioxidant vitamins on endothelial dysfunction in patients with coronary artery disease. *J Am Coll Cardiol* 36(3): 758-765.
- Title LM, Ur E, Giddens K, McQueen MJ, Nassar BA. 2006. Folic acid improves endothelial dysfunction in type 2 diabetes--an effect independent of homocysteine-lowering. *Vasc Med* 11(2): 101-109.
- Tobin KA, Holven KB, Retterstol K, Strom E, Ose L, Aukrust P, Nenseter MS. 2009. Cystatin C levels in plasma and peripheral blood mononuclear cells among hyperhomocysteinemic subjects: effect of treatment with B-vitamins. *Br J Nutr* 102(12): 1783-1789.

- Tokgozoglu SL, Alikasifoglu M, Unsal, Atalar E, Aytemir K, Ozer N, Ovunc K, Usal O, Kes S, Tuncbilek E. 1999. Methylene tetrahydrofolate reductase genotype and the risk and extent of coronary artery disease in a population with low plasma folate. *Heart* 81(5): 518-522.
- Toole JF, Malinow MR, Chambless LE, Spence JD, Pettigrew LC, Howard VJ, Sides EG, Wang CH, Stampfer M. 2004. Lowering homocysteine in patients with ischemic stroke to prevent recurrent stroke, myocardial infarction, and death: the Vitamin Intervention for Stroke Prevention (VISP) randomized controlled trial. *JAMA* 291(5): 565-575.
- Towfighi A, Arshi B, Markovic D, Ovbiagele B. 2014. Homocysteine-lowering therapy and risk of recurrent stroke, myocardial infarction and death: the impact of age in the VISP trial. *Cerebrovasc Dis* 37(4): 263-267.
- Tribouilloy CM, Peltier M, Iannetta Peltier MC, Trojette F, Andrejak M, Lesbre JP. 2000. Plasma homocysteine and severity of thoracic aortic atherosclerosis. *Chest* 118(6): 1685-1689.
- Turgan N, Boydak B, Habif S, Apakkan S, Ozmen D, Mutaf I, Bayindir O. 1999. Plasma homocysteine levels in acute coronary syndromes. *Jpn Heart J* 40(6): 729-736.
- Tzoulaki I, Patel CJ, Okamura T, Chan Q, Brown IJ, Miura K, Ueshima H, Zhao LC, Van Horn L, Daviglius ML, Stamler J, Butte AJ, Ioannidis JPA, Elliott P. 2012. A Nutrient-Wide Association Study on Blood Pressure. *Circulation* 126(21): 2456-2464.
- Ueda S, Shirakawa T, Nakazawa Y, Inanaga K. 1977. Epilepsy and folic acid. *Folia Psychiatrica et Neurologica Japonica* 31(3): 327-337.
- Ullegaddi R, Powers HJ, Gariballa SE. 2004. B-group vitamin supplementation mitigates oxidative damage after acute ischaemic stroke. *Clin Sci (Lond)* 107(5): 477-484.
- van den Hil LC, Rob Taal H, de Jonge LL, Heppe DH, Steegers EA, Hofman A, van der Heijden AJ, Jaddoe VW. 2013. Maternal first-trimester dietary intake and childhood blood pressure: the Generation R Study. *Br J Nutr*: 1-11.
- van Dijk SC, Enneman AW, van Meurs J, Swart KM, Ham AH, van Wijngaarden JP, Brouwer-Brolsma EM, van der Zwaluw NL, van Schoor NM, Dhonukshe-Rutten RA, de Groot LC, Lips P, Uitterlinden AG, Blom H, Geleijnse JM, Feskens E, de Jongh RT, Smulders YM, van den Meiracker AH, Mattace-Raso FU, van der Velde N. 2014. B-vitamin levels and genetics of hyperhomocysteinemia are not associated with arterial stiffness. *Nutr Metab Cardiovasc Dis* 24(7): 760-766.
- van Etten RW, de Koning EJ, Verhaar MC, Gaillard CA, Rabelink TJ. 2002. Impaired NO-dependent vasodilation in patients with Type II (non-insulin-dependent) diabetes mellitus is restored by acute administration of folate. *Diabetologia* 45(7): 1004-1010.
- Van Guelpen B, Hultdin J, Johansson I, Stegmayr B, Hallmans G, Nilsson TK, Weinehall L, Witthoft C, Palmqvist R, Winkvist A. 2005. Folate, vitamin B12, and risk of ischemic and hemorrhagic stroke: a prospective, nested case-referent study of plasma concentrations and dietary intake. *Stroke* 36(7): 1426-1431.
- Van Guelpen B, Hultdin J, Johansson I, Witthoft C, Weinehall L, Eliasson M, Hallmans G, Palmqvist R, Jansson JH, Winkvist A. 2009. Plasma folate and total homocysteine levels are associated with the risk of myocardial infarction, independently of each other and of renal function. *J Intern Med* 266(2): 182-195.
- Van Hecke MV, Dekker JM, Nijpels G, Teerlink T, Jakobs C, Stolk RP, Heine RJ, Bouter LM, Polak BC, Stehouwer CD. 2008. Homocysteine, S-adenosylmethionine and S-adenosylhomocysteine are associated with retinal microvascular abnormalities: the Hoorn Study. *Clin Sci (Lond)* 114(7): 479-487.
- Vanuzzo D, Pilotto L, Lombardi R, Lazzerini G, Carluccio M, Diviacco S, Quadrifoglio F, Danek G, Gregori D, Fioretti P, Cattaneo M, De Caterina R. 2007. Both vitamin B6 and total homocysteine plasma levels predict long-term atherothrombotic events in healthy subjects. *Eur Heart J* 28(4): 484-491.

- Vaya A, Sanchez F, Todoli J, Calvo J, Alis R, Collado S, Ricart JM. 2014. Homocysteine levels in patients with primary and secondary Raynaud's phenomenon. Its association with microangiopathy severity. *Clin Hemorheol Microcirc* 56(2): 153-159.
- Verhaar MC, Wever RMF, Kastelein JJP, Van Dam T, Koomans HA, Rabelink TJ. 1998. 5-methyltetrahydrofolate, the active form of folic acid, restores endothelial function in familial hypercholesterolemia. *Circulation* 97(3): 237-241.
- Verhaar MC, Wever RMF, Kastelein JJP, Van Loon D, Milstien S, Koomans HA, Rabelink TJ. 1999. Effects of oral folic acid supplementation on endothelial function in familial hypercholesterolemia: A randomized placebo-controlled trial. *Circulation* 100(4): 335-338.
- Verhoef P, Stampfer MJ, Buring JE, Gaziano JM, Allen RH, Stabler SP, Reynolds RD, Kok FJ, Hennekens CH, Willett WC. 1996. Homocysteine metabolism and risk of myocardial infarction: relation with vitamins B6, B12, and folate. *Am J Epidemiol* 143(9): 845-859.
- Verhoef P, Kok FJ, Kruyssen DA, Schouten EG, Wittteman JC, Grobbee DE, Ueland PM, Refsum H. 1997. Plasma total homocysteine, B vitamins, and risk of coronary atherosclerosis. *Arterioscler Thromb Vasc Biol* 17(5): 989-995.
- Verhoef P, Rimm EB, Hunter DJ, Chen J, Willett WC, Kelsey K, Stampfer MJ. 1998. A common mutation in the methylenetetrahydrofolate reductase gene and risk of coronary heart disease: results among U.S. men. *J Am Coll Cardiol* 32(2): 353-359.
- Verhoef P, Meleady R, Daly LE, Graham IM, Robinson K, Boers GH. 1999a. Homocysteine, vitamin status and risk of vascular disease; effects of gender and menopausal status. European COMAC Group. *Eur Heart J* 20(17): 1234-1244.
- Verhoef P, Meleady R, Daly LE, Graham IM, Robinson K, Boers GHJ, European CG. 1999b. Homocysteine, vitamin status and risk of vascular disease - Effects of gender and menopausal status. *European Heart Journal* 20(17): 1234-1244.
- Vermeulen EG, Stehouwer CD, Twisk JW, van den Berg M, de Jong SC, Mackaay AJ, van Campen CM, Visser FC, Jakobs CA, Bulterjys EJ, Rauwerda JA. 2000a. Effect of homocysteine-lowering treatment with folic acid plus vitamin B6 on progression of subclinical atherosclerosis: a randomised, placebo-controlled trial. *Lancet* 355(9203): 517-522.
- Vermeulen EG, Rauwerda JA, van den Berg M, de Jong SC, Schalkwijk C, Twisk JW, Stehouwer CD. 2003. Homocysteine-lowering treatment with folic acid plus vitamin B6 lowers urinary albumin excretion but not plasma markers of endothelial function or C-reactive protein: further analysis of secondary end-points of a randomized clinical trial. *Eur J Clin Invest* 33(3): 209-215.
- Vermeulen EG, van Engeland MI, Visser FC, Stehouwer CD, Twisk JW, van Campen CM, Rauwerda JA. 2004a. Effect of homocysteine-lowering vitamin treatment on electrocardiography stress tests in a randomized, placebo-controlled trial: comparison between ST-segment changes and Athen QRS-score. *Int J Cardiol* 93(2-3): 323-324.
- Vermeulen EGJ, Stehouwer CDA, Twisk JWR, van den Berg M, de Jong SC, Mackaay AJC, van Campen CMC, Visser FC, Jakobs C, Bulterjys EJ, Rauwerda JA. 2000b. Effect of homocysteine-lowering treatment with folic acid plus vitamin B-6 on progression of subclinical atherosclerosis: a randomised, placebo-controlled trial. *Lancet* 355(9203): 517-522.
- Vermeulen EGJ, Stehouwer CDA, Valk J, Van Der Knaap M, Van Den Berg M, Twisk JWR, Prevoo W, Rauwerda JA. 2004b. Effect of homocysteine-lowering treatment with folic acid plus vitamin B6 on cerebrovascular atherosclerosis and white matter abnormalities as determined by MRA and MRI: A placebo-controlled, randomized trial. *European Journal of Clinical Investigation* 34(4): 256-261.
- Vijaya Lakshmi SV, Naushad SM, Rupasree Y, Seshagiri Rao D, Kutala VK. 2011. Interactions of 5'-UTR thymidylate synthase polymorphism with 677C --> T methylene tetrahydrofolate reductase and 66A --> G

- methyltetrahydrofolate homocysteine methyl-transferase reductase polymorphisms determine susceptibility to coronary artery disease. *J Atheroscler Thromb* 18(1): 56-64.
- Vijaya Lakshmi SV, Naushad SM, Seshagiri Rao D, Kutala VK. 2013. Oxidative stress is associated with genetic polymorphisms in one-carbon metabolism in coronary artery disease. *Cell Biochem Biophys* 67(2): 353-361.
- Virtanen JK, Voutilainen S, Happonen P, Alfthan G, Kaikkonen J, Mursu J, Rissanen TH, Kaplan GA, Korhonen MJ, Sivenius J, Salonen JT. 2005. Serum homocysteine, folate and risk of stroke: Kuopio Ischaemic Heart Disease Risk Factor (KIHD) Study. *Eur. J. Cardiovasc. Prev. Rehabil.* 12(4): 369-375.
- Vitatos Trial Study Group. 2010. B vitamins in patients with recent transient ischaemic attack or stroke in the VITamins TO Prevent Stroke (VITATOPS) trial: a randomised, double-blind, parallel, placebo-controlled trial. *Lancet Neurol* 9(9): 855-865.
- Voutilainen S, Lakka TA, Porkkala-Sarataho E, Rissanen T, Kaplan GA, Salonen JT. 2000. Low serum folate concentrations are associated with an excess incidence of acute coronary events: the Kuopio Ischaemic Heart Disease Risk Factor Study. *European Journal of Clinical Nutrition* 54(5): 424-428.
- Voutilainen S, Rissanen TH, Virtanen J, Lakka TA, Salonen JT. 2001. Low dietary folate intake is associated with an excess incidence of acute coronary events: The Kuopio Ischemic Heart Disease Risk Factor Study. *Circulation* 103(22): 2674-2680.
- Voutilainen S, Virtanen JK, Rissanen TH, Alfthan G, Laukkanen J, Nyyssonen K, Mursu J, Valkonen VP, Tuomainen TP, Kaplan GA, Salonen JT. 2004. Serum folate and homocysteine and the incidence of acute coronary events: the Kuopio Ischaemic Heart Disease Risk Factor Study. *American Journal of Clinical Nutrition* 80(2): 317-323.
- Vrentzos G, Papadakis JA, Malliaraki N, Zacharis EA, Katsogridakis K, Margioris AN, Vardas PE, Ganotakis ES. 2004a. Association of serum total homocysteine with the extent of ischemic heart disease in a Mediterranean cohort. *Angiology* 55(5): 517-524.
- Vrentzos GE, Papadakis JA, Malliaraki N, Zacharis EA, Mazokopakis E, Margioris A, Ganotakis ES, Kafatos A. 2004b. Diet, serum homocysteine levels and ischaemic heart disease in a Mediterranean population. *Br J Nutr* 91(6): 1013-1019.
- Wang L, Li H, Zhou Y, Jin L, Liu J. 2014. Low-dose B vitamins supplementation ameliorates cardiovascular risk: a double-blind randomized controlled trial in healthy Chinese elderly. *Eur J Nutr.*
- Warsi AA, Davies B, Morris-Stiff G, Hullin D, Lewis MH. 2004. Abdominal aortic aneurysm and its correlation to plasma homocysteine, and vitamins. *Eur J Vasc Endovasc Surg* 27(1): 75-79.
- Wasilewska A, Narkiewicz M, Rutkowski B, Lysiak-Szydłowska W. 2003. Is there any relationship between lipids and vitamin B levels in persons with elevated risk of atherosclerosis? *Med Sci Monit* 9(3): CR147-151.
- Weger M, Stanger O, Deutschmann H, Simon M, Renner W, Schmut O, Semmelrock J, Haas A. 2001. Hyperhomocyst(e)inaemia, but not MTHFR C677T mutation, as a risk factor for non-arteritic ischaemic optic neuropathy. *Br J Ophthalmol* 85(7): 803-806.
- Weger M, Stanger O, Deutschmann H, Temmel W, Renner W, Schmut O, Quehenberger F, Semmelrock J, Haas A. 2002a. Hyperhomocyst(e)inemia, but not methylenetetrahydrofolate reductase C677T mutation, as a risk factor in branch retinal vein occlusion. *Ophthalmology* 109(6): 1105-1109.
- Weger M, Stanger O, Deutschmann H, Temmel W, Renner W, Schmut O, Semmelrock J, Haas A. 2002b. Hyperhomocyst(e)inemia and MTHFR C677T genotypes in patients with central retinal vein occlusion. *Graefes Arch Clin Exp Ophthalmol* 240(4): 286-290.
- Weikert C, Dierkes J, Hoffmann K, Berger K, Drogan D, Klipstein-Grobusch K, Spranger J, Mohlig M, Luley C, Boeing H. 2007. B vitamin plasma levels and the risk of ischemic stroke and transient ischemic attack in a German cohort. *Stroke* 38(11): 2912-2918.

- Weng LC, Yeh WT, Bai CH, Chen HJ, Chuang SY, Chang HY, Lin BF, Chen KJ, Pan WH. 2008. Is ischemic stroke risk related to folate status or other nutrients correlated with folate intake? *Stroke* 39(12): 3152-3158.
- Williams C, Kingwell BA, Burke K, McPherson J, Dart AM. 2005. Folic acid supplementation for 3 wk reduces pulse pressure and large artery stiffness independent of MTHFR genotype. *Am J Clin Nutr* 82(1): 26-31.
- Wilmink AB, Welch AA, Quick CR, Burns PJ, Hubbard CS, Bradbury AW, Day NE. 2004. Dietary folate and vitamin B6 are independent predictors of peripheral arterial occlusive disease. *J Vasc Surg* 39(3): 513-516.
- Wilmink HW, Stroes ES, Erkelens WD, Gerritsen WB, Wever R, Banga JD, Rabelink TJ. 2000. Influence of folic acid on postprandial endothelial dysfunction. *Arterioscler Thromb Vasc Biol* 20(1): 185-188.
- Wilson JB, Welsch M, Allen J, Thomson J, Tulley R, Lefevre M. 2007. The association of homocysteine and related factors to brachial artery diameter and flow-mediated dilation. *Metabolism* 56(5): 641-648.
- Wiltshire EJ, Gent R, Hirte C, Pena A, Thomas DW, Couper JJ. 2002. Endothelial dysfunction relates to folate status in children and adolescents with type 1 diabetes. *Diabetes* 51(7): 2282-2286.
- Witte KK, Desilva R, Chattopadhyay S, Ghosh J, Cleland JG, Clark AL. 2004. Are hematinic deficiencies the cause of anemia in chronic heart failure? *Am Heart J* 147(5): 924-930.
- Witte KK, Nikitin NP, Parker AC, von Haehling S, Volk HD, Anker SD, Clark AL, Cleland JG. 2005. The effect of micronutrient supplementation on quality-of-life and left ventricular function in elderly patients with chronic heart failure. *Eur Heart J* 26(21): 2238-2244.
- Woo KS, Chook P, Lolin YI, Sanderson JE, Metreweli C, Celermajer DS. 1999. Folic acid improves arterial endothelial function in adults with hyperhomocysteinemia. *Journal of the American College of Cardiology* 34(7): 2002-2006.
- Woo KS, Chook P, Chan LL, Cheung AS, Fung WH, Qiao M, Lolin YI, Thomas GN, Sanderson JE, Metreweli C, Celermajer DS. 2002. Long-term improvement in homocysteine levels and arterial endothelial function after 1-year folic acid supplementation. *Am J Med* 112(7): 535-539.
- Woodman RJ, Celermajer DE, Thompson PL, Hung J. 2004. Folic acid does not improve endothelial function in healthy hyperhomocysteinaemic subjects. *Clin Sci (Lond)* 106(4): 353-358.
- Wotherspoon F, Laight DW, Turner C, Meeking DR, Allard SE, Munday LJ, Shaw KM, Cummings MH. 2008. The effect of oral folic acid upon plasma homocysteine, endothelial function and oxidative stress in patients with type 1 diabetes and microalbuminuria. *International Journal of Clinical Practice* 62(4): 569-574.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.
- Wustmann K, Klaey M, Burow A, Shaw SG, Hess OM, Allemann Y. 2012. Additive effect of homocysteine- and cholesterol-lowering therapy on endothelium-dependent vasodilation in patients with cardiovascular disease. *Cardiovasc Ther* 30(5): 277-286.
- Xia XS, Li X, Wang L, Wang JZ, Ma JP, Wu CJ. 2014. Supplementation of folic acid and vitamin B(1)(2) reduces plasma levels of asymmetric dimethylarginine in patients with acute ischemic stroke. *J Clin Neurosci* 21(9): 1586-1590.
- Xun P, Liu K, Loria CM, Bujnowski D, Shikany JM, Schreiner PJ, Sidney S, He K. 2012. Folate intake and incidence of hypertension among American young adults: a 20-y follow-up study. *Am J Clin Nutr* 95(5): 1023-1030.
- Yagura C, Takamura N, Kadota K, Nagazumi T, Morishita Y, Nakazato M, Maeda T, Kusano Y, Abe Y, Aoyagi K. 2007. Evaluation of cardiovascular risk factors and related clinical markers in healthy young Japanese adults. *Clin Chem Lab Med* 45(2): 220-225.
- Yanyan H, Lu X, Cheng M. 2003. The total homocysteine concentration in the patients with ischemic stroke or carotid atherosclerosis disease, and intervention study. *Chinese Journal of Clinical Rehabilitation* 7(7): 1112-1113.

- Yildirim C, Yaylali V, Tatlipinar S, Kaptanoglu B, Akpinar S. 2004. Hyperhomocysteinemia: a risk factor for retinal vein occlusion. *Ophthalmologica* 218(2): 102-106.
- Yilmaz H, Sahin S, Sayar N, Tangurek B, Yilmaz M, Nurkalem Z, Onturk E, Cakmak N, Bolca O. 2007. Effects of folic acid and N-acetylcysteine on plasma homocysteine levels and endothelial function in patients with coronary artery disease. *Acta Cardiologica* 62(6): 579-585.
- Yilmaz N, Yilmaz M, Pence S, Ozaslan J, Kocoglu H, Yilmaz G. 2001. Determination of serum B12 vitamin and folic acid levels in patient with stroke. *Acta Medica (Hradec Kralove)* 44(1): 37-39.
- Zaabczyk M, Glowacki R, Machnik A, Herod P, Kazek G, Jakubowski H, Undas A. 2011. Elevated concentrations of Nvarepsilon-homocysteinyl-lysine isopeptide in acute myocardial infarction: links with ADMA formation. *Clin Chem Lab Med* 49(4): 729-735.
- Zee RY, Mora S, Cheng S, Erlich HA, Lindpaintner K, Rifai N, Buring JE, Ridker PM. 2007. Homocysteine, 5,10-methylenetetrahydrofolate reductase 677C>T polymorphism, nutrient intake, and incident cardiovascular disease in 24,968 initially healthy women. *Clin Chem* 53(5): 845-851.
- Zeitlin A, Frishman WH, Chang CJ. 1997. The association of vitamin b 12 and folate blood levels with mortality and cardiovascular morbidity incidence in the old old: the Bronx aging study. *Am J Ther* 4(7-8): 275-281.
- Zhan S, Gao Y, Yin X, Huang Y, Hu Y, Li L. 2000. [A case-control study on the relationship between abnormal homocysteine metabolism and essential hypertension]. *Zhonghua Liu Xing Bing Xue Za Zhi* 21(3): 194-197.
- Zoungas S, McGrath BP, Branley P, Kerr PG, Muske C, Wolfe R, Atkins RC, Nicholls K, Fraenkel M, Hutchison BG, Walker R, McNeil JJ. 2006. Cardiovascular morbidity and mortality in the Atherosclerosis and Folic Acid Supplementation Trial (ASFAST) in chronic renal failure: a multicenter, randomized, controlled trial. *J Am Coll Cardiol* 47(6): 1108-1116.
- Zsori KS, Csiki Z, Katona E, Bereczky Z, Shemirani AH. 2013. Vitamin B12 level in peripheral arterial disease. *J Thromb Thrombolysis* 36(1): 77-83.
- Zuntar I, Antoljak N, Vrkic N, Topic E, Kujundzic N, Demarin V, Vukovic V. 2006. Association of methylenetetrahydrofolate (MTHFR) and apolipoprotein E (apo E) genotypes with homocysteine, vitamin and lipid levels in carotid stenosis. *Coll Antropol* 30(4): 871-878.

2.2 Twinning and Multiple Births – Human Studies (n=18)

- Ballas SK, Baxter JK, Riddick G. 2006. Folate supplementation and twinning in patients with sickle cell disease. *Am J Hematol* 81(4): 296-297.
- Berry RJ, Kihlberg R, Devine O. 2005. Impact of misclassification of in vitro fertilisation in studies of folic acid and twinning: modelling using population based Swedish vital records. *BMJ* 330(7495): 815.
- Czeizel AE, Metneki J, Dudas I. 1994. The higher rate of multiple births after periconceptional multivitamin supplementation: an analysis of causes. *Acta Genet Med Gemellol (Roma)* 43(3-4): 175-184.
- Czeizel AE, Vargha P. 2004. Periconceptional folic acid/multivitamin supplementation and twin pregnancy. *Am J Obstet Gynecol* 191(3): 790-794.
- Ericson A, Kallen B, Aberg A. 2001. Use of multivitamins and folic acid in early pregnancy and multiple births in Sweden. *Twin Res* 4(2): 63-66.
- Haggarty P, McCallum H, McBain H, Andrews K, Duthie S, McNeill G, Templeton A, Haites N, Campbell D, Bhattacharya S. 2006. Effect of B vitamins and genetics on success of in-vitro fertilisation: prospective cohort study. *Lancet* 367(9521): 1513-1519.
- Kallen B. 2004. Use of folic acid supplementation and risk for dizygotic twinning. *Early Hum Dev* 80(2): 143-151.

- Kucik J, Correa A. 2004. Trends in twinning rates in metropolitan Atlanta before and after folic acid fortification. *J Reprod Med* 49(9): 707-712.
- Lawrence JM, Watkins ML, Chiu V, Erickson JD, Petitti DB. 2004. Food fortification with folic acid and rate of multiple births, 1994-2000. *Birth Defects Res A Clin Mol Teratol* 70(12): 948-952.
- Li Z, Gindler J, Wang H, Berry RJ, Li S, Correa A, Zheng JC, Erickson JD, Wang Y. 2003. Folic acid supplements during early pregnancy and likelihood of multiple births: a population-based cohort study. *Lancet* 361(9355): 380-384.
- Mathews F, Murphy M, Wald NJ, Hackshaw A. 1999. Twinning and folic acid use. *Lancet* 353(9149): 291-292.
- Parazzini F, Chatenoud L, Bettoni G, Tozzi L, Turco S, Surace M, Di Cintio E, Benzi G. 2001. Selected food intake and risk of multiple pregnancies. *Hum Reprod* 16(2): 370-373.
- Powers RW, Dunbar MS, Laivuori HM, Harger GF, Lykins DL, Roberts JM. 2005. Maternal plasma homocysteine concentrations are not increased in twin pregnancies. *Hypertens Pregnancy* 24(1): 49-58.
- Shaw GM, Carmichael SL, Nelson V, Selvin S, Schaffer DM. 2003. Food fortification with folic acid and twinning among California infants. *Am J Med Genet A* 119A(2): 137-140.
- Signore C, Mills JL, Cox C, Trumble AC. 2005. Effects of folic acid fortification on twin gestation rates. *Obstet Gynecol* 105(4): 757-762.
- Vollset SE, Gjessing HK, Tandberg A, Ronning T, Irgens LM, Baste V, Nilsen RM, Daltveit AK. 2005. Folate supplementation and twin pregnancies. *Epidemiology* 16(2): 201-205.
- Waller DK, Tita AT, Annegers JF. 2003. Rates of twinning before and after fortification of foods in the US with folic acid, Texas, 1996 to 1998. *Paediatr Perinat Epidemiol* 17(4): 378-383.
- Werler MM, Cragan JD, Wasserman CR, Shaw GM, Erickson JD, Mitchell AA. 1997. Multivitamin supplementation and multiple births. *Am J Med Genet* 71(1): 93-96.

2.3 Autism – Human Studies (n=11)

- Al-Farsi YM, Waly MI, Deth RC, Al-Sharbaty MM, Al-Shafae M, Al-Farsi O, Al-Khaduri MM, Gupta I, Ali A, Al-Khalili M, Al-Adawi S, Hodgson NW, Ouhit A. 2013. Low folate and vitamin B12 nourishment is common in Omani children with newly diagnosed autism. *Nutrition* 29(3): 537-541.
- Ali A, Waly MI, Al-Farsi YM, Essa MM, Al-Sharbaty MM, Deth RC. 2011. Hyperhomocysteinemia among Omani autistic children: a case-control study. *Acta Biochim Pol* 58(4): 547-551.
- Beard CM, Panser LA, Katusic SK. 2011. Is excess folic acid supplementation a risk factor for autism? *Med Hypotheses* 77(1): 15-17.
- Hyman SL, Stewart PA, Schmidt B, Cain U, Lemcke N, Foley JT, Peck R, Clemons T, Reynolds A, Johnson C, Handen B, James SJ, Courtney PM, Molloy C, Ng PK. 2012. Nutrient intake from food in children with autism. *Pediatrics* 130 Suppl 2: S145-153.
- Lowe TL, Cohen DJ, Miller S, Young JG. 1981. Folic acid and B12 in autism and neuropsychiatric disturbances of childhood. *Journal of the American Academy of Child Psychiatry* 20(1): 104-111.
- Pasca SP, Dronca E, Kaucsar T, Craciun EC, Endreffy E, Ferencz BK, Iftene F, Benga I, Cornean R, Banerjee R, Dronca M. 2009. One carbon metabolism disturbances and the C677T MTHFR gene polymorphism in children with autism spectrum disorders. *J Cell Mol Med* 13(10): 4229-4238.
- Ramaekers VT, Blau N, Sequeira JM, Nassogne MC, Quadros EV. 2007. Folate receptor autoimmunity and cerebral folate deficiency in low-functioning autism with neurological deficits. *Neuropediatrics* 38(6): 276-281.

- Schmidt RJ, Hansen RL, Hartiala J, Allayee H, Schmidt LC, Tancredi DJ, Tassone F, Hertz-Picciotto I. 2011. Prenatal Vitamins, One-carbon Metabolism Gene Variants, and Risk for Autism. *Epidemiology* 22(4): 476-485.
- Schmidt RJ, Tancredi DJ, Ozonoff S, Hansen RL, Hartiala J, Allayee H, Schmidt LC, Tassone F, Hertz-Picciotto I. 2012. Maternal periconceptional folic acid intake and risk of autism spectrum disorders and developmental delay in the CHARGE (CHildhood Autism Risks from Genetics and Environment) case-control study. *Am J Clin Nutr* 96(1): 80-89.
- Schmidt RJ. 2013. Maternal folic acid supplements associated with reduced autism risk in the child. *Evid Based Med* 18(6): e53.
- Suren P, Roth C, Bresnahan M, Haugen M, Hornig M, Hirtz D, Lie KK, Lipkin WI, Magnus P, Reichborn-Kjennerud T, Schjolberg S, Davey Smith G, Oyen AS, Susser E, Stoltenberg C. 2013. Association between maternal use of folic acid supplements and risk of autism spectrum disorders in children. *JAMA* 309(6): 570-577.

2.4 Other Neurological Outcomes – Human Studies (n=481)

- Abou-Saleh MT, Karim L, Krymsky M. 1998. The biology of depression in Arab culture. *Nordic Journal of Psychiatry* 52(2): 177-182.
- Abou-Saleh MT, Ghubash R, Karim L, Krymski M, Anderson DN. 1999. The role of pterins and related factors in the biology of early postpartum depression. *Eur Neuropsychopharmacol* 9(4): 295-300.
- Adams WS, Lawrencej S. 1948. Folic add therapy. Results of a clinical study. *American journal of the medical sciences (Print)* 215(5): 183-186.
- Aden E, Carlsson M, Poortvliet E, Stenlund H, Linder J, Edstrom M, Forsgren L, Haglin L. 2011. Dietary intake and olfactory function in patients with newly diagnosed Parkinson's disease: a case-control study. *Nutr Neurosci* 14(1): 25-31.
- Agarwal R, Chhillar N, Kushwaha S, Singh NK, Tripathi CB. 2010. Role of vitamin B(12), folate, and thyroid stimulating hormone in dementia: A hospital-based study in north Indian population. *Ann Indian Acad Neurol* 13(4): 257-262.
- Aisen PS, Schneider LS, Sano M, Diaz-Arrastia R, van Dyck CH, Weiner MF, Bottiglieri T, Jin S, Stokes KT, Thomas RG, Thal LJ. 2008. High-dose B vitamin supplementation and cognitive decline in Alzheimer disease: a randomized controlled trial. *JAMA* 300(15): 1774-1783.
- Al-Menabbawy K, El-Gerzawy A, Ezzat A, Mottawie H. 2006. Developmental, behavioral and genetic factors in correlation with attention deficit hyperactivity disorder in Egyptian children. *Journal of Medical Sciences* 6(4): 569-576.
- Almeida CC, Brentani HP, Forlenza OV, Diniz BS. 2012. Serum folic acid is reduced in patients with Alzheimer's disease. *Revista De Psiquiatria Clinica* 39(3): 90-93.
- Almeida OP, Flicker L, Lautenschlager NT, Leedman P, Vasikaran S, van Bockxmeer FM. 2005. Contribution of the MTHFR gene to the causal pathway for depression, anxiety and cognitive impairment in later life. *Neurobiol Aging* 26(2): 251-257.
- Almeida OP, Marsh K, Alfonso H, Flicker L, Davis TM, Hankey GJ. 2010. B-vitamins reduce the long-term risk of depression after stroke: The VITATOPS-DEP trial. *Ann Neurol* 68(4): 503-510.
- Ambrosch A, Dierkes J, Lobmann R, Kuhne W, Konig W, Luley C, Lehnert H. 2001. Relation between homocysteinaemia and diabetic neuropathy in patients with Type 2 diabetes mellitus. *Diabet Med* 18(3): 185-192.
- America A, Milling LS. 2008. The efficacy of vitamins for reducing or preventing depression symptoms in healthy individuals: natural remedy or placebo? *J. Behav. Med.* 31(2): 157-167.

- Andreeva VA, Kesse-Guyot E, Barberger-Gateau P, Fezeu L, Hercberg S, Galan P. 2011. Cognitive function after supplementation with B vitamins and long-chain omega-3 fatty acids: ancillary findings from the SU.FOL.OM3 randomized trial. *Am J Clin Nutr* 94(1): 278-286.
- Andreeva VA, Galan P, Torres M, Julia C, Hercberg S, Kesse-Guyot E. 2012. Supplementation with B vitamins or n-3 fatty acids and depressive symptoms in cardiovascular disease survivors: ancillary findings from the SUpplementation with FOLate, vitamins B-6 and B-12 and/or OMega-3 fatty acids (SU.FOL.OM3) randomized trial. *Am J Clin Nutr* 96(1): 208-214.
- Annerbo S, Wahlund LO, Lökk J. 2005. The relation between homocysteine levels and development of Alzheimer's disease in mild cognitive impairment patients. *Dement Geriatr Cogn Disord* 20(4): 209-214.
- Annerbo S, Wahlund LO, Lökk J. 2006. The significance of thyroid-stimulating hormone and homocysteine in the development of Alzheimer's disease in mild cognitive impairment: a 6-year follow-up study. *Am J Alzheimers Dis Other Demen* 21(3): 182-188.
- Aparicio Vizueté A, Robles F, Rodríguez-Rodríguez E, López-Sobaler AM, Ortega RM. 2010. Association between food and nutrient intakes and cognitive capacity in a group of institutionalized elderly people. *Eur J Nutr* 49(5): 293-300.
- Arakawa T. 1967. Megaloblastic anemia and mental retardation associated with hyperfollic-acidemia: probably due to n5 methyltetrahydrofolate transferase deficiency. *Tohoku Journal of Experimental Medicine* 93(1): 1-22.
- Argyriadou S, Vlachonikolis I, Melisopoulou H, Katachanakis K, Lionis C. 2001. In what extent anemia coexists with cognitive impairment in elderly: a cross-sectional study in Greece. *BMC Fam Pract* 2: 5.
- Arija V, Esparó G, Fernández-Ballart J, Murphy MM, Biarnés E, Canals J. 2006. Nutritional status and performance in test of verbal and non-verbal intelligence in 6 year old children. *Intelligence* 34(2): 141-149.
- Ariogul S, Cankurtaran M, Dagli N, Khalil M, Yavuz B. 2005. Vitamin B12, folate, homocysteine and dementia: are they really related? *Arch Gerontol Geriatr* 40(2): 139-146.
- Asfour R, Wahbeh N, Waslien CI. 1977. Folic acid requirement of children. III. Normal infants. *American Journal of Clinical Nutrition* 30(7): 1098-1105.
- Assantachai P, Yamwong P, Chongsuphajaisiddhi T. 1997. Relationships of vitamin B1, B12, folate and the cognitive ability of the Thai rural elderly. *J Med Assoc Thai* 80(11): 700-705.
- Astorg P, Couthouis A, de Courcy GP, Bertrais S, Arnault N, Meneton P, Galan P, Hercberg S. 2008. Association of folate intake with the occurrence of depressive episodes in middle-aged French men and women. *Br J Nutr* 100(1): 183-187.
- Avdelidi E, Toulidou A, Petsanis K, Gouliova A, Tsolaki M, Kazis A. 2004. The Effect of Serum Vitamin B12 Levels on the Progression of Alzheimer's Disease Dementia. *Review of Clinical Pharmacology and Pharmacokinetics, International Edition* 18(1): 91-93.
- Bachmann CG, Guth N, Helmschmied K, Armstrong VW, Paulus W, Happe S. 2008. Homocysteine in restless legs syndrome. *Sleep Med* 9(4): 388-392.
- Bae HS, Kim SY, Ahnv HS, Cho YK. 2010. Comparison of nutrient intake, life style variables, and pregnancy outcomes by the depression degree of pregnant women. *Nutr Res Pract* 4(4): 323-331.
- Baker H, De Angelis B, Baker ER, Frank O, Jaslow SP. 1999. Lack of effect of 1 year intake of a high-dose vitamin and mineral supplement on cognitive function of elderly women. *Gerontology* 45(4): 195-199.
- Barcikowska M, Czyzewski K, Pfeffer A, Zawitkowska T. 1994. [Level of vitamin B12 and folic acid in blood serum of patients with senile dementia]. *Wiad Lek* 47(9-10): 346-351.

- Basoglu C, Ates MA, Algul A, Ipcioglu OM, Gecici O, Yilmaz O, Semiz UB, Ebrinc S, Gulsun M, Ozcan O, Kilic S, Cetin M. 2009. Adjuvant folate with escitalopram treatment and homocystein, folate, vitamin B-12 levels in patients with major depressive disorder. *Klinik Psikofarmakoloji Bulteni* 19(2): 135-142.
- Bassi B, Parodi E, Messina M, Boffi P, Bobba B, Campagnoli MF, Rigardetto R, Saracco P. 2003. Screening for genetic and acquired thrombophilia in a cohort of young migrainous patients. *Journal of Headache and Pain* 4(3): 138-145.
- Bates CJ, Evans PH, Allison G, Sonko BJ, Hoare S, Goodrich S, Aspray T. 1994. Biochemical indices and neuromuscular function tests in rural Gambian schoolchildren given a riboflavin, or multivitamin plus iron, supplement. *Br J Nutr* 72(4): 601-610.
- Benton D, Fordy J, Haller J. 1995. THE IMPACT OF LONG-TERM VITAMIN SUPPLEMENTATION ON COGNITIVE-FUNCTIONING. *Psychopharmacology* 117(3): 298-305.
- Berner B, Odum L, Parving A. 2000. Age-related hearing impairment and B vitamin status. *Acta Otolaryngol* 120(5): 633-637.
- Beydoun MA, Fanelli Kuczmarski MT, Beydoun HA, Shroff MR, Mason MA, Evans MK, Zonderman AB. 2010a. The sex-specific role of plasma folate in mediating the association of dietary quality with depressive symptoms. *J Nutr* 140(2): 338-347.
- Beydoun MA, Shroff MR, Beydoun HA, Zonderman AB. 2010b. Serum folate, vitamin B-12, and homocysteine and their association with depressive symptoms among U.S. adults. *Psychosom Med* 72(9): 862-873.
- Bi XH, Zhao HL, Zhang ZX, Zhang JW. 2009. Association of RFC1 A80G and MTHFR C677T polymorphisms with Alzheimer's disease. *Neurobiology of Aging* 30(10): 1601-1607.
- Bialecka M, Kurzawski M, Roszmann A, Robowski P, Sitek EJ, Honczarenko K, Gorzkowska A, Budrewicz S, Mak M, Jarosz M, Golab-Janowska M, Koziorowska-Gawron E, Drozdziak M, Slawek J. 2012. Association of COMT, MTHFR, and SLC19A1(RFC-1) polymorphisms with homocysteine blood levels and cognitive impairment in Parkinson's disease. *Pharmacogenet Genomics* 22(10): 716-724.
- Bjelland I, Tell GS, Vollset SE, Refsum H, Ueland PM. 2003. Folate, vitamin B12, homocysteine, and the MTHFR 677C->T polymorphism in anxiety and depression: the Hordaland Homocysteine Study. *Arch Gen Psychiatry* 60(6): 618-626.
- Bjorkegren K, Svardsudd K. 2003. Reported symptoms and clinical findings in relation to serum cobalamin, folate, methylmalonic acid and total homocysteine among elderly Swedes: a population-based study. *J Intern Med* 254(4): 343-352.
- Bjorkegren K, Svardsudd K. 2004. A population-based intervention study on elevated serum levels of methylmalonic acid and total homocysteine in elderly people: results after 36 months of follow-up. *J Intern Med* 256(5): 446-452.
- Blasko I, Hinterberger M, Kemmler G, Jungwirth S, Krampla W, Leitha T, Heinz Tragl K, Fischer P. 2012. Conversion from mild cognitive impairment to dementia: influence of folic acid and vitamin B12 use in the VITA cohort. *J Nutr Health Aging* 16(8): 687-694.
- Blunden CH, Inskip HM, Robinson SM, Cooper C, Godfrey KM, Kendrick TR. 2012. Postpartum depressive symptoms: the B-vitamin link. *Mental health in family medicine* 9(1): 5-13.
- Bodnar LM, Wisner KL, Luther JF, Powers RW, Evans RW, Gallaher MJ, Newby PK. 2012. An exploratory factor analysis of nutritional biomarkers associated with major depression in pregnancy. *Public Health Nutr* 15(6): 1078-1086.
- Boeke CE, Gillman MW, Hughes MD, Rifas-Shiman SL, Villamor E, Oken E. 2013. Choline intake during pregnancy and child cognition at age 7 years. *Am J Epidemiol* 177(12): 1338-1347.
- Bonilla E, Estevez J, Suarez H, Morales LM, Chacin de Bonilla L, Villalobos R, Davila JO. 1991. Serum ferritin deficiency in Huntington's disease patients. *Neurosci Lett* 129(1): 22-24.

- Botez MI, Lambert B. 1978. A possible correlation between restless legs syndrome and folate deficiency in pregnancy. *Nutrition Reports International* 18(2): 143-146.
- Botez MI, Peyronnard JM, Bachevalier J, Charron L. 1978. Polyneuropathy and folate deficiency. *Arch Neurol* 35(9): 581-584.
- Botez MI, Botez T, Maag U. 1984. The Wechsler subtests in mild organic brain damage associated with folate deficiency. *Psychol Med* 14(2): 431-437.
- Bottiglieri T, Laundry M, Crellin R, Toone BK, Carney MW, Reynolds EH. 2000. Homocysteine, folate, methylation, and monoamine metabolism in depression. *J Neurol Neurosurg Psychiatry* 69(2): 228-232.
- Bottini F, Celle ME, Calevo MG, Amato S, Minniti G, Montaldi L, Di Pasquale D, Cerone R, Veneselli E, Molinari AC. 2006. Metabolic and genetic risk factors for migraine in children. *Cephalalgia* 26(6): 731-737.
- Bouaziz N, Ayedi I, Sidhom O, Kallel A, Rafrafi R, Jomaa R, Melki W, Feki M, Kaabechi N, El Hechmi Z. 2010. Plasma homocysteine in schizophrenia: determinants and clinical correlations in Tunisian patients free from antipsychotics. *Psychiatry Res* 179(1): 24-29.
- Bowirrat A, Friedland RP, Farrer L, Baldwin C, Korczyn A. 2002. Genetic and environmental risk factors for Alzheimer's disease in Israeli Arabs. *J Mol Neurosci* 19(1-2): 239-245.
- Bowman GL, Silbert LC, Howieson D, Dodge HH, Traber MG, Frei B, Kaye JA, Shannon J, Quinn JF. 2012. Nutrient biomarker patterns, cognitive function, and MRI measures of brain aging. *Neurology* 78(4): 241-249.
- Brown B, Huang MH, Karlamangla A, Seeman T, Kado D. 2011. Do the effects of APOE-epsilon4 on cognitive function and decline depend upon vitamin status? *MacArthur Studies of Successful Aging. J Nutr Health Aging* 15(3): 196-201.
- Brown WT, Cohen IL, Fisch GS. 1986. High dose folic acid treatment of fragile (X) males. *American Journal of Medical Genetics* 23(1-2): 263-271.
- Bryan J, Calvaresi E, Hughes D. 2002. Short-term folate, vitamin B-12 or vitamin B-6 supplementation slightly affects memory performance but not mood in women of various ages. *J Nutr* 132(6): 1345-1356.
- Bunce D, Kivipelto M, Wahlin A. 2004. Utilization of cognitive support in episodic free recall as a function of apolipoprotein E and vitamin B12 or folate among adults aged 75 years and older. *Neuropsychology* 18(2): 362-370.
- Caccamo D, Condello S, Gorgone G, Crisafulli G, Belcastro V, Gennaro S, Striano P, Pisani F, Ientile R. 2004. Screening for C677T and A1298C MTHFR polymorphisms in patients with epilepsy and risk of hyperhomocysteinemia. *Neuromolecular Med* 6(2-3): 117-126.
- Cadoni G, Agostino S, Scipione S, Galli J. 2004. Low serum folate levels: a risk factor for sudden sensorineural hearing loss? *Acta Otolaryngol* 124(5): 608-611.
- Camicoli RM, Bouchard TP, Somerville MJ. 2009. Homocysteine is not associated with global motor or cognitive measures in nondemented older Parkinson's disease patients. *Mov Disord* 24(2): 176-182.
- Campbell AK, Jagust WJ, Mungas DM, Miller JW, Green R, Haan MN, Allen LH. 2005. Low erythrocyte folate, but not plasma vitamin B-12 or homocysteine, is associated with dementia in elderly Latinos. *J Nutr Health Aging* 9(1): 39-43.
- Campoy C, Escolano-Margarit MV, Ramos R, Parrilla-Roure M, Csabi G, Beyer J, Ramirez-Tortosa MC, Molloy AM, Decsi T, Koletzko BV. 2011. Effects of prenatal fish-oil and 5-methyltetrahydrofolate supplementation on cognitive development of children at 6.5 y of age. *Am J Clin Nutr* 94(6): 1880S-1888S.
- Carney MW, Chary TK, Laundry M, Bottiglieri T, Chanarin I, Reynolds EH, Toone B. 1990. Red cell folate concentrations in psychiatric patients. *J Affect Disord* 19(3): 207-213.

- Carroll D, Ring C, Suter M, Willemsen G. 2000. The effects of an oral multivitamin combination with calcium, magnesium, and zinc on psychological well-being in healthy young male volunteers: a double-blind placebo-controlled trial. *Psychopharmacology* 150(2): 220-225.
- Carruyo-Vizcaino C, Vizcaino G, Diez-Ewald M, Arteaga-Vizcaino M, Torres-Guerra E. 1995. [Hemoglobin and nutrient concentration in middle-class adolescents. Relationship with school performance]. *Invest Clin* 36(3): 117-130.
- Cassidy K, Kotynia-English R, Acres J, Flicker L, Lautenschlager NT, Almeida OP. 2004. Association between lifestyle factors and mental health measures among community-dwelling older women. *Aust N Z J Psychiatry* 38(11-12): 940-947.
- Cavalieri M, Schmidt R, Chen C, Mok V, de Freitas GR, Song S, Yi Q, Ropele S, Grazer A, Homayoon N, Enzinger C, Loh K, Wong KS, Wong A, Xiong Y, Chang HM, Wong MC, Fazekas F, Eikelboom JW, Hankey GJ. 2012. B vitamins and magnetic resonance imaging-detected ischemic brain lesions in patients with recent transient ischemic attack or stroke: the VITamins TO Prevent Stroke (VITATOPS) MRI-substudy. *Stroke* 43(12): 3266-3270.
- Censori B, Partziguian T, Manara O, Poloni M. 2007. Plasma homocysteine and severe white matter disease. *Neuro Sci* 28(5): 259-263.
- Çetin B, Çekin E, Cincik H, Güngör A. 2008. Relationship between acoustic trauma and serum level of vitamin B12, folic acid, zinc, magnesium and malondialdehyde. *Mediterr. J. Otol.* 4(3): 164-169.
- Chakrabarty B, Kabra SK, Gulati S, Toteja GS, Lodha R, Kabra M, Pandey RM, Srivastava A. 2013. Peripheral neuropathy in cystic fibrosis: a prevalence study. *J Cyst Fibros* 12(6): 754-760.
- Chan A, Paskavitz J, Remington R, Rasmussen S, Shea TB. 2008. Efficacy of a vitamin/nutriceutical formulation for early-stage Alzheimer's disease: a 1-year, open-label pilot study with an 16-month caregiver extension. *Am J Alzheimers Dis Other Demen* 23(6): 571-585.
- Chan A, Remington R, Kotyla E, Lepore A, Zemianek J, Shea TB. 2010. A vitamin/nutriceutical formulation improves memory and cognitive performance in community-dwelling adults without dementia. *J Nutr Health Aging* 14(3): 224-230.
- Chang N, Kim E, Kim KN, Kim H, Kim SY, Jeong BS. 2009. Folate nutrition is related to neuropsychological functions in the elderly. *Nutr Res Pract* 3(1): 43-48.
- Chatzi L, Papadopoulou E, Koutra K, Roumeliotaki T, Georgiou V, Stratakis N, Lebentakou V, Karachaliou M, Vassilaki M, Kogevinas M. 2012. Effect of high doses of folic acid supplementation in early pregnancy on child neurodevelopment at 18 months of age: the mother-child cohort 'Rhea' study in Crete, Greece. *Public Health Nutr* 15(9): 1728-1736.
- Chen H, Zhang SM, Schwarzschild MA, Hernan MA, Logroscino G, Willett WC, Ascherio A. 2004. Folate intake and risk of Parkinson's disease. *Am J Epidemiol* 160(4): 368-375.
- Chen KJ, Pan WH, Huang CJ, Lin BF. 2011. Association between folate status, diabetes, antihypertensive medication and age-related cataracts in elderly Taiwanese. *J Nutr Health Aging* 15(4): 304-310.
- Chen PH, Liou KC, Chen CP, Cheng SJ. 2012. Risk factors and prevalence rate of restless legs syndrome among pregnant women in Taiwan. *Sleep Med* 13(9): 1153-1157.
- Chin APMJ, de Jong N, Schouten EG, van Staveren WA, Kok FJ. 2002. Physical exercise or micronutrient supplementation for the wellbeing of the frail elderly? A randomised controlled trial. *Br J Sports Med* 36(2): 126-131.
- Chisholm IA. 1978. Serum cobalamin and folate in the optic neuropathy associated with tobacco smoking. *Can J Ophthalmol* 13(2): 105-109.

- Cho YJ, Han JY, Choi JS, Ahn HK, Ryu HM, Kim MY, Yang JH, Nava-Ocampo AA, Koren G. 2008. Prenatal multivitamins containing folic acid do not decrease prevalence of depression among pregnant women. *J Obstet Gynaecol* 28(5): 482-484.
- Christen WG, Glynn RJ, Chew EY, Albert CM, Manson JE. 2009. Folic acid, pyridoxine, and cyanocobalamin combination treatment and age-related macular degeneration in women: The women's antioxidant and folic acid cardiovascular study. *Archives of Internal Medicine* 169(4): 335-341.
- Christian P, Morgan ME, Murray-Kolb L, Leclercq SC, Khatry SK, Schaefer B, Cole PM, Katz J, Tielsch JM. 2011. Preschool iron-folic Acid and zinc supplementation in children exposed to iron-folic Acid in utero confers no added cognitive benefit in early school-age. *J Nutr* 141(11): 2042-2048.
- Clarke R, Smith AD, Jobst KA, Refsum H, Sutton L, Ueland PM. 1998. Folate, vitamin B12, and serum total homocysteine levels in confirmed Alzheimer disease. *Arch Neurol* 55(11): 1449-1455.
- Clarke R, Harrison G, Richards S. 2003. Effect of vitamins and aspirin on markers of platelet activation, oxidative stress and homocysteine in people at high risk of dementia. *J Intern Med* 254(1): 67-75.
- Clarke R, Birks J, Nexo E, Ueland PM, Schneede J, Scott J, Molloy A, Evans JG. 2007. Low vitamin B-12 status and risk of cognitive decline in older adults. *Am J Clin Nutr* 86(5): 1384-1391.
- Cole MG, Prchal JF. 1984. Low serum vitamin B12 in Alzheimer-type dementia. *Age Ageing* 13(2): 101-105.
- Connelly PJ, Prentice NP, Cousland G, Bonham J. 2008. A randomised double-blind placebo-controlled trial of folic acid supplementation of cholinesterase inhibitors in Alzheimer's disease. *Int J Geriatr Psychiatry* 23(2): 155-160.
- Coppede F, Tannorella P, Pezzini I, Migheli F, Ricci G, Caldarazzo lenco E, Piaceri I, Polini A, Nacmias B, Monzani F, Sorbi S, Siciliano G, Migliore L. 2012. Folate, homocysteine, vitamin B12, and polymorphisms of genes participating in one-carbon metabolism in late-onset Alzheimer's disease patients and healthy controls. *Antioxid Redox Signal* 17(2): 195-204.
- Corder EH, Beaumont H. 2007. Susceptibility groups for Alzheimer's disease (OPTIMA cohort): integration of gene variants and biochemical factors. *Mech Ageing Dev* 128(1): 76-82.
- Corrada MM, Kawas CH, Hallfrisch J, Muller D, Brookmeyer R. 2005. Reduced risk of Alzheimer's disease with high folate intake: the Baltimore Longitudinal Study of Aging. *Alzheimers Dement* 1(1): 11-18.
- Corzo L, Zas R, Rodriguez S, Fernandez-Novoa L, Cacabelos R. 2007. Decreased levels of serum nitric oxide in different forms of dementia. *Neurosci Lett* 420(3): 263-267.
- Cumurcu T, Sahin S, Aydin E. 2006. Serum homocysteine, vitamin B 12 and folic acid levels in different types of glaucoma. *BMC Ophthalmol* 6: 6.
- Curhan SG, Eavey R, Shargorodsky J, Curhan GC. 2011. Prospective study of alcohol use and hearing loss in men. *Ear Hear* 32(1): 46-52.
- Dastur DK, Santhadevi N, Quadros EV, Gagrat BM, Wadia NH, Desai MM, Singhal BS, Bharucha EP. 1975. Interrelationships between the B-vitamins in B12-deficiency neuromyelopathy. A possible malabsorption-malnutrition syndrome. *Am J Clin Nutr* 28(11): 1255-1270.
- Davidson LS, Girdwood RH. 1947. Folic acid as a therapeutic agent. *Br Med J* 1(4504): 587-591.
- Davison KM, Kaplan BJ. 2011. Vitamin and mineral intakes in adults with mood disorders: comparisons to nutrition standards and associations with sociodemographic and clinical variables. *J Am Coll Nutr* 30(6): 547-558.
- Davison KM, Kaplan BJ. 2012. Nutrient intakes are correlated with overall psychiatric functioning in adults with mood disorders. *Can J Psychiatry* 57(2): 85-92.
- de Jager CA, Oulhaj A, Jacoby R, Refsum H, Smith AD. 2012. Cognitive and clinical outcomes of homocysteine-lowering B-vitamin treatment in mild cognitive impairment: a randomized controlled trial. *Int J Geriatr Psychiatry* 27(6): 592-600.

- de Jong N, Chin APMJ, de Groot LC, Rutten RA, Swinkels DW, Kok FJ, van Staveren WA. 2001. Nutrient-dense foods and exercise in frail elderly: effects on B vitamins, homocysteine, methylmalonic acid, and neuropsychological functioning. *Am J Clin Nutr* 73(2): 338-346.
- De Lau LML, Koudstaal PJ, Witteman JCM, Hofman A, Breteler MMB. 2006. Dietary folate, vitamin B12, and vitamin B6 and the risk of Parkinson disease. *Neurology* 67(2): 315-318.
- de Lau LML, Refsum H, Smith AD, Johnston C, Breteler MMB. 2007. Plasma folate concentration and cognitive performance: Rotterdam scan study. *American Journal of Clinical Nutrition* 86(3): 728-734.
- de Luis DA, Fernandez N, Arranz M, Aller R, Izaola O. 2002. Total homocysteine and cognitive deterioration in people with type 2 diabetes. *Diabetes Res Clin Pract* 55(3): 185-190.
- de Silva HA, Gunatilake SB, Johnston C, Warden D, Smith AD. 2005. Medial temporal lobe atrophy, apolipoprotein genotype, and plasma homocysteine in Sri Lankan patients with Alzheimer's disease. *Exp Aging Res* 31(3): 345-354.
- Deb S, Cowie VA, Richens A. 1987. Folate metabolism and problem behaviour in mentally handicapped epileptics. *J Ment Defic Res* 31 (Pt 2): 163-168.
- del Rio Garcia C, Torres-Sanchez L, Chen J, Schnaas L, Hernandez C, Osorio E, Portillo MG, Lopez-Carrillo L. 2009. Maternal MTHFR 677C>T genotype and dietary intake of folate and vitamin B(12): their impact on child neurodevelopment. *Nutr Neurosci* 12(1): 13-20.
- del Ser Quijano T, Bermejo Pareja F, Munoz-Garcia D, Portera Sanchez A. 1983. Psychological disturbances and folic acid in chronic epileptic outpatients. *Epilepsia* 24(5): 588-596.
- Di Rosa G, Attina S, Spano M, Ingegneri G, Sgro DL, Pustorino G, Bonsignore M, Trapani-Lombardo V, Tortorella G. 2007. Efficacy of folic acid in children with migraine, hyperhomocysteinemia and MTHFR polymorphisms. *Headache* 47(9): 1342-1344.
- Dickerson JW, Tingle PA, Barrington P, Pennock JK. 1987. Development of brain injured children. *J R Soc Health* 107(4): 115-123.
- DiFrancisco-Donoghue J, Lamberg EM, Rabin E, Elokda A, Fazzini E, Werner WG. 2012. Effects of exercise and B vitamins on homocysteine and glutathione in Parkinson's disease: a randomized trial. *Neurodegener Dis* 10(1-4): 127-134.
- Dimopoulos N, Piperi C, Salonicoti A, Psarra V, Gazi F, Nounopoulos C, Lea RW, Kalofoutis A. 2006. Association of cognitive impairment with plasma levels of folate, vitamin B12 and homocysteine in the elderly. *In Vivo* 20(6B): 895-899.
- Dimopoulos N, Piperi C, Salonicoti A, Psarra V, Gazi F, Papadimitriou A, Lea RW, Kalofoutis A. 2007. Correlation of folate, vitamin B12 and homocysteine plasma levels with depression in an elderly Greek population. *Clin Biochem* 40(9-10): 604-608.
- Dobo M, Czeizel AE. 1998. Long-term somatic and mental development of children after periconceptual multivitamin supplementation. *Eur J Pediatr* 157(9): 719-723.
- Doganavsargil Baysal GO, Gokmen Z, Akbas H, Cinemre B, Metin O, Karaman T. 2013. [Association of serum homocysteine and methionine levels with cognition and functioning in bipolar disorder]. *Turk psikiyatri dergisi = Turkish journal of psychiatry* 24(1): 7-16.
- Dominguez RO, Marschoff ER, Guareschi EM, Famulari AL, Pagano MA, Serra JA. 2005. Homocysteine, vitamin B 12 and folate in Alzheimer's and vascular dementias: the paradoxical effect of the superimposed type II diabetes mellitus condition. *Clin Chim Acta* 359(1-2): 163-170.
- Durga J, Anteunis LJ, Schouten EG, Bots ML, Kok FJ, Verhoef P. 2006a. Association of folate with hearing is dependent on the 5,10-methylenetetrahydrofolate reductase 677C-->T mutation. *Neurobiol Aging* 27(3): 482-489.

- Durga J, van Boxtel MPJ, Schouten EG, Bots ML, Kok FJ, Verhoef P. 2006b. Folate and the methylenetetrahydrofolate reductase 677C -> T mutation correlate with cognitive performance. *Neurobiology of Aging* 27(2): 334-343.
- Durga J, Van Boxtel MP, Schouten EG, Kok FJ, Jolles J, Katan MB, Verhoef P. 2007a. What can we learn from the FACIT trial: a randomized, double blind, controlled trial. *J Nutr Health Aging* 11(4): 320-324.
- Durga J, van Boxtel MP, Schouten EG, Kok FJ, Jolles J, Katan MB, Verhoef P. 2007b. Effect of 3-year folic acid supplementation on cognitive function in older adults in the FACIT trial: a randomised, double blind, controlled trial. *Lancet* 369(9557): 208-216.
- Durga J, Verhoef P, Anteunis LJ, Schouten E, Kok FJ. 2007c. Effects of folic acid supplementation on hearing in older adults: a randomized, controlled trial. *Ann Intern Med* 146(1): 1-9.
- Durusoy C, Ozenli Y, Adiguzel A, Budakoglu IY, Tugal O, Arikan S, Uslu A, Gulec AT. 2009. The role of psychological factors and serum zinc, folate and vitamin B12 levels in the aetiology of trichodynia: a case-control study. *Clin Exp Dermatol* 34(7): 789-792.
- Duthie SJ, Whalley LJ, Collins AR, Leaper S, Berger K, Deary IJ. 2002. Homocysteine, B vitamin status, and cognitive function in the elderly. *Am J Clin Nutr* 75(5): 908-913.
- Ebesunun MO, Eruvulobi HU, Olagunju T, Owoeye OA. 2012. Elevated plasma homocysteine in association with decreased vitamin B(12), folate, serotonin, lipids and lipoproteins in depressed patients. *African journal of psychiatry* 15(1): 25-29.
- Ebly EM, Schaefer JP, Campbell NRC, Hogan DB. 1998. Folate status, vascular disease and cognition in elderly Canadians. *Age and Ageing* 27(4): 485-491.
- Eilander A, Muthayya S, van der Knaap H, Srinivasan K, Thomas T, Kok FJ, Kurpad AV, Osendarp SJ. 2010. Undernutrition, fatty acid and micronutrient status in relation to cognitive performance in Indian school children: a cross-sectional study. *Br J Nutr* 103(7): 1056-1064.
- El-Batch M, Eissa MA, Farouk G, Attia M. 2010. N-Terminal Pro-Brain Natriuretic Peptide, Homocysteine and Methylenetetrahydrofolate Reductase Gene Polymorphism in Elderly Depressed and Mild Cognitive Impairment Patients. *Turk. J. Biochem.* 35(2): 103-111.
- Elias MF, Robbins MA, Budge MM, Elias PK, Brennan SL, Johnston C, Nagy Z, Bates CJ. 2006. Homocysteine, folate, and vitamins B6 and B12 blood levels in relation to cognitive performance: the Maine-Syracuse study. *Psychosom Med* 68(4): 547-554.
- Ellison AB. 1960. Pernicious anemia masked by multivitamins containing folic acid. *J Am Med Assoc* 173: 240-243.
- Elwood PC, Shinton NJC, Wilson CID. 1971. Haemoglobin, vitamin b12 and folate levels in the elderly. *Brit.J.Jhaemat.* 21(5): 557-563.
- Engelborghs S, Vloeberghs E, Maertens K, Marien P, Somers N, Symons A, Clement F, Ketels V, Saerens J, Goeman J, Pickut BA, Vandevivere J, De Deyn PP. 2004. Correlations between cognitive, behavioural and psychological findings and levels of vitamin B12 and folate in patients with dementia. *Int J Geriatr Psychiatry* 19(4): 365-370.
- Engström G, Träskman-Bendz L. 1999. Blood folate, vitamin B12 and their relationships with cerebrospinal fluid monoamine metabolites, depression, and personality in suicide attempters. *Nordic Journal of Psychiatry* 53(2): 131-137.
- Eren E, Yegin A, Yilmaz N, Herken H. 2010. Serum total homocystein, folate and vitamin B12 levels and their correlation with antipsychotic drug doses in adult male patients with chronic schizophrenia. *Clin Lab* 56(11-12): 513-518.
- Erickson KI, Suever BL, Prakash RS, Colcombe SJ, McAuley E, Kramer AF. 2008. Greater intake of vitamins B6 and B12 spares gray matter in healthy elderly: a voxel-based morphometry study. *Brain Res* 1199: 20-26.

- Escolano-Margarit MV, Ramos R, Beyer J, Csabi G, Parrilla-Roure M, Cruz F, Perez-Garcia M, Hadders-Algra M, Gil A, Decsi T, Koletzko BV, Campoy C. 2011. Prenatal DHA status and neurological outcome in children at age 5.5 years are positively associated. *J Nutr* 141(6): 1216-1223.
- Essama-Tjani JC, Guiland JC, Potier de Courcy G, Fuchs F, Richard D. 2000. Folate status worsens in recently institutionalized elderly people without evidence of functional deterioration. *J Am Coll Nutr* 19(3): 392-404.
- Eussen SJ, Ferry M, Hininger I, Haller J, Matthys C, Dirren H. 2002. Five year changes in mental health and associations with vitamin B12/folate status of elderly Europeans. *J Nutr Health Aging* 6(1): 43-50.
- Eussen SJ, Ueland PM, Clarke R, Blom HJ, Hoefnagels WH, van Staveren WA, de Groot LC. 2007. The association of betaine, homocysteine and related metabolites with cognitive function in Dutch elderly people. *Br J Nutr* 98(5): 960-968.
- Ezzaher A, Mouhamed DH, Mechri A, Omezzine A, Neffati F, Douki W, Bouslama A, Gaha L, Najjar MF. 2011. Hyperhomocysteinemia in Tunisian bipolar I patients. *Psychiatry and clinical neurosciences* 65(7): 664-671.
- Farvid MS, Homayouni F, Amiri Z, Adelmanesh F. 2011. Improving neuropathy scores in type 2 diabetic patients using micronutrients supplementation. *Diabetes Res Clin Pract* 93(1): 86-94.
- Fathy H, El-Mawella SMA, Abdou H, Adel A, Abdou A. 2011. Methyltetrahydrofolate reductase polymorphism, folic acid, and B12 in a sample of patients with depressive and anxiety symptoms. *Middle East Current Psychiatry* 18(2): 118-125.
- Faux NG, Ellis KA, Porter L, Fowler CJ, Laws SM, Martins RN, Pertile KK, Rembach A, Rowe CC, Rumble RL, Szoeki C, Taddei K, Taddei T, Trounson BO, Villemagne VL, Ward V, Ames D, Masters CL, Bush AI. 2011. Homocysteine, vitamin B12, and folic acid levels in Alzheimer's disease, mild cognitive impairment, and healthy elderly: baseline characteristics in subjects of the Australian Imaging Biomarker Lifestyle study. *J Alzheimers Dis* 27(4): 909-922.
- Feng L, Ng TP, Chuah L, Niti M, Kua EH. 2006. Homocysteine, folate, and vitamin B-12 and cognitive performance in older Chinese adults: findings from the Singapore Longitudinal Ageing Study. *Am J Clin Nutr* 84(6): 1506-1512.
- Feng L, Isaac V, Sim S, Ng TP, Krishnan KR, Chee MW. 2013. Associations between elevated homocysteine, cognitive impairment, and reduced white matter volume in healthy old adults. *Am J Geriatr Psychiatry* 21(2): 164-172.
- Ferraris E, Marzocchi N, Brovia D, Castellana CN, Pini LA. 2003. Homocysteine levels and cardiovascular disease in migraine with aura. *Journal of Headache and Pain* 4(2): 62-66.
- Fioravanti M, Ferrario E, Massaia M, Cappa G, Rivolta G, Grossi E, Buckley AE. 1997. Low folate levels in the cognitive decline of elderly patients and the efficacy of folate as a treatment for improving memory deficits. *Archives of Gerontology and Geriatrics* 26(1): 1-13.
- Flicker L, Martins RN, Thomas J, Acres J, Taddei K, Vasikaran SD, Norman P, Jamrozik K, Almeida OP. 2008. B-vitamins reduce plasma levels of beta amyloid. *Neurobiol Aging* 29(2): 303-305.
- Fonseca VA, Lavery LA, Thethi TK, Daoud Y, DeSouza C, Ovalle F, Denham DS, Bottiglieri T, Sheehan P, Rosenstock J. 2013. Metanx in type 2 diabetes with peripheral neuropathy: a randomized trial. *Am J Med* 126(2): 141-149.
- Ford AH, Flicker L, Thomas J, Norman P, Jamrozik K, Almeida OP. 2008. Vitamins B12, B6, and folic acid for onset of depressive symptoms in older men: results from a 2-year placebo-controlled randomized trial. *J Clin Psychiatry* 69(8): 1203-1209.
- Ford AH, Flicker L, Alfonso H, Thomas J, Clarnette R, Martins R, Almeida OP. 2010. Vitamins B(12), B(6), and folic acid for cognition in older men. *Neurology* 75(17): 1540-1547.

- Forns J, Torrent M, Garcia-Esteban R, Caceres A, Pilar Gomila M, Martinez D, Morales E, Julvez J, Grimalt JO, Sunyer J. 2012. Longitudinal association between early life socio-environmental factors and attention function at the age 11 years. *Environ Res* 117: 54-59.
- Forti P, Maioli F, Nesi B, Vettori C, Flisi E, Dalmonte E, Zanardi V, Lodi L, Macini P, Calderera M, Ravaglia G. 2001. Conselice study: A population based survey of brain aging in a municipality of the Emilia Romagna region: (A.U.S.L. Ravenna). Neuropsychological tests and nutritional status. *Archives of Gerontology and Geriatrics* 33(SUPPL.): 137-144.
- Forti P, Rietti E, Pisacane N, Olivelli V, Dalmonte E, Mecocci P, Ravaglia G. 2010. Blood homocysteine and risk of depression in the elderly. *Arch Gerontol Geriatr* 51(1): 21-25.
- Fowler WM, Hendricks AB. 1949. Folic acid and the neurologic manifestations of pernicious anemia. *Am Pract Dig Treat* 3(10): 609-613.
- Franchi F, Baio G, Bolognesi AG, Bonassi R, Emiliani S, Gobbi G, Luchetti L, Zurla L. 2001. Deficient folate nutritional status and cognitive performances: Results from a retrospective study in male elderly inpatients in a geriatric department. *Archives of Gerontology and Geriatrics*: 145-150.
- Freemon FR. 1976. Evaluation of patients with progressive intellectual deterioration. *Arch Neurol* 33(9): 658-659.
- Frick B, Gruber B, Schroecksadel K, Leblhuber F, Fuchs D. 2006. Homocysteine but not neopterin declines in demented patients on B vitamins. *J Neural Transm* 113(11): 1815-1819.
- Fuld H. 1950. Effect of vitamin B12 on neuropathy in pernicious anaemia treated with folic acid. *Br Med J* 2(4671): 147-148.
- Gallucci M, Zanardo A, De Valentin L, Vianello A. 2004. Homocysteine in Alzheimer disease and vascular dementia. *Arch Gerontol Geriatr Suppl*(9): 195-200.
- Garcia-Miss MD, Perez-Mutul J, Lopez-Canul B, Solis-Rodriguez F, Puga-Machado L, Oxte-Cabrera A, Gurubel-Maldonado J, Arankowsky-Sandoval G. 2010. Folate, homocysteine, interleukin-6, and tumor necrosis factor alpha levels, but not the methylenetetrahydrofolate reductase C677T polymorphism, are risk factors for schizophrenia. *J. Psychiatr. Res.* 44(7): 441-446.
- Gariballa S, Forster S. 2007. Effects of dietary supplements on depressive symptoms in older patients: a randomised double-blind placebo-controlled trial. *Clin Nutr* 26(5): 545-551.
- Gewa CA, Weiss RE, Bwibo NO, Whaley S, Sigman M, Murphy SP, Harrison G, Neumann CG. 2009. Dietary micronutrients are associated with higher cognitive function gains among primary school children in rural Kenya. *Br J Nutr* 101(9): 1378-1387.
- Glaser B, Ades AE, Lewis S, Emmet P, Lewis G, Smith GD, Zammit S. 2010. Perinatal folate-related exposures and risk of psychotic symptoms in the ALSPAC birth cohort. *Schizophr Res* 120(1-3): 177-183.
- Gocer C, Genc U, Eryilmaz A, Islam A, Boynuegri S, Bakir F. 2009. Homocysteine, Folate and Vitamin B12 Concentrations in Middle Aged Adults Presenting with Sensorineural Hearing Impairment. *J. Int. Adv. Otol.* 5(3): 340-344.
- Goff DC, Bottiglieri T, Arning E, Shih V, Freudenreich O, Evins AE, Henderson DC, Baer L, Coyle J. 2004. Folate, homocysteine, and negative symptoms in schizophrenia. *Am J Psychiatry* 161(9): 1705-1708.
- Gok U, Halifeoglu I, Canatan H, Yildiz M, Gursu MF, Gur B. 2004. Comparative analysis of serum homocysteine, folic acid and Vitamin B12 levels in patients with noise-induced hearing loss. *Auris Nasus Larynx* 31(1): 19-22.
- Golnik KC, Schaible ER. 1994. Folate-responsive optic neuropathy. *Journal of Neuro-Ophthalmology* 14(3): 163-169.
- Goodwin JS, Goodwin JM, Garry PJ. 1983. Association between nutritional status and cognitive functioning in a healthy elderly population. *Journal of the American Medical Association* 249(21): 2917-2921.
- Gopinath B, Flood VM, Rochtchina E, McMahon CM, Mitchell P. 2010. Serum homocysteine and folate concentrations are associated with prevalent age-related hearing loss. *J Nutr* 140(8): 1469-1474.

- Gopinath B, Flood VM, Rochtchina E, Wang JJ, Mitchell P. 2013. Homocysteine, folate, vitamin B-12, and 10-y incidence of age-related macular degeneration. *Am J Clin Nutr* 98(1): 129-135.
- Gosney MA, Hammond MF, Shenkin A, Allsup S. 2008. Effect of micronutrient supplementation on mood in nursing home residents. *Gerontology* 54(5): 292-299.
- Gottfries J, Blennow K, Lehmann MW, Regland B, Gottfries CG. 2001. One-carbon metabolism and other biochemical correlates of cognitive impairment as visualized by principal component analysis. *J Geriatr Psychiatry Neurol* 14(3): 109-114.
- Greilberger J, Koidl C, Greilberger M, Lamprecht M, Schroecksnael K, Leblhuber F, Fuchs D, Oettl K. 2008. Malondialdehyde, carbonyl proteins and albumin-disulphide as useful oxidative markers in mild cognitive impairment and Alzheimer's disease. *Free Radic Res* 42(7): 633-638.
- Greilberger J, Fuchs D, Leblhuber F, Greilberger M, Wintersteiger R, Tafel E. 2010. Carbonyl proteins as a clinical marker in Alzheimer's disease and its relation to tryptophan degradation and immune activation. *Clin Lab* 56(9-10): 441-448.
- Grunblatt E, Zehetmayer S, Bartl J, Loffler C, Wichart I, Rainer MK, Jungwirth S, Bauer P, Danielczyk W, Tragl KH, Riederer P, Fischer P. 2008. Genetic risk factors and markers for Alzheimer's disease and/or depression in the VITA study. *J. Psychiatr. Res.* 43(3): 298-308.
- Gu Y, Nieves JW, Stern Y, Luchsinger JA, Scarmeas N. 2010. Food combination and Alzheimer disease risk: a protective diet. *Arch Neurol* 67(6): 699-706.
- Gueant JL, Anello G, Bosco P, Gueant-Rodriguez RM, Romano A, Barone C, Gerard P, Romano C. 2005. Homocysteine and related genetic polymorphisms in Down's syndrome IQ. *J Neurol Neurosurg Psychiatry* 76(5): 706-709.
- Guzelcan Y, van Loon P. 2009. Vitamin B12 status in patients of Turkish and Dutch descent with depression: a comparative cross-sectional study. *Ann Gen Psychiatry* 8: 18.
- Haan MN, Miller JW, Aiello AE, Whitmer RA, Jagust WJ, Mungas DM, Allen LH, Green R. 2007. Homocysteine, B vitamins, and the incidence of dementia and cognitive impairment: results from the Sacramento Area Latino Study on Aging. *Am J Clin Nutr* 85(2): 511-517.
- Hagebeuk EE, Duran M, Koelman JH, Abeling NG, Vyth A, Poll-The BT. 2012. Folinic acid supplementation in Rett syndrome patients does not influence the course of the disease: a randomized study. *J Child Neurol* 27(3): 304-309.
- Haidemenos A, Kontis D, Gazi A, Kallai E, Allin M, Lucia B. 2007. Plasma homocysteine, folate and B12 in chronic schizophrenia. *Prog Neuropsychopharmacol Biol Psychiatry* 31(6): 1289-1296.
- Hall BE, Watkins CH. 1947. Experience with pteroylglutamic (synthetic folic) acid in the treatment of pernicious anemia. *J Lab Clin Med* 32(6): 622-634.
- Harris E, Macpherson H, Vitetta L, Kirk J, Sali A, Pipingas A. 2012. Effects of a multivitamin, mineral and herbal supplement on cognition and blood biomarkers in older men: a randomised, placebo-controlled trial. *Hum Psychopharmacol* 27(4): 370-377.
- Hasanah CI, Khan UA, Musalmah M, Razali SM. 1997. Reduced red-cell folate in mania. *J Affect Disord* 46(2): 95-99.
- Haskell CF, Scholey AB, Jackson PA, Elliott JM, Defeyter MA, Greer J, Robertson BC, Buchanan T, Tiplady B, Kennedy DO. 2008. Cognitive and mood effects in healthy children during 12 weeks' supplementation with multi-vitamin/minerals. *British Journal of Nutrition* 100(5): 1086-1096.
- Hassing L, Wahlin A, Winblad B, Backman L. 1999. Further evidence on the effects of vitamin B12 and folate levels on episodic memory functioning: a population-based study of healthy very old adults. *Biol Psychiatry* 45(11): 1472-1480.

- Heinle RW, Welch AD. 1947. Folic acid in pernicious anemia; failure to prevent neurologic relapse. *J Am Med Assoc* 133(11): 739-741.
- Hengstermann S, Laemmler G, Hanemann A, Schweter A, Steinhagen-Thiessen E, Lun A, Schulz RJ. 2009. Total serum homocysteine levels do not identify cognitive dysfunction in multimorbid elderly patients. *J Nutr Health Aging* 13(2): 121-126.
- Herbison CE, Hickling S, Allen KL, O'Sullivan TA, Robinson M, Bremner AP, Huang RC, Beilin LJ, Mori TA, Oddy WH. 2012. Low intake of B-vitamins is associated with poor adolescent mental health and behaviour. *Prev Med* 55(6): 634-638.
- Hermesh H, Weizman A, Shahar A, Munitz H. 1988. Vitamin B12 and folic acid serum levels in obsessive compulsive disorder. *Acta Psychiatr Scand* 78(1): 8-10.
- Heuberger RA, Fisher AI, Jacques PF, Klein R, Klein BE, Palta M, Mares-Perlman JA. 2002. Relation of blood homocysteine and its nutritional determinants to age-related maculopathy in the third National Health and Nutrition Examination Survey. *Am J Clin Nutr* 76(4): 897-902.
- Hill M, Shannahan K, Jasinski S, Macklin EA, Raeke L, Roffman JL, Goff DC. 2011. Folate supplementation in schizophrenia: a possible role for MTHFR genotype. *Schizophr Res* 127(1-3): 41-45.
- Hintikka J, Tolmunen T, Tanskanen A, Viinamaki H. 2003. High vitamin B12 level and good treatment outcome may be associated in major depressive disorder. *BMC Psychiatry* 3: 17.
- Hodson KE, Bowman RJ, Mafwiri M, Wood M, Mhoro V, Cox SE. 2011. Low folate status and indoor pollution are risk factors for endemic optic neuropathy in Tanzania. *Br J Ophthalmol* 95(10): 1361-1364.
- Hogervorst E, Smith AD. 2002. The interaction of serum folate and estradiol levels in Alzheimer's disease. *Neuro Endocrinol Lett* 23(2): 155-160.
- Hontela S, Vobecky J, Shapcott D, Vobecky JS. 1983. Serum level of vitamins A, C, E, folate and iron in female psychogeriatric patients in comparison with their controls. *Nutrition Reports International* 27(6): 1101-1111.
- Hooshmand B, Solomon A, Kareholt I, Leiviska J, Rusanen M, Ahtiluoto S, Winblad B, Laatikainen T, Soininen H, Kivipelto M. 2010. Homocysteine and holotranscobalamin and the risk of Alzheimer disease: a longitudinal study. *Neurology* 75(16): 1408-1414.
- Houston DK, Johnson MA, Nozza RJ, Gunter EW, Shea KJ, Cutler GM, Edmonds JT. 1999. Age-related hearing loss, vitamin B-12, and folate in elderly women. *Am J Clin Nutr* 69(3): 564-571.
- Hultberg B, Nilsson K, Isaksson A, Gustafson L. 2002. Folate deficiency is a common finding in psychogeriatric patients. *Aging Clin. Exp. Res.* 14(6): 479-484.
- Hvas AM, Juul S, Bech P, Nexø E. 2004. Vitamin B6 level is associated with symptoms of depression. *Psychother Psychosom* 73(6): 340-343.
- Hwang JY, Lee SE, Kim SH, Chung HW, Kim WY. 2010. Psychological distress is associated with inadequate dietary intake in Vietnamese marriage immigrant women in Korea. *J Am Diet Assoc* 110(5): 779-785.
- Iosifescu DV, Papakostas GI, Lyoo IK, Lee HK, Renshaw PF, Alpert JE, Nierenberg A, Fava M. 2005. Brain MRI white matter hyperintensities and one-carbon cycle metabolism in non-geriatric outpatients with major depressive disorder (Part I). *Psychiatry Res* 140(3): 291-299.
- İpçioğlu OM, Özcan O, Gültepe M, Ates A, Basoğlu C, Cakir E. 2008. Reduced urinary excretion of homocysteine could be the reason of elevated plasma homocysteine in patients with psychiatric illnesses. *Clin Biochem* 41(10-11): 831-835.
- İpçioğlu OM, Özcan Ö, Gültepe M, Tekeli H, Şenol MG. 2008. Functional vitamin B12 deficiency represented by elevated urine methylmalonic acid levels in patients with migraine. *Turkish Journal of Medical Sciences* 38(5): 409-414.

- Irizarry MC, Gurol ME, Raju S, Diaz-Arrastia R, Locascio JJ, Tennis M, Hyman BT, Growdon JH, Greenberg SM, Bottiglieri T. 2005. Association of homocysteine with plasma amyloid beta protein in aging and neurodegenerative disease. *Neurology* 65(9): 1402-1408.
- Jacka FN, Maes M, Pasco JA, Williams LJ, Berk M. 2012. Nutrient intakes and the common mental disorders in women. *J Affect Disord* 141(1): 79-85.
- Jacques PF, Chylack LT, Jr., Hankinson SE, Khu PM, Rogers G, Friend J, Tung W, Wolfe JK, Padhye N, Willett WC, Taylor A. 2001. Long-term nutrient intake and early age-related nuclear lens opacities. *Arch Ophthalmol* 119(7): 1009-1019.
- Jamerson BD, Payne ME, Garrett ME, Ashley-Koch AE, Speer MC, Steffens DC. 2013. Folate metabolism genes, dietary folate and response to antidepressant medications in late-life depression. *Int J Geriatr Psychiatry* 28(9): 925-932.
- Jelicic M, Jonker C, Deeg DJ. 2001. Effect of low levels of serum vitamin B12 and folic acid on cognitive performance in old age: a population-based study. *Dev Neuropsychol* 20(3): 565-571.
- Jiang YY. 2006. Effect of B vitamins-fortified foods on primary school children in Beijing. *Asia Pac J Public Health* 18(2): 21-25.
- Jin QH, Li TL, Chen HH, Liu Z, Li XC, Xu L, Wang S. 2011. [Relationship between plasma total homocysteine and mild cognitive impairment in senile patients with type 2 diabetes]. *Zhonghua Yi Xue Za Zhi* 91(28): 1949-1952.
- Jones S, Small BJ, Fratiglioni L, Backman L. 2002. Predictors of cognitive change from preclinical to clinical Alzheimer's disease. *Brain Cogn* 49(2): 210-213.
- Joosten E, Lesaffre E, Riezler R, Ghekiere V, Dereymaeker L, Pelemans W, Dejaeger E. 1997. Is metabolic evidence for vitamin B-12 and folate deficiency more frequent in elderly patients with Alzheimer's disease? *J Gerontol A Biol Sci Med Sci* 52(2): M76-79.
- Julvez J, Fortuny J, Mendez M, Torrent M, Ribas-Fito N, Sunyer J. 2009. Maternal use of folic acid supplements during pregnancy and four-year-old neurodevelopment in a population-based birth cohort. *Paediatr Perinat Epidemiol* 23(3): 199-206.
- Kado DM, Karlamangla AS, Huang MH, Troen A, Rowe JW, Selhub J, Seeman TE. 2005. Homocysteine versus the vitamins folate, B6, and B12 as predictors of cognitive function and decline in older high-functioning adults: MacArthur Studies of Successful Aging. *Am J Med* 118(2): 161-167.
- Kageyama M, Hiraoka M, Kagawa Y. 2008. Relationship between genetic polymorphism, serum folate and homocysteine in Alzheimer's disease. *Asia Pac J Public Health* 20 Suppl: 111-117.
- Kale A, Naphade N, Sapkale S, Kamaraju M, Pillai A, Joshi S, Mahadik S. 2010. Reduced folic acid, vitamin B12 and docosahexaenoic acid and increased homocysteine and cortisol in never-medicated schizophrenia patients: implications for altered one-carbon metabolism. *Psychiatry Res* 175(1-2): 47-53.
- Kamburoglu G, Gumus K, Kadayifcilar S, Eldem B. 2006. Plasma homocysteine, vitamin B12 and folate levels in age-related macular degeneration. *Graefes Arch Clin Exp Ophthalmol* 244(5): 565-569.
- Kamphuis MH, Geerlings MI, Grobbee DE, Kromhout D. 2008. Dietary intake of B(6-9-12) vitamins, serum homocysteine levels and their association with depressive symptoms: the Zutphen Elderly Study. *Eur J Clin Nutr* 62(8): 939-945.
- Kang JH, Irizarry MC, Grodstein F. 2006. Prospective study of plasma folate, vitamin B12, and cognitive function and decline. *Epidemiology* 17(6): 650-657.
- Kang JH, Cook N, Manson J, Buring JE, Albert CM, Grodstein F. 2008. A trial of B vitamins and cognitive function among women at high risk of cardiovascular disease. *Am J Clin Nutr* 88(6): 1602-1610.

- Katar S, Nuri Ozbek M, Yaramis A, Ecer S. 2006. Nutritional megaloblastic anemia in young Turkish children is associated with vitamin B-12 deficiency and psychomotor retardation. *J Pediatr Hematol Oncol* 28(9): 559-562.
- Katz J, Khatry SK, Leclercq SC, Mullany LC, Yanik EL, Stoltzfus RJ, Siegel EH, Tielsch JM. 2010. Daily supplementation with iron plus folic acid, zinc, and their combination is not associated with younger age at first walking unassisted in malnourished preschool children from a deficient population in rural Nepal. *J Nutr* 140(7): 1317-1321.
- Kelly CB, McDonnell AP, Johnston TG, Mulholland C, Cooper SJ, McMaster D, Evans A, Whitehead AS. 2004. The MTHFR C677T polymorphism is associated with depressive episodes in patients from Northern Ireland. *J Psychopharmacol* 18(4): 567-571.
- Kendrick T, Dunn N, Robinson S, Oestmann A, Godfrey K, Cooper C, Inskip H. 2008. A longitudinal study of blood folate levels and depressive symptoms among young women in the Southampton Women's Survey. *J Epidemiol Community Health* 62(11): 966-972.
- Kennedy DO, Veasey R, Watson A, Dodd F, Jones E, Maggini S, Haskell CF. 2010. Effects of high-dose B vitamin complex with vitamin C and minerals on subjective mood and performance in healthy males. *Psychopharmacology* 211(1): 55-68.
- Kennedy DO, Veasey RC, Watson AW, Dodd FL, Jones EK, Tiplady B, Haskell CF. 2011. Vitamins and psychological functioning: a mobile phone assessment of the effects of a B vitamin complex, vitamin C and minerals on cognitive performance and subjective mood and energy. *Hum. Psychopharmacol.-Clin. Exp.* 26(4-5): 338-347.
- Kevere L, Purvina S, Bauze D, Zeibarts M, Andrezina R, Piekuse L, Brekis E, Purvins I. 2014. Homocysteine and MTHFR C677T polymorphism in children and adolescents with psychotic and mood disorders. *Nord J Psychiatry* 68(2): 129-136.
- Kim G, Kim H, Kim KN, Son JI, Kim SY, Tamura T, Chang N. 2013. Relationship of cognitive function with B vitamin status, homocysteine, and tissue factor pathway inhibitor in cognitively impaired elderly: a cross-sectional survey. *J Alzheimers Dis* 33(3): 853-862.
- Kim JM, Shin IS, Yang SJ, Kim SW, Lee SY, Kim WJ, Kim JG, Shin HY, Yoon JS. 2007. One-carbon metabolism and cognitive impairment in a Korean community population. *Clinical Psychopharmacology and Neuroscience* 5(2): 65-69.
- Kim JM, Kim SW, Shin IS, Yang SJ, Park WY, Kim SJ, Shin HY, Yoon JS. 2008a. Folate, vitamin b(12), and homocysteine as risk factors for cognitive decline in the elderly. *Psychiatry Investig* 5(1): 36-40.
- Kim JM, Stewart R, Kim SW, Shin IS, Yang SJ, Shin HY, Yoon JS. 2008b. Changes in folate, vitamin B12 and homocysteine associated with incident dementia. *J Neurol Neurosurg Psychiatry* 79(8): 864-868.
- Kim JM, Stewart R, Kim SW, Yang SJ, Shin IS, Shin HY, Yoon JS. 2008c. Methylene tetrahydrofolate reductase gene and risk of Alzheimer's disease in Koreans. *Int J Geriatr Psychiatry* 23(5): 454-459.
- Kim JM, Stewart R, Kim SW, Yang SJ, Shin IS, Yoon JS. 2008d. Predictive value of folate, vitamin B12 and homocysteine levels in late-life depression. *Br J Psychiatry* 192(4): 268-274.
- Kim TH, Moon SW. 2011. Serum homocysteine and folate levels in Korean schizophrenic patients. *Psychiatry Investig* 8(2): 134-140.
- Kivela SL, Pakkala K, Eronen A. 1989. Depression in the aged: relation to folate and vitamins C and B12. *Biol Psychiatry* 26(2): 210-213.
- Klein R, Klein BE, Knudtson MD, Wong TY, Shankar A, Tsai MY. 2005. Systemic markers of inflammation, endothelial dysfunction, and age-related maculopathy. *American Journal of Ophthalmology* 140(1): 35-44.
- Knox DL, Chen MF, Guilarte TR, Dang CV, Burnette J. 1982. Nutritional amblyopia. Folic acid, vitamin B-12, and other vitamins. *Retina* 2(4): 288-293.

- Koike T, Kuzuya M, Kanda S, Okada K, Izawa S, Enoki H, Iguchi A. 2008. Raised homocysteine and low folate and vitamin B-12 concentrations predict cognitive decline in community-dwelling older Japanese adults. *Clin Nutr* 27(6): 865-871.
- Koseoglu E, Karaman Y. 2007. Relations between homocysteine, folate and vitamin B12 in vascular dementia and in Alzheimer disease. *Clin Biochem* 40(12): 859-863.
- Kral VA, Solyom L, Enesco H, Ledwidge B. 1970. Relationship of vitamin B12 and folic acid to memory function. *Biol Psychiatry* 2(1): 19-26.
- Krieg EF, Jr., Butler MA. 2009. Blood lead, serum homocysteine, and neurobehavioral test performance in the third National Health and Nutrition Examination Survey. *Neurotoxicology* 30(2): 281-289.
- Krondl M, Coleman PH, Bradley CL, Lau D, Ryan N. 1999. Subjectively healthy elderly consuming a liquid nutrition supplement maintained body mass index and improved some nutritional parameters and perceived well-being. *J Am Diet Assoc* 99(12): 1542-1548.
- Kumar MV, Rajagopalan S. 2007. Multiple micronutrient fortification of salt and its effect on cognition in Chennai school children. *Asia Pac J Clin Nutr* 16(3): 505-511.
- Kuzniarz M, Mitchell P, Cumming RG, Flood VM. 2001. Use of vitamin supplements and cataract: the Blue Mountains Eye Study. *Am J Ophthalmol* 132(1): 19-26.
- Kwok T, Lee J, Law CB, Pan PC, Yung CY, Choi KC, Lam LC. 2011. A randomized placebo controlled trial of homocysteine lowering to reduce cognitive decline in older demented people. *Clinical Nutrition* 30(3): 297-302.
- La Rue A, Koehler KM, Wayne SJ, Chiulli SJ, Haaland KY, Garry PJ. 1997. Nutritional status and cognitive functioning in a normally aging sample: a 6-y reassessment. *Am J Clin Nutr* 65(1): 20-29.
- Lasisi AO, Fehintola FA, Yusuf OB. 2010. Age-related hearing loss, vitamin B12, and folate in the elderly. *Otolaryngol Head Neck Surg* 143(6): 826-830.
- Lea R, Colson N, Quinlan S, Macmillan J, Griffiths L. 2009. The effects of vitamin supplementation and MTHFR (C677T) genotype on homocysteine-lowering and migraine disability. *Pharmacogenet Genomics* 19(6): 422-428.
- Lee KA, Zaffke ME, Baratte-Beebe K. 2001. Restless legs syndrome and sleep disturbance during pregnancy: the role of folate and iron. *J Womens Health Gend Based Med* 10(4): 335-341.
- Lee LK, Shahar S, Rajab N. 2009. Serum folate concentration, cognitive impairment, and DNA damage among elderly individuals in Malaysia. *Nutr Res* 29(5): 327-334.
- Lee S, Wing YK, Fong S. 1998. A controlled study of folate levels in Chinese inpatients with major depression in Hong Kong. *J Affect Disord* 49(1): 73-77.
- Lee YS, Han DH, Jeon CM, Lyoo IK, Na C, Chae SL, Cho SC. 2006. Serum homocysteine, folate level and methylenetetrahydrofolate reductase 677, 1298 gene polymorphism in Korean schizophrenic patients. *Neuroreport* 17(7): 743-746.
- Lehmann M, Regland B, Blennow K, Gottfries CG. 2003. Vitamin B12-B6-folate treatment improves blood-brain barrier function in patients with hyperhomocysteinaemia and mild cognitive impairment. *Dementia and Geriatric Cognitive Disorders* 16(3): 145-150.
- Lerner V, Kanevsky M, Dwolatzky T, Rouach T, Kamin R, Miodownik C. 2006. Vitamin B12 and folate serum levels in newly admitted psychiatric patients. *Clin Nutr* 25(1): 60-67.
- Levin J, Botzel K, Giese A, Vogeser M, Lorenzl S. 2010. Elevated levels of methylmalonate and homocysteine in Parkinson's disease, progressive supranuclear palsy and amyotrophic lateral sclerosis. *Dement Geriatr Cogn Disord* 29(6): 553-559.

- Levine J, Stahl Z, Sela BA, Ruderman V, Shumaico O, Babushkin I, Osher Y, Bersudsky Y, Belmaker RH. 2006. Homocysteine-reducing strategies improve symptoms in chronic schizophrenic patients with hyperhomocysteinemia. *Biol Psychiatry* 60(3): 265-269.
- Lewerin C, Matousek M, Steen G, Johansson B, Steen B, Nilsson-Ehle H. 2005. Significant correlations of plasma homocysteine and serum methylmalonic acid with movement and cognitive performance in elderly subjects but no improvement from short-term vitamin therapy: a placebo-controlled randomized study. *Am J Clin Nutr* 81(5): 1155-1162.
- Lewis SJ, Araya R, Leary S, Smith GD, Ness A. 2012. Folic acid supplementation during pregnancy may protect against depression 21 months after pregnancy, an effect modified by MTHFR C677T genotype. *Eur J Clin Nutr* 66(1): 97-103.
- Li FM, Peng H. 2004. Correlations of Alzheimer disease with vitamin B12 and homocysteine. *Chinese Journal of Clinical Rehabilitation* 8(28): 6210-6211.
- Li L, Cao D, Desmond R, Rahman A, Lah JJ, Levey AI, Zamrini E. 2008. Cognitive performance and plasma levels of homocysteine, vitamin B12, folate and lipids in patients with Alzheimer disease. *Dement Geriatr Cogn Disord* 26(4): 384-390.
- Li L, Willets RS, Polidori MC, Stahl W, Nelles G, Sies H, Griffiths HR. 2010. Oxidative LDL modification is increased in vascular dementia and is inversely associated with cognitive performance. *Free Radic Res* 44(3): 241-248.
- Lindeman RD, Romero LJ, Koehler KM, Liang HC, LaRue A, Baumgartner RN, Garry PJ. 2000. Serum vitamin B12, C and folate concentrations in the New Mexico elder health survey: correlations with cognitive and affective functions. *J Am Coll Nutr* 19(1): 68-76.
- Linnebank M, Popp J, Smulders Y, Smith D, Semmler A, Farkas M, Kulic L, Cvetanovska G, Blom H, Stoffel-Wagner B, Kolsch H, Weller M, Jessen F. 2010. S-adenosylmethionine is decreased in the cerebrospinal fluid of patients with Alzheimer's disease. *Neurodegener Dis* 7(6): 373-378.
- Locascio JJ, Fukumoto H, Yap L, Bottiglieri T, Growdon JH, Hyman BT, Irizarry MC. 2008. Plasma amyloid beta-protein and C-reactive protein in relation to the rate of progression of Alzheimer disease. *Arch Neurol* 65(6): 776-785.
- Lovati C, Galimberti D, Pomati S, Capiluppi E, Dolci A, Scapellato L, Rosa S, Mailland E, Suardelli M, Vanotti A, Clerici F, Santarato D, Panteghini M, Scarpini E, Mariani C, Bertora P. 2007. Serum folate concentrations in patients with cortical and subcortical dementias. *Neuroscience Letters* 420(3): 213-216.
- Lowe TL, Cohen DJ, Miller S, Young JG. 1981. Folic acid and B12 in autism and neuropsychiatric disturbances of childhood. *Journal of the American Academy of Child Psychiatry* 20(1): 104-111.
- Luchsinger JA, Tang MX, Miller J, Green R, Mayeux R. 2007. Relation of higher folate intake to lower risk of Alzheimer disease in the elderly. *Arch Neurol* 64(1): 86-92.
- Lukose A, Ramthal A, Thomas T, Bosch R, Kurpad AV, Duggan C, Srinivasan K. 2014. Nutritional factors associated with antenatal depressive symptoms in the early stage of pregnancy among urban South Indian women. *Matern Child Health J* 18(1): 161-170.
- Macpherson H, Ellis KA, Sali A, Pipingas A. 2012. Memory improvements in elderly women following 16 weeks treatment with a combined multivitamin, mineral and herbal supplement. *Psychopharmacology* 220(2): 351-365.
- Madenci G, Bilen S, Arli B, Saka M, Ak F. 2012. Serum iron, vitamin B12 and folic acid levels in Parkinson's disease. *Neurochem Res* 37(7): 1436-1441.
- Mader R, Deutsch H, Siebert GK, Gerbershagen HU, Gruhn E, Behl M, Kubler W. 1988. Vitamin status of inpatients with chronic cephalgia and dysfunction pain syndrome and effects of a vitamin supplementation. *Int J Vitam Nutr Res* 58(4): 436-441.

- Malaguarnera M, Ferri R, Bella R, Alagona G, Carnemolla A, Pennisi G. 2004. Homocysteine, vitamin B12 and folate in vascular dementia and in Alzheimer disease. *Clin Chem Lab Med* 42(9): 1032-1035.
- Mares-Perlman JA, Brady WE, Klein BE, Klein R, Haus GJ, Palta M, Ritter LL, Shoff SM. 1995. Diet and nuclear lens opacities. *Am J Epidemiol* 141(4): 322-334.
- Masalha R, Afawi Z, Mahajnah M, Mashal A, Hallak M, Alsaied I, Bolotin A, Ifergan G, Wirguin I. 2008. The impact of nutritional vitamin B12, folate and hemoglobin deficiency on school performance of elementary school children. *Journal of Pediatric Neurology* 6(3): 243-248.
- McCaddon A, Kelly CL. 1994. Familial Alzheimer's disease and vitamin B12 deficiency. *Age Ageing* 23(4): 334-337.
- McCaddon A, Tandy S, Hudson P, Gray R, Davies G, Hill D, Duguid J. 2004. Absence of macrocytic anaemia in Alzheimer's disease. *Clin Lab Haematol* 26(4): 259-263.
- McCaddon A, Davies G. 2005. Co-administration of N-acetylcysteine, vitamin B12 and folate in cognitively impaired hyperhomocysteinaemic patients. *International Journal of Geriatric Psychiatry* 20(10): 998-1000.
- McCaddon A. 2006. Homocysteine and cognitive impairment; a case series in a General Practice setting. *Nutr J* 5: 6.
- McMahon JA, Green TJ, Skeaff CM, Knight RG, Mann JI, Williams SM. 2006. A controlled trial of homocysteine lowering and cognitive performance. *N Engl J Med* 354(26): 2764-2772.
- McNeill G, Jia X, Whalley LJ, Fox HC, Corley J, Gow AJ, Brett CE, Starr JM, Deary IJ. 2011. Antioxidant and B vitamin intake in relation to cognitive function in later life in the Lothian Birth Cohort 1936. *Eur J Clin Nutr* 65(5): 619-626.
- Menon S, Lea RA, Roy B, Hanna M, Wee S, Haupt LM, Oliver C, Griffiths LR. 2012. Genotypes of the MTHFR C677T and MTRR A66G genes act independently to reduce migraine disability in response to vitamin supplementation. *Pharmacogenet Genomics* 22(10): 741-749.
- Middleton LE, Kirkland SA, Maxwell CJ, Hogan DB, Rockwood K. 2007. Exercise: A potential contributing factor to the relationship between folate and dementia. *Journal of the American Geriatrics Society* 55(7): 1095-1098.
- Miller JW, Green R, Mungas DM, Reed BR, Jagust WJ. 2002. Homocysteine, vitamin B6, and vascular disease in AD patients. *Neurology* 58(10): 1471-1475.
- Mishra GD, McNaughton SA, O'Connell MA, Prynne CJ, Kuh D. 2009. Intake of B vitamins in childhood and adult life in relation to psychological distress among women in a British birth cohort. *Public Health Nutr* 12(2): 166-174.
- Missagh Ghadirian A, Ananth J, Engelsmann F. 1980. Folic acid deficiency and depression. *Psychosomatics* 21(11): 926-929.
- Miyake Y, Sasaki S, Tanaka K, Yokoyama T, Ohya Y, Fukushima W, Saito K, Ohfuji S, Kiyohara C, Hirota Y. 2006a. Dietary folate and vitamins B12, B6, and B2 intake and the risk of postpartum depression in Japan: the Osaka Maternal and Child Health Study. *J Affect Disord* 96(1-2): 133-138.
- Miyake Y, Sasaki S, Tanaka K, Yokoyama T, Ohya Y, Fukushima W, Saito K, Ohfuji S, Kiyohara C, Hirota Y, Osaka Maternal Child Hlth S. 2006b. Dietary folate and vitamins B-12, B-6, and B-2 intake and the risk of postpartum depression in Japan: The Osaka Maternal and Child Health Study. *Journal of Affective Disorders* 96(1-2): 133-138.
- Miyaki K, Song Y, Htun NC, Tsutsumi A, Hashimoto H, Kawakami N, Takahashi M, Shimazu A, Inoue A, Kurioka S, Shimbo T. 2012. Folate intake and depressive symptoms in Japanese workers considering SES and job stress factors: J-HOPE study. *BMC Psychiatry* 12: 33.
- Mizrahi EH, Jacobsen DW, Debanne SM, Traore F, Lerner AJ, Friedland RP, Petot GJ. 2003. Plasma total homocysteine levels, dietary vitamin B6 and folate intake in AD and healthy aging. *J Nutr Health Aging* 7(3): 160-165.

- Mizrahi EH, Bowirrat A, Jacobsen DW, Korczyn AD, Traore F, Petot GJ, Lerner AJ, Debanne SM, Adunsky A, Dibello PM, Friedland RP. 2004. Plasma homocysteine, vitamin B12 and folate in Alzheimer's patients and healthy Arabs in Israel. *J Neurol Sci* 227(1): 109-113.
- Monji A, Yanagimoto K, Maekawa T, Sumida Y, Yamazaki K, Kojima K. 2005. Plasma folate and homocysteine levels may be related to interictal "schizophrenia-like" psychosis in patients with epilepsy. *J Clin Psychopharmacol* 25(1): 3-5.
- Mooijaart SP, Gussekloo J, Frolich M, Jolles J, Stott DJ, Westendorp RG, de Craen AJ. 2005. Homocysteine, vitamin B-12, and folic acid and the risk of cognitive decline in old age: the Leiden 85-Plus study. *Am J Clin Nutr* 82(4): 866-871.
- Moorthy D, Peter I, Scott TM, Parnell LD, Lai CQ, Crott JW, Ordovas JM, Selhub J, Griffith J, Rosenberg IH, Tucker KL, Troen AM. 2012. Status of vitamins B-12 and B-6 but not of folate, homocysteine, and the methylenetetrahydrofolate reductase C677T polymorphism are associated with impaired cognition and depression in adults. *J Nutr* 142(8): 1554-1560.
- Morillas-Ruiz JM, Rubio-Perez JM, Albaladejo MD, Zafrilla P, Parra S, Vidal-Guevara ML. 2010. Effect of an antioxidant drink on homocysteine levels in Alzheimer's patients. *J Neurol Sci* 299(1-2): 175-178.
- Morris MC, Evans DA, Schneider JA, Tangney CC, Bienias JL, Aggarwal NT. 2006. Dietary folate and vitamins B-12 and B-6 not associated with incident Alzheimer's disease. *J Alzheimers Dis* 9(4): 435-443.
- Morris MS, Fava M, Jacques PF, Selhub J, Rosenberg IH. 2003. Depression and folate status in the US Population. *Psychother Psychosom* 72(2): 80-87.
- Muntjewerff JW, van der Put N, Eskes T, Ellenbroek B, Steegers E, Blom H, Zitman F. 2003. Homocysteine metabolism and B-vitamins in schizophrenic patients: low plasma folate as a possible independent risk factor for schizophrenia. *Psychiatry Res* 121(1): 1-9.
- Murakami K, Mizoue T, Sasaki S, Ohta M, Sato M, Matsushita Y, Mishima N. 2008. Dietary intake of folate, other B vitamins, and omega-3 polyunsaturated fatty acids in relation to depressive symptoms in Japanese adults. *Nutrition* 24(2): 140-147.
- Murakami K, Miyake Y, Sasaki S, Tanaka K, Arakawa M. 2010a. Dietary folate, riboflavin, vitamin B-6, and vitamin B-12 and depressive symptoms in early adolescence: the Ryukyus Child Health Study. *Psychosom Med* 72(8): 763-768.
- Murakami K, Miyake Y, Sasaki S, Tanaka K, Fukushima W, Kiyohara C, Tsuboi Y, Yamada T, Oeda T, Miki T, Kawamura N, Sakae N, Fukuyama H, Hirota Y, Nagai M. 2010b. Dietary intake of folate, vitamin B6, vitamin B12 and riboflavin and risk of Parkinson's disease: a case-control study in Japan. *Br J Nutr* 104(5): 757-764.
- Murray-Kolb LE, Khatry SK, Katz J, Schaefer BA, Cole PM, Le Clerq SC, Morgan ME, Tielsch JM, Christian P. 2012. Preschool micronutrient supplementation effects on intellectual and motor function in school-aged nepalese children. *Archives of Pediatrics and Adolescent Medicine* 166(5): 404-410.
- Nagga K, Rajani R, Mardh E, Borch K, Mardh S, Marcusson J. 2003. Cobalamin, folate, methylmalonic acid, homocysteine, and gastritis markers in dementia. *Dementia and Geriatric Cognitive Disorders* 16(4): 269-275.
- Nanri A, Mizoue T, Matsushita Y, Sasaki S, Ohta M, Sato M, Mishima N. 2010. Serum folate and homocysteine and depressive symptoms among Japanese men and women. *European Journal of Clinical Nutrition* 64(3): 289-296.
- Nanri A, Hayabuchi H, Ohta M, Sato M, Mishima N, Mizoue T. 2012. Serum Folate and Depressive Symptoms Among Japanese Men and Women: A Cross-Sectional and Prospective Study. *Psychiatry Research* 200(2-3): 349-353.

- Narayan SK, Saxby BK, Firbank MJ, O'Brien JT, Harrington F, McKeith IG, Hansrani M, Stansby G, Ford GA. 2011. Plasma homocysteine and cognitive decline in older hypertensive subjects. *International Psychogeriatrics* 23(10): 1607-1615.
- Nelson C, Wengreen HJ, Munger RG, Corcoran CD. 2009. Dietary folate, vitamin B-12, vitamin B-6 and incident Alzheimer's disease: the cache county memory, health and aging study. *J Nutr Health Aging* 13(10): 899-905.
- Nelson KB, Richardson AK, He J, Lateef TM, Khoromi S, Merikangas KR. 2010. Headache and biomarkers predictive of vascular disease in a representative sample of US children. *Arch Pediatr Adolesc Med* 164(4): 358-362.
- Nes M, Sem SW, Rousseau B, Bjorneboe GE, Engedal K, Trygg K, Pedersen JI. 1988. Dietary intakes and nutritional status of old people with dementia living at home in Oslo. *Eur J Clin Nutr* 42(7): 581-593.
- Ng TP, Feng L, Niti M, Kua EH, Yap KB. 2009. Folate, vitamin B12, homocysteine, and depressive symptoms in a population sample of older Chinese adults. *J Am Geriatr Soc* 57(5): 871-876.
- Nguyen CT, Gracely EJ, Lee BK. 2013. Serum folate but not vitamin B-12 concentrations are positively associated with cognitive test scores in children aged 6-16 years. *J Nutr* 143(4): 500-504.
- Nguyen PH, Grajeda R, Melgar P, Marcinkevage J, DiGirolamo AM, Flores R, Martorell R. 2009. Micronutrient supplementation may reduce symptoms of depression in Guatemalan women. *Arch Latinoam Nutr* 59(3): 278-286.
- Nijst TQ, Wevers RA, Schoonderwaldt HC, Hommes OR, de Haan AF. 1990. Vitamin B12 and folate concentrations in serum and cerebrospinal fluid of neurological patients with special reference to multiple sclerosis and dementia. *J Neurol Neurosurg Psychiatry* 53(11): 951-954.
- Nilsson K, Gustafson L, Faldt R, Andersson A, Brattstrom L, Lindgren A, Israelsson B, Hultberg B. 1996. Hyperhomocysteinaemia--a common finding in a psychogeriatric population. *Eur J Clin Invest* 26(10): 853-859.
- Nilsson K, Gustafson L, Hultberg B. 2000. The plasma homocysteine concentration is better than that of serum methylmalonic acid as a marker for sociopsychological performance in a psychogeriatric population. *Clinical Chemistry* 46(5): 691-696.
- Nilsson K, Hultberg B, Gustafson L. 2002. Lack of association between plasma homocysteine and inflammation in psychogeriatric patients. *Dement Geriatr Cogn Disord* 14(3): 151-155.
- Nilsson K, Gustafson L, Isaksson A, Hultberg B. 2005. Plasma homocysteine and markers of bone metabolism in psychogeriatric patients. *Scand. J. Clin. Lab. Invest.* 65(8): 671-680.
- Nilsson K, Gustafson L, Hultberg B. 2006. Plasma homocysteine, cobalamin/folate status, and vascular disease in a large population of psychogeriatric patients. *Dementia and Geriatric Cognitive Disorders* 22(4): 358-366.
- Nilsson K, Gustafson L, Hultberg B. 2007. Elevated plasma homocysteine concentration in elderly patients with mental illness is mainly related to the presence of vascular disease and not the diagnosis. *Dementia and Geriatric Cognitive Disorders* 24(3): 162-168.
- Nilsson TK, Yngve A, Bottiger AK, Hurtig-Wennlof A, Sjoström M. 2011. High folate intake is related to better academic achievement in Swedish adolescents. *Pediatrics* 128(2): e358-365.
- Norris JW, Pratt RF. 1971. A controlled study of folic acid in epilepsy. *Neurology* 21: 659-664.
- Nowak M, Swietochowska E, Wielkoszynski T, Marek B, Kos-Kudla B, Szapska B, Kajdaniuk D, Glogowska-Szelag J, Sieminska L, Ostrowska Z, Koziol H, Klimek J. 2005. Homocysteine, vitamin B12, and folic acid in age-related macular degeneration. *Eur J Ophthalmol* 15(6): 764-767.
- Nurk E, Refsum H, Tell GS, Engedal K, Vollset SE, Ueland PM, Nygaard HA, Smith AD. 2005. Plasma total homocysteine and memory in the elderly: the Hordaland Homocysteine Study. *Ann Neurol* 58(6): 847-857.

- O'Keeffe ST, Gavin K, Lavan JN. 1994. Iron status and restless legs syndrome in the elderly. *Age Ageing* 23(3): 200-203.
- Obeid R, Schadt A, Dillmann U, Kostopoulos P, Fassbender K, Herrmann W. 2009. Methylation status and neurodegenerative markers in Parkinson disease. *Clin Chem* 55(10): 1852-1860.
- Obeid R, Ninios K, Loew U, Gatzoufas Z, Hoffmann S, Seitz B, Geisel J, Herrmann W. 2013. Aqueous humor glycation marker and plasma homocysteine in macular degeneration. *Clin Chem Lab Med* 51(3): 657-663.
- Okumus M, Ceceli E, Tuncay F, Kocaoglu S, Palulu N, Yorgancioglu ZR. 2010. The relationship between serum trace elements, vitamin B12, folic acid and clinical parameters in patients with myofascial pain syndrome. *J Back Musculoskelet Rehabil* 23(4): 187-191.
- Olney DK, Pollitt E, Kariger PK, Khalfan SS, Ali NS, Tielsch JM, Sazawal S, Black R, Allen LH, Stoltzfus RJ. 2006. Combined iron and folic acid supplementation with or without zinc reduces time to walking unassisted among Zanzibari infants 5- to 11-mo old. *J Nutr* 136(9): 2427-2434.
- Ortega RM, Manas LR, Andres P, Gaspar MJ, Agudo FR, Jimenez A, Pascual T. 1996. Functional and psychic deterioration in elderly people may be aggravated by folate deficiency. *J Nutr* 126(8): 1992-1999.
- Ortega RM, Requejo AM, Andres P, Lopez-Sobaler AM, Quintas ME, Redondo MR, Navia B, Rivas T. 1997. Dietary intake and cognitive function in a group of elderly people. *Am J Clin Nutr* 66(4): 803-809.
- Osendarp SJ, Baghurst KI, Bryan J, Calvaresi E, Hughes D, Hussaini M, Karyadi SJ, van Klinken BJ, van der Knaap HC, Lukito W, Mikarsa W, Transler C, Wilson C. 2007. Effect of a 12-mo micronutrient intervention on learning and memory in well-nourished and marginally nourished school-aged children: 2 parallel, randomized, placebo-controlled studies in Australia and Indonesia. *Am J Clin Nutr* 86(4): 1082-1093.
- Osher Y, Bersudsky Y, Silver H, Sela BA, Belmaker RH. 2008. Neuropsychological correlates of homocysteine levels in euthymic bipolar patients. *J Affect Disord* 105(1-3): 229-233.
- Ozbek Z, Kucukali CI, Ozkok E, Orhan N, Aydin M, Kilic G, Sazci A, Kara I. 2008. Effect of the methylenetetrahydrofolate reductase gene polymorphisms on homocysteine, folate and vitamin B12 in patients with bipolar disorder and relatives. *Prog Neuropsychopharmacol Biol Psychiatry* 32(5): 1331-1337.
- Ozcan O, Ipcioglu OM, Gultepe M, Basoglu C. 2008a. Altered red cell membrane compositions related to functional vitamin B(12) deficiency manifested by elevated urine methylmalonic acid concentrations in patients with schizophrenia. *Ann Clin Biochem* 45(Pt 1): 44-49.
- Ozcan O, Ipcioglu OM, Gultepe M, Basoglu C. 2008b. Altered red cell membrane compositions related to functional vitamin B-12 deficiency manifested by elevated urine methylmalonic acid concentrations in patients with schizophrenia. *Annals of Clinical Biochemistry* 45: 44-49.
- Papageorgiou C, Mavrikakis M, Kesse-Elias M, Anastasiou-Nana M, Germanides J. 1983. Radioisotopic determination of cerebrospinal fluid (CSF) folic acid and vitamin B12 in neurological disorders. *Experientia* 39(4): 432-433.
- Papakostas GI, Petersen T, Lebowitz BD, Mischoulon D, Ryan JL, Nierenberg AA, Bottiglieri T, Alpert JE, Rosenbaum JF, Fava M. 2005. The relationship between serum folate, vitamin B12, and homocysteine levels in major depressive disorder and the timing of improvement with fluoxetine. *Int J Neuropsychopharmacol* 8(4): 523-528.
- Park JY, You JS, Chang KJ. 2010. Dietary taurine intake, nutrients intake, dietary habits and life stress by depression in Korean female college students: a case-control study. *J Biomed Sci* 17 Suppl 1: S40.
- Parnetti L, Mecocci P, Reboldi GP, Santucci C, Brunetti M, Gaiti A, Cadini D, Senin U. 1992. Platelet MAO-B activity and vitamin B12 in old age dementias. *Mol Chem Neuropathol* 16(1-2): 23-32.

- Passeri M, Cucinotta D, Abate G, Senin U, Ventura A, Badiale MS, Diana R, Lagreca P, Legrazie C. 1993. ORAL 5'-METHYLTETRAHYDROFOLIC ACID IN SENILE ORGANIC MENTAL-DISORDERS WITH DEPRESSION - RESULTS OF A DOUBLE-BLIND MULTICENTER STUDY. *Aging-Clin. Exp. Res.* 5(1): 63-71.
- Pathansali R, Mangoni AA, Creagh-Brown B, Lan ZC, Ngow GL, Yuan XF, Ouldred EL, Sherwood RA, Swift CG, Jackson SH. 2006. Effects of folic acid supplementation on psychomotor performance and hemorheology in healthy elderly subjects. *Arch Gerontol Geriatr* 43(1): 127-137.
- Paulionis L, Kane SL, Meckling KA. 2005. Vitamin status and cognitive function in a long-term care population. *BMC Geriatr* 5: 16.
- Payne ME, Jamerson BD, Potocky CF, Ashley-Koch AE, Speer MC, Steffens DC. 2009. Natural food folate and late-life depression. *J Nutr Elder* 28(4): 348-358.
- Pellegrin KL, O'Neil PM, Stellefson EJ, Fossey MD, Ballenger JC, Cochrane CE, Currey HS. 1998. Average daily nutrient intake and mood among obese women. *Nutrition Research* 18(7): 1103-1112.
- Penninx BW, Guralnik JM, Ferrucci L, Fried LP, Allen RH, Stabler SP. 2000. Vitamin B(12) deficiency and depression in physically disabled older women: epidemiologic evidence from the Women's Health and Aging Study. *Am J Psychiatry* 157(5): 715-721.
- Percy M, Moalem S, Garcia A, Somerville MJ, Hicks M, Andrews D, Azad A, Schwarz P, Beheshti Zavareh R, Birkan R, Choo C, Chow V, Dhaliwal S, Duda V, Kupferschmidt AL, Lam K, Lightman D, Machalek K, Mar W, Nguyen F, Rytwinski PJ, Svava E, Tran M, Wheeler K, Yeung L, Zanibbi K, Zener R, Ziraldo M, Freedman M. 2008. Involvement of ApoE E4 and H63D in sporadic Alzheimer's disease in a folate-supplemented Ontario population. *J Alzheimers Dis* 14(1): 69-84.
- Peters SU, Bird LM, Kimonis V, Glaze DG, Shinawi LM, Bichell TJ, Barbieri-Welge R, Nespeca M, Anselm I, Waisbren S, Sanborn E, Sun Q, O'Brien WE, Beaudet AL, Bacino CA. 2010. Double-blind therapeutic trial in Angelman syndrome using betaine and folic acid. *Am J Med Genet A* 152A(8): 1994-2001.
- Petronijevic ND, Radonjic NV, Ivkovic MD, Marinkovic D, Piperski VD, Duricic BM, Paunovic VR. 2008. Plasma homocysteine levels in young male patients in the exacerbation and remission phase of schizophrenia. *Prog Neuropsychopharmacol Biol Psychiatry* 32(8): 1921-1926.
- Piazza F, Galimberti G, Conti E, Isella V, Perlangeli MV, Speranza T, Borroni B, Pogliani EM, Padovani A, Ferrarese C. 2010. Increased tissue factor pathway inhibitor and homocysteine in Alzheimer's disease. *Neurobiol Aging*.
- Polyak Z, Stern F, Berner YN, Sela BA, Gomori JM, Isayev M, Doolman R, Levy S, Dror Y. 2003. Hyperhomocysteinemia and vitamin score: correlations with silent brain ischemic lesions and brain atrophy. *Dement Geriatr Cogn Disord* 16(1): 39-45.
- Postiglione A, Milan G, Ruocco A, Gallotta G, Guiotto G, Di Minno G. 2001. Plasma folate, vitamin B(12), and total homocysteine and homozygosity for the C677T mutation of the 5,10-methylene tetrahydrofolate reductase gene in patients with Alzheimer's dementia. A case-control study. *Gerontology* 47(6): 324-329.
- Puustjarvi T, Blomster H, Kontkanen M, Punnonen K, Terasvirta M. 2004. Plasma and aqueous humour levels of homocysteine in exfoliation syndrome. *Graefes Arch Clin Exp Ophthalmol* 242(9): 749-754.
- Quadri P, Fragiaco C, Pezzati R, Zanda E, Forloni G, Tettamanti M, Lucca U. 2004. Homocysteine, folate, and vitamin B-12 in mild cognitive impairment, Alzheimer disease, and vascular dementia. *Am J Clin Nutr* 80(1): 114-122.
- Quadri P, Fragiaco C, Pezzati R, Zanda E, Tettamanti M, Lucca U. 2005a. Homocysteine and B vitamins in mild cognitive impairment and dementia. *Clin Chem Lab Med* 43(10): 1096-1100.
- Quadri P, Fragiaco C, Pezzati R, Zanda E, Tettamanti M, Lucca U. 2005b. B vitamins and homocysteine in mild cognitive impairment and dementia. *Research and Practice in Alzheimer's Disease* 10: 82-88.

- Ramaekers VT, Blau N, Sequeira JM, Nassogne MC, Quadros EV. 2007. Folate receptor autoimmunity and cerebral folate deficiency in low-functioning autism with neurological deficits. *Neuropediatrics* 38(6): 276-281.
- Ramos MI, Allen LH, Haan MN, Green R, Miller JW. 2004. Plasma folate concentrations are associated with depressive symptoms in elderly Latina women despite folic acid fortification. *Am J Clin Nutr* 80(4): 1024-1028.
- Ramos MI, Allen LH, Mungas DM, Jagust WJ, Haan MN, Green R, Miller JW. 2005. Low folate status is associated with impaired cognitive function and dementia in the Sacramento Area Latino Study on Aging. *Am J Clin Nutr* 82(6): 1346-1352.
- Ravaglia G, Forti P, Maioli F, Vettori C, Grossi G, Bargossi AM, Caldarera M, Franceschi C, Facchini A, Mariani E, Cavalli G. 2000a. Elevated plasma homocysteine levels in centenarians are not associated with cognitive impairment. *Mech Ageing Dev* 121(1-3): 251-261.
- Ravaglia G, Forti P, Maioli F, Zanardi V, Dalmonte E, Grossi G, Cucinotta D, Macini P, Caldarera M. 2000b. Blood homocysteine and vitamin B levels are not associated with cognitive skills in healthy normally ageing subjects. *J Nutr Health Aging* 4(4): 218-222.
- Ravaglia G, Forti P, Maioli F, Muscari A, Sacchetti L, Arnone G, Nativio V, Talerico T, Mariani E. 2003. Homocysteine and cognitive function in healthy elderly community dwellers in Italy. *Am J Clin Nutr* 77(3): 668-673.
- Ravaglia G, Forti P, Maioli F, Scali RC, Sacchetti L, Talerico T, Mantovani V, Bianchin M. 2004. Homocysteine and cognitive performance in healthy elderly subjects. *Arch Gerontol Geriatr Suppl*(9): 349-357.
- Ravaglia G, Forti P, Maioli F, Martelli M, Servadei L, Brunetti N, Porcellini E, Licastro F. 2005. Homocysteine and folate as risk factors for dementia and Alzheimer disease. *Am J Clin Nutr* 82(3): 636-643.
- Regland B, Gottfries CG, Oreland L, Svennerholm L. 1988. Low B12 levels related to high activity of platelet MAO in patients with dementia disorders. A retrospective study. *Acta Psychiatr Scand* 78(4): 451-457.
- Reif A, Pfuhlmann B, Lesch KP. 2005. Homocysteinemia as well as methylenetetrahydrofolate reductase polymorphism are associated with affective psychoses. *Prog Neuropsychopharmacol Biol Psychiatry* 29(7): 1162-1168.
- Religa D, Styczynska M, Peplonska B, Gabryelewicz T, Pfeffer A, Chodakowska M, Luczywek E, Wasiak B, Stepien K, Golebiowski M, Winblad B, Barcikowska M. 2003. Homocysteine, apolipoproteine E and methylenetetrahydrofolate reductase in Alzheimer's disease and mild cognitive impairment. *Dement Geriatr Cogn Disord* 16(2): 64-70.
- Remington R, Chan A, Paskavitz J, Shea TB. 2009. Efficacy of a vitamin/nutriceutical formulation for moderate-stage to later-stage Alzheimer's disease: A placebo-controlled pilot study. *American Journal of Alzheimer's Disease and other Dementias* 24(1): 27-33.
- Renvall MJ, Spindler AA, Ramsdell JW, Paskvan M. 1989. Nutritional status of free-living Alzheimer's patients. *Am J Med Sci* 298(1): 20-27.
- Requejo AM, Ortega RM, Robles F, Navia B, Faci M, Aparicio A. 2003. Influence of nutrition on cognitive function in a group of elderly, independently living people. *Eur J Clin Nutr* 57 Suppl 1: S54-57.
- Reynolds EH, Bottiglieri T, Laundry M, Stern J, Payan J, Linnell J, Faludy J. 1993. Subacute combined degeneration with high serum vitamin B12 level and abnormal vitamin B12 binding protein. New cause of an old syndrome. *Arch Neurol* 50(7): 739-742.
- Riggs KM, Spiro A, 3rd, Tucker K, Rush D. 1996. Relations of vitamin B-12, vitamin B-6, folate, and homocysteine to cognitive performance in the Normative Aging Study. *Am J Clin Nutr* 63(3): 306-314.
- Robins Wahlin TB, Wahlin A, Winblad B, Backman L. 2001. The influence of serum vitamin B12 and folate status on cognitive functioning in very old age. *Biol Psychol* 56(3): 247-265.

- Robinson DJ, O'Lunaigh C, Tehee E, O'Connell H, Hamilton F, Chin AV, Coen R, Molloy AM, Scott J, Cunningham CJ, Lawlor BA. 2011. Associations between holotranscobalamin, vitamin B12, homocysteine and depressive symptoms in community-dwelling elders. *Int J Geriatr Psychiatry* 26(3): 307-313.
- Rochtchina E, Wang JJ, Flood VM, Mitchell P. 2007. Elevated serum homocysteine, low serum vitamin B12, folate, and age-related macular degeneration: the Blue Mountains Eye Study. *Am J Ophthalmol* 143(2): 344-346.
- Rodriguez-Oroz MC, Lage PM, Sanchez-Mut J, Lamet I, Pagonabarraga J, Toledo JB, Garcia-Garcia D, Clavero P, Samaranch L, Irurzun C, Matsubara JM, Irigoien J, Bescos E, Kulisevsky J, Perez-Tur J, Obeso JA. 2009. Homocysteine and cognitive impairment in Parkinson's disease: a biochemical, neuroimaging, and genetic study. *Mov Disord* 24(10): 1437-1444.
- Roedl JB, Bleich S, Reulbach U, Rejdak R, Naumann GO, Kruse FE, Schlotzer-Schrehardt U, Kornhuber J, Junemann AG. 2007. Vitamin deficiency and hyperhomocysteinemia in pseudoexfoliation glaucoma. *J Neural Transm* 114(5): 571-575.
- Roffman JL, Lamberti JS, Achtyes E, Macklin EA, Galendez GC, Raeke LH, Silverstein NJ, Smoller JW, Hill M, Goff DC. 2013. Randomized multicenter investigation of folate plus vitamin B12 supplementation in schizophrenia. *JAMA psychiatry (Chicago, Ill.)* 70(5): 481-489.
- Ross JF, Belding H, Paegel BL. 1948. The development and progression of subacute combined degeneration of the spinal cord in patients with pernicious anemia treated with synthetic pteroylglutamic (folic) acid. *Blood* 3(1): 68-90.
- Rossler CW, Baleanu D, Reulbach U, Lewczuk P, Bleich S, Kruse FE, Kornhuber J, Schlotzer-Schrehardt U, Juenemann AG. 2010. Plasma homocysteine levels in patients with normal tension glaucoma. *J Glaucoma* 19(9): 576-580.
- Roth C, Magnus P, Schjolberg S, Stoltenberg C, Suren P, McKeague IW, Davey Smith G, Reichborn-Kjennerud T, Susser E. 2011. Folic acid supplements in pregnancy and severe language delay in children. *JAMA* 306(14): 1566-1573.
- Roza SJ, van Batenburg-Eddes T, Steegers EA, Jaddoe VW, Mackenbach JP, Hofman A, Verhulst FC, Tiemeier H. 2010. Maternal folic acid supplement use in early pregnancy and child behavioural problems: The Generation R Study. *Br J Nutr* 103(3): 445-452.
- Russo C, Morabito F, Luise F, Piriomalli A, Battaglia L, Vinci A, Lombardo VT, de Marco V, Morabito P, Condino F, Quattrone A, Aguglia U. 2008. Hyperhomocysteinemia is associated with cognitive impairment in multiple sclerosis. *Journal of Neurology* 255(1): 64-69.
- Sabers A. 2009. Influences on seizure activity in pregnant women with epilepsy. *Epilepsy Behav* 15(2): 230-234.
- Sachdev PS, Parslow RA, Lux O, Salonikas C, Wen W, Naidoo D, Christensen H, Jorm AF. 2005. Relationship of homocysteine, folic acid and vitamin B12 with depression in a middle-aged community sample. *Psychol Med* 35(4): 529-538.
- Saedisomeolia A, Djalali M, Moghadam AM, Ramezankhani O, Najmi L. 2011. Folate and vitamin B12 status in schizophrenic patients. *Journal of Research in Medical Sciences* 16(SPEC. ISSUE): 437-441.
- Sala I, Belen Sanchez-Saudinos M, Molina-Porcel L, Lazaro E, Gich I, Clarimon J, Blanco-Vaca F, Blesa R, Gomez-Isla T, Lleó A. 2008. Homocysteine and cognitive impairment. Relation with diagnosis and neuropsychological performance. *Dement Geriatr Cogn Disord* 26(6): 506-512.
- Sanchez-Villegas A, Henriquez P, Bes-Rastrollo M, Doreste J. 2006. Mediterranean diet and depression. *Public Health Nutr* 9(8A): 1104-1109.
- Sanchez-Villegas A, Doreste J, Schlatter J, Pla J, Bes-Rastrollo M, Martinez-Gonzalez MA. 2009. Association between folate, vitamin B(6) and vitamin B(12) intake and depression in the SUN cohort study. *J Hum Nutr Diet* 22(2): 122-133.

- Saricaoglu MS, Karakurt A, Sengun A, Hasiripi H. 2006. Plasma homocysteine levels and vitamin B status in patients with Pseudoexfoliation syndrome. *Saudi Med J* 27(6): 833-837.
- Scheltens P, Twisk JWR, Blesa R, Scarpini E, von Arnim CAF, Bongers A, Harrison J, Swinkels SHN, Stam CJ, de Waal H, Wurtman RJ, Wieggers RL, Vellas B, Kamphuis P. 2012. Efficacy of Souvenaid in Mild Alzheimer's Disease: Results from a Randomized, Controlled Trial. *J. Alzheimers Dis.* 31(1): 225-236.
- Schlotz W, Jones A, Phillips DI, Gale CR, Robinson SM, Godfrey KM. 2010. Lower maternal folate status in early pregnancy is associated with childhood hyperactivity and peer problems in offspring. *J Child Psychol Psychiatry* 51(5): 594-602.
- Schmidt RJ, Tancredi DJ, Ozonoff S, Hansen RL, Hartiala J, Allayee H, Schmidt LC, Tassone F, Hertz-Picciotto I. 2012. Maternal periconceptional folic acid intake and risk of autism spectrum disorders and developmental delay in the CHARGE (CHildhood Autism Risks from Genetics and Environment) case-control study. *Am J Clin Nutr* 96(1): 80-89.
- Schwartz SO, Friedman IA, Gant HL. 1955. Long-term evaluation of vitamin B12 in treatment of pernicious anemia. I. Incidental report on use of combined oral therapy with vitamin B12 and folic acid. *J Am Med Assoc* 157(3): 229-231.
- Schwarz J, Trenkwalder C, Gasser T, Arnold G, Oertel WH. 1992. FOLINIC ACID THERAPY FAILS TO IMPROVE EARLY PARKINSONS-DISEASE - A 2 WEEK PLACEBO CONTROLLED CLINICAL-TRIAL. *J. Neural Transm.-Park. Dis. Dement. Sect.* 4(1): 35-41.
- Scott TM, Tucker KL, Bhadelia A, Benjamin B, Patz S, Bhadelia R, Liebson E, Price LL, Griffith J, Rosenberg I, Folstein MF. 2004. Homocysteine and B vitamins relate to brain volume and white-matter changes in geriatric patients with psychiatric disorders. *Am J Geriatr Psychiatry* 12(6): 631-638.
- Sekeryapan B, Oner V, Kirbas A, Turkyilmaz K, Durmus M. 2013. Plasma homocysteine levels in dry eye patients. *Cornea* 32(5): e94-96.
- Selley ML, Close DR, Stern SE. 2002. The effect of increased concentrations of homocysteine on the concentration of (E)-4-hydroxy-2-nonenal in the plasma and cerebrospinal fluid of patients with Alzheimer's disease. *Neurobiol Aging* 23(3): 383-388.
- Sen A, Kanani SJ. 2009. Impact of iron-folic acid supplementation on cognitive abilities of school girls in Vadodara. *Indian Pediatr* 46(2): 137-143.
- Sen SK, Pukazhvanthen P, Abraham R. 2008. Plasma homocysteine, folate and vitamin B12 levels in senile cataract. *Indian Journal of Clinical Biochemistry* 23(3): 255-257.
- Seppala J, Koponen H, Kautiainen H, Eriksson JG, Kampman O, Mannisto S, Mantyselka P, Oksa H, Ovaskainen Y, Viikki M, Vanhala M. 2012. Association between folate intake and melancholic depressive symptoms. A Finnish population-based study. *J Affect Disord* 138(3): 473-478.
- Serot JM, Christmann D, Dubost T, Bene MC, Faure GC. 2001. CSF-folate levels are decreased in late-onset AD patients. *J Neural Transm* 108(1): 93-99.
- Seshadri S, Hirode K, Naik P, Malhotra S. 1982. Behavioural responses of young anaemic Indian children to iron-folic acid supplements. *Br J Nutr* 48(2): 233-240.
- Seshadri S, Gopaldas T. 1989. Impact of iron supplementation on cognitive functions in preschool and school-aged children: the Indian experience. *Am J Clin Nutr* 50(3 Suppl): 675-684; discussion 685-676.
- Shargorodsky J, Curhan SG, Eavey R, Curhan GC. 2010. A prospective study of vitamin intake and the risk of hearing loss in men. *Otolaryngol Head Neck Surg* 142(2): 231-236.
- Siegel EH, Kordas K, Stoltzfus RJ, Katz J, Khatry SK, LeClerq SC, Tielsch JM. 2011. Inconsistent effects of iron-folic acid and/or zinc supplementation on the cognitive development of infants. *J Health Popul Nutr* 29(6): 593-604.

- Siuda J, Gorzkowska A, Patalong-Ogiewa M, Krzystanek E, Czech E, Wiechula B, Garczorz W, Danch A, Jasinska-Myga B, Opala G. 2009. From mild cognitive impairment to Alzheimer's disease - influence of homocysteine, vitamin B12 and folate on cognition over time: results from one-year follow-up. *Neurol Neurochir Pol* 43(4): 321-329.
- Skarupski KA, Tangney C, Li H, Ouyang B, Evans DA, Morris MC. 2010. Longitudinal association of vitamin B-6, folate, and vitamin B-12 with depressive symptoms among older adults over time. *Am J Clin Nutr* 92(2): 330-335.
- Slawek J, Roszmann A, Robowski P, Dubaniewicz M, Sitek EJ, Honczarenko K, Gorzkowska A, Budrewicz S, Mak M, Golab-Janowska M, Kozirowska-Gawron E, Drozdziak M, Kurzawski M, Bandurski T, Bialecka M. 2013. The impact of MRI white matter hyperintensities on dementia in Parkinson's disease in relation to the homocysteine level and other vascular risk factors. *Neurodegener Dis* 12(1): 1-12.
- Smach MA, Jacob N, Golmard JL, Charfeddine B, Lammouchi T, Ben Othman L, Dridi H, Bennamou S, Limem K. 2011. Folate and Homocysteine in the Cerebrospinal Fluid of Patients with Alzheimer's Disease or Dementia: A Case Control Study. *European Neurology* 65(5): 270-278.
- Smith AD, Smith SM, de Jager CA, Whitbread P, Johnston C, Agacinski G, Oulhaj A, Bradley KM, Jacoby R, Refsum H. 2010. Homocysteine-lowering by B vitamins slows the rate of accelerated brain atrophy in mild cognitive impairment: a randomized controlled trial. *PLoS One* 5(9): e12244.
- Snowdon DA, Tully CL, Smith CD, Riley KP, Markesbery WR. 2000. Serum folate and the severity of atrophy of the neocortex in Alzheimer disease: findings from the Nun Study. *American Journal of Clinical Nutrition* 71(4): 993-998.
- Solon O, Riddell TJ, Quimbo SA, Butrick E, Aylward GP, Lou Bacate M, Peabody JW. 2008. Associations between cognitive function, blood lead concentration, and nutrition among children in the central Philippines. *J Pediatr* 152(2): 237-243.
- Sommer BR, Hoff AL, Costa M. 2003. Folic acid supplementation in dementia: a preliminary report. *J Geriatr Psychiatry Neurol* 16(3): 156-159.
- Song JH, Park MH, Han C, Jo SA, Ahn K. 2010. Serum Homocysteine and Folate Levels are Associated With Late-life Dementia in a Korean Population. *Osong Public Health and Research Perspectives* 1(1): 17-22.
- Southon S, Wright AJA, Finglas PM, Bailey AL, Loughridge JM, Walker AD. 1994. DIETARY-INTAKE AND MICRONUTRIENT STATUS OF ADOLESCENTS - EFFECT OF VITAMIN AND TRACE-ELEMENT SUPPLEMENTATION ON INDEXES OF STATUS AND PERFORMANCE IN TESTS OF VERBAL AND NONVERBAL INTELLIGENCE. *British Journal of Nutrition* 71(6): 897-918.
- Spada RS, Stella G, Calabrese S, Bosco P, Anello G, Gueant-Rodriguez RM, Romano A, Benamghar L, Fontaine T, Gueant JL. 2007. Association of vitamin B12, folate and homocysteine with functional and pathological characteristics of the elderly in a mountainous village in Sicily. *Clin Chem Lab Med* 45(2): 136-142.
- Spies TD, Garcia Lopez G, et al. 1948. Treatment of nutritional macrocytic anaemia with synthetic folic acid. *Lancet* 1(6494): 239-241.
- Spindler AA, Renvall MA. 1989. Nutritional status and psychometric test scores in cognitively impaired elders. *Ann N Y Acad Sci* 561: 167-177.
- Stahl Z, Belmaker RH, Friger M, Levine J. 2005. Nutritional and life style determinants of plasma homocysteine in schizophrenia patients. *Eur Neuropsychopharmacol* 15(3): 291-295.
- Starr JM, Pattie A, Whiteman MC, Deary IJ, Whalley LJ. 2005. Vitamin B-12, serum folate, and cognitive change between 11 and 79 years. *J Neurol Neurosurg Psychiatry* 76(2): 291-292.
- Steenweg-de Graaff J, Roza SJ, Steegers EA, Hofman A, Verhulst FC, Jaddoe VW, Tiemeier H. 2012. Maternal folate status in early pregnancy and child emotional and behavioral problems: the Generation R Study. *Am J Clin Nutr* 95(6): 1413-1421.

- Stewart R, Asonganyi B, Sherwood R. 2002. Plasma homocysteine and cognitive impairment in an older British African-Caribbean population. *Journal of the American Geriatrics Society* 50(7): 1227-1232.
- Stott DJ, MacIntosh G, Lowe GD, Rumley A, McMahon AD, Langhorne P, Tait RC, O'Reilly DS, Spilg EG, MacDonald JB, MacFarlane PW, Westendorp RG. 2005. Randomized controlled trial of homocysteine-lowering vitamin treatment in elderly patients with vascular disease. *Am J Clin Nutr* 82(6): 1320-1326.
- Strand TA, Taneja S, Ueland PM, Refsum H, Bahl R, Schneede J, Sommerfelt H, Bhandari N. 2013. Cobalamin and folate status predicts mental development scores in North Indian children 12-18 mo of age. *Am J Clin Nutr* 97(2): 310-317.
- Straub RH, Rokitzki L, Schumacher T, Hillmann C, Palitzsch KD, Scholmerich J. 1993. No evidence of deficiency of vitamins A, E, beta-carotene, B1, B2, B6, B12 and folate in neuropathic type II diabetic women. *Int J Vitam Nutr Res* 63(3): 239-240.
- Stuerenburg HJ, Ganzer S, Arlt S, Muller-Thomsen T. 2005. The influence of smoking on plasma folate and lipoproteins in Alzheimer disease, mild cognitive impairment and depression. *Neuroendocrinology Letters* 26(3): 261-263.
- Sun A, Lin HP, Wang YP, Chen HM, Cheng SJ, Chiang CP. 2013. Significant reduction of serum homocysteine level and oral symptoms after different vitamin-supplement treatments in patients with burning mouth syndrome. *J Oral Pathol Med* 42(6): 474-479.
- Tabet N, Rafi H, Weaving G, Lyons B, Iversen SA. 2006. Behavioural and psychological symptoms of Alzheimer type dementia are not correlated with plasma homocysteine concentration. *Dement Geriatr Cogn Disord* 22(5-6): 432-438.
- Tamura T, Goldenberg RL, Chapman VR, Johnston KE, Ramey SL, Nelson KG. 2005. Folate status of mothers during pregnancy and mental and psychomotor development of their children at five years of age. *Pediatrics* 116(3): 703-708.
- Tassinio M, Campos TF, Guerra RO. 2009. Homocysteine (Hcy) and cognitive performance in a population sample of elderly Brazilians. *Arch Gerontol Geriatr* 48(2): 142-145.
- Tavani A, Negri E, La Vecchia C. 1996. Food and nutrient intake and risk of cataract. *Ann Epidemiol* 6(1): 41-46.
- Taylor A, Jacques PF, Chylack LT, Jr., Hankinson SE, Khu PM, Rogers G, Friend J, Tung W, Wolfe JK, Padhye N, Willett WC. 2002. Long-term intake of vitamins and carotenoids and odds of early age-related cortical and posterior subcapsular lens opacities. *Am J Clin Nutr* 75(3): 540-549.
- Tebi A, Belbraouet S, Chau N, Debry G. 2000. Plasma vitamin, beta-carotene, and alpha-tocopherol status according to age and disease in hospitalized elderly. *Nutrition Research* 20(10): 1395-1408.
- Temudo T, Rios M, Prior C, Carrilho I, Santos M, Maciel P, Sequeiros J, Fonseca M, Monteiro J, Cabral P, Vieira JP, Ormazabal A, Artuch R. 2009. Evaluation of CSF neurotransmitters and folate in 25 patients with Rett disorder and effects of treatment. *Brain and Development* 31(1): 46-51.
- Teunissen CE, Blom AH, Van Boxtel MP, Bosma H, de Bruijn C, Jolles J, Wauters BA, Steinbusch HW, de Vente J. 2003. Homocysteine: a marker for cognitive performance? A longitudinal follow-up study. *J Nutr Health Aging* 7(3): 153-159.
- Thomas DE, Chung AOKO, Dickerson JW, Tidmarsh SF, Shaw DM. 1986. Tryptophan and nutritional status of patients with senile dementia. *Psychol Med* 16(2): 297-305.
- Tielsch JM, Khatry SK, Stoltzfus RJ, Katz J, LeClerq SC, Adhikari R, Mullany LC, Black R, Shresta S. 2007. Effect of daily zinc supplementation on child mortality in southern Nepal: a community-based, cluster randomised, placebo-controlled trial. *Lancet* 370(9594): 1230-1239.
- Tiemeier H, van Tuijl HR, Hofman A, Meijer J, Kiliaan AJ, Breteler MM. 2002. Vitamin B12, folate, and homocysteine in depression: the Rotterdam Study. *Am J Psychiatry* 159(12): 2099-2101.

- Tiemeier H, Fekkes D, Hofman A, van Tuijl HR, Kiliaan AJ, Breteler MM. 2006. Plasma pterins and folate in late life depression: the Rotterdam Study. *Psychiatry Res* 145(2-3): 199-206.
- Tolmunen T, Voutilainen S, Hintikka J, Rissanen T, Tanskanen A, Viinamaki H, Kaplan GA, Salonen JT. 2003. Dietary folate and depressive symptoms are associated in middle-aged Finnish men. *J Nutr* 133(10): 3233-3236.
- Tolmunen T, Hintikka J, Ruusunen A, Voutilainen S, Tanskanen A, Valkonen VP, Viinamaki H, Kaplan GA, Salonen JT. 2004. Dietary folate and the risk of depression in Finnish middle-aged men. A prospective follow-up study. *Psychother Psychosom* 73(6): 334-339.
- Tousignant B, Brian G, Venn BJ, Gould C, McKay R, Williams S. 2013. Optic neuropathy among a prison population in Papua New Guinea. *Ophthalmic epidemiology* 20(1): 4-12.
- Tranchina L, Centofanti M, Oddone F, Tanga L, Roberti G, Liberatoscioli L, Cortese C, Manni G. 2011. Levels of plasma homocysteine in pseudoexfoliation glaucoma. *Graefes Arch Clin Exp Ophthalmol* 249(3): 443-448.
- Tuglu C, Ozcan S, Erdogan Y, Sut N, Vardar E, Abay E. 2011. The relation of homocysteine levels with deficit syndrome and working memory in schizophrenic patients. *Anadolu Psikiyatri Dergisi* 12(3): 169-176.
- Tunc T, Karadag YS, Dogulu F, Inan LE. 2007. Predisposing factors of restless legs syndrome in pregnancy. *Mov Disord* 22(5): 627-631.
- Turgut B, Kaya M, Arslan S, Demir T, Guler M, Kaya MK. 2010. Levels of circulating homocysteine, vitamin B6, vitamin B12, and folate in different types of open-angle glaucoma. *Clin Interv Aging* 5: 133-139.
- Ueda S, Shirakawa T, Nakazawa Y, Inanaga K. 1977. Epilepsy and folic acid. *Folia Psychiatrica et Neurologica Japonica* 31(3): 327-337.
- Vahdat Shariatpanaahi M, Vahdat Shariatpanaahi Z, Moshtaaghi M, Shahbaazi SH, Abadi A. 2007. The relationship between depression and serum ferritin level. *Eur J Clin Nutr* 61(4): 532-535.
- Van Binsbergen CJ, Odink J, Van den Berg H, Koppeschaar H, Coelingh Bennink HJ. 1988. Nutritional status in anorexia nervosa: clinical chemistry, vitamins, iron and zinc. *Eur J Clin Nutr* 42(11): 929-937.
- van Uffelen JG, Chin APMJ, Hopman-Rock M, van Mechelen W. 2007. The effect of walking and vitamin B supplementation on quality of life in community-dwelling adults with mild cognitive impairment: a randomized, controlled trial. *Qual Life Res* 16(7): 1137-1146.
- van Uffelen JG, Chinapaw MJ, van Mechelen W, Hopman-Rock M. 2008. Walking or vitamin B for cognition in older adults with mild cognitive impairment? A randomised controlled trial. *Br J Sports Med* 42(5): 344-351.
- Veena SR, Krishnaveni GV, Srinivasan K, Wills AK, Muthayya S, Kurpad AV, Yajnik CS, Fall CH. 2010. Higher maternal plasma folate but not vitamin B-12 concentrations during pregnancy are associated with better cognitive function scores in 9- to 10- year-old children in South India. *J Nutr* 140(5): 1014-1022.
- Vega de Ceniga M, Bravo E, Izagirre M, Casco C, Estallo L, Esteban M, Barba A. 2011. Anaemia, iron and vitamin deficits in patients with peripheral arterial disease. *Eur J Vasc Endovasc Surg* 41(6): 828-830.
- Vermeulen EGJ, Stehouwer CDA, Valk J, Van Der Knaap M, Van Den Berg M, Twisk JWR, Prevoe W, Rauwerda JA. 2004. Effect of homocysteine-lowering treatment with folic acid plus vitamin B6 on cerebrovascular atherosclerosis and white matter abnormalities as determined by MRA and MRI: A placebo-controlled, randomized trial. *European Journal of Clinical Investigation* 34(4): 256-261.
- Villamor E, Rifas-Shiman SL, Gillman MW, Oken E. 2012. Maternal intake of methyl-donor nutrients and child cognition at 3 years of age. *Paediatr Perinat Epidemiol* 26(4): 328-335.
- Vilter CF, Vilter RW, Spies TD. 1947. The occurrence of combined system disease in persons with pernicious anemia during treatment with the Lactobacillus casei factor (folic acid). *J Lab Clin Med* 32(3): 335.
- Vilter RW, Horrigan D, Mueller JF, Jarrold T, Vilter CF, Hawkins V, Seaman A. 1950. Studies on the relationships of vitamin B12, folic acid, thymine, uracil and methyl group donors in persons with pernicious anemia and related megaloblastic anemias. *Blood* 5(8): 695-717.

- Vinod Kumar M, Rajagopalan S. 2008. Trial using multiple micronutrient food supplement and its effect on cognition. *Indian J Pediatr* 75(7): 671-678.
- Vinodkumar M, Erhardt JG, Rajagopalan S. 2009. Impact of a multiple-micronutrient fortified salt on the nutritional status and memory of schoolchildren. *Int J Vitam Nutr Res* 79(5-6): 348-361.
- Vogiatzoglou A, Refsum H, Johnston C, Smith SM, Bradley KM, de Jager C, Budge MM, Smith AD. 2008. Vitamin B12 status and rate of brain volume loss in community-dwelling elderly. *Neurology* 71(11): 826-832.
- Wahlin A, Fahlander K, Wahlin TB, Bunce D, Backman L. 2008. Vitamin B status and cognitive performance in preclinical and clinical Alzheimer's disease: data from the Kungsholmen Project. *Dement Geriatr Cogn Disord* 25(1): 23-31.
- Walker JG, Mackinnon AJ, Batterham P, Jorm AF, Hickie I, McCarthy A, Fenech M, Christensen H. 2010. Mental health literacy, folic acid and vitamin B12, and physical activity for the prevention of depression in older adults: randomised controlled trial. *Br J Psychiatry* 197(1): 45-54.
- Walker JG, Batterham PJ, Mackinnon AJ, Jorm AF, Hickie I, Fenech M, Kljakovic M, Crisp D, Christensen H. 2012. Oral folic acid and vitamin B-12 supplementation to prevent cognitive decline in community-dwelling older adults with depressive symptoms - The Beyond Ageing Project: A randomized controlled trial. *American Journal of Clinical Nutrition* 95(1): 194-203.
- Wang HL, Fan DS. 2012. [The relation between plasma homocysteine level and amyotrophic lateral sclerosis]. *Zhonghua Nei Ke Za Zhi* 51(4): 308-310.
- Wang HX, Wahlin A, Basun H, Fastbom J, Winblad B, Fratiglioni L. 2001. Vitamin B(12) and folate in relation to the development of Alzheimer's disease. *Neurology* 56(9): 1188-1194.
- Watanabe H, Suganuma N, Hayashi A, Hirowatari Y, Hirowatari T, Ohsawa M. 2010. No relation between folate and homocysteine levels and depression in early pregnant women. *Biosci Trends* 4(6): 344-350.
- Watanabe H, Ishida S, Konno Y, Matsumoto M, Nomachi S, Masaki K, Okayama H, Nagai Y. 2012. Impact of dietary folate intake on depressive symptoms in young women of reproductive age. *J Midwifery Womens Health* 57(1): 43-48.
- Wehby GL, Murray JC. 2008. The effects of prenatal use of folic acid and other dietary supplements on early child development. *Matern Child Health J* 12(2): 180-187.
- Weinstein AM, Barton C, Ross L, Kramer JH, Yaffe K. 2009. Treatment Practices of Mild Cognitive Impairment in California Alzheimer's Disease Centers. *Journal of the American Geriatrics Society* 57(4): 686-690.
- Wengreen H, Nelson C, Munger RG, Corcoran C. 2011. Prospective study of ready-to-eat breakfast cereal consumption and cognitive decline among elderly men and women. *J. Nutr. Health Aging* 15(3): 202-207.
- Whalley LJ, Staff RT, Murray AD, Duthie SJ, Collins AR, Lemmon HA, Starr JM, Deary IJ. 2003. Plasma vitamin C, cholesterol and homocysteine are associated with grey matter volume determined by MRI in non-demented old people. *Neurosci Lett* 341(3): 173-176.
- Will JJ, Mueller JF, Brodine C, Kiely CE, Friedman B, Hawkins VR, Dutra J, Vilter RW. 1959. Folic acid and vitamin B12 in pernicious anemia; studies on patients treated with these substances over a ten year period. *J Lab Clin Med* 53(1): 22-38.
- Witte KK, Nikitin NP, Parker AC, von Haehling S, Volk HD, Anker SD, Clark AL, Cleland JG. 2005. The effect of micronutrient supplementation on quality-of-life and left ventricular function in elderly patients with chronic heart failure. *Eur Heart J* 26(21): 2238-2244.
- Wolters M, Hickstein M, Flintermann A, Tewes U, Hahn A. 2005. Cognitive performance in relation to vitamin status in healthy elderly German women-the effect of 6-month multivitamin supplementation. *Preventive Medicine* 41(1): 253-259.

- Wu BT, Dyer RA, King DJ, Richardson KJ, Innis SM. 2012. Early second trimester maternal plasma choline and betaine are related to measures of early cognitive development in term infants. *PLoS One* 7(8): e43448.
- Yang LK, Wong KC, Wu MY, Liao SL, Kuo CS, Huang RF. 2007. Correlations between folate, B12, homocysteine levels, and radiological markers of neuropathology in elderly post-stroke patients. *J Am Coll Nutr* 26(3): 272-278.
- Ye XW, Lai CQ, Crott JW, Troen AM, Ordovas JM, Tucker KL. 2011. The Folate Hydrolase 1561C > T Polymorphism Is Associated With Depressive Symptoms in Puerto Rican Adults. *Psychosomatic Medicine* 73(5): 385-392.
- Yoshida H, Tsuji K, Sakata T, Nakagawa A, Morita S. 2010. Clinical study of tongue pain: Serum zinc, vitamin B12, folic acid, and copper concentrations, and systemic disease. *Br J Oral Maxillofac Surg* 48(6): 469-472.
- Yuan RY, Sheu JJ, Yu JM, Hu CJ, Tseng IJ, Ho CS, Yeh CY, Hung YL, Chiang TR. 2009. Methylenetetrahydrofolate reductase polymorphisms and plasma homocysteine in levodopa-treated and non-treated Parkinson's disease patients. *J Neurol Sci* 287(1-2): 64-68.
- Yukawa M, Naka H, Murata Y, Katayama S, Kohriyama T, Mimori Y, Nakamura S. 2001. Folic acid-responsive neurological diseases in Japan. *J Nutr Sci Vitaminol (Tokyo)* 47(3): 181-187.
- Zhao G, Ford ES, Li C, Greenlund KJ, Croft JB, Balluz LS. 2011. Use of folic acid and vitamin supplementation among adults with depression and anxiety: a cross-sectional, population-based survey. *Nutr J* 10: 102.
- Zoccollella S, Simone IL, Lamberti P, Samarelli V, Tortelli R, Serlenga L, Logroscino G. 2008. Elevated plasma homocysteine levels in patients with amyotrophic lateral sclerosis. *Neurology* 70(3): 222-225.

2.5 Other Immunological Outcomes – Human Studies (n=103)

- Aksungar FB, Topkaya AE, Yildiz Z, Sahin S, Turk U. 2008. Coagulation status and biochemical and inflammatory markers in multiple sclerosis. *J Clin Neurosci* 15(4): 393-397.
- Alevizou-Terzaki V, Kesse-Elas M, Xafi M. 1978. Folic acid and vitamin B12 serum levels in juvenile and adult rheumatoid arthritis. *Rhumatologie - Revue Internationale de Rhumatologie* 8(6): 433-439.
- Allsup SJ, Shenkin A, Gosney MA, Taylor S, Taylor W, Hammond M, Zambon MC. 2004. Can a short period of micronutrient supplementation in older institutionalized people improve response to influenza vaccine? A randomized, controlled trial. *J Am Geriatr Soc* 52(1): 20-24.
- Arora MK, Seth S, Dayal S. 2012. Homocysteine, folic acid and vitamin B12 levels in females with severe acne vulgaris. *Clin Chem Lab Med* 50(11): 2061-2063.
- Arthur AE, Duffy SA, Sanchez GI, Gruber SB, Terrell JE, Hebert JR, Light E, Bradford CR, D'Silva NJ, Carey TE, Wolf GT, Peterson KE, Rozek LS. 2011. Higher micronutrient intake is associated with human papillomavirus-positive head and neck cancer: a case-only analysis. *Nutr Cancer* 63(5): 734-742.
- Aydin A, Vardar R, Evrengul H, Ungan M, Yilmaz M, Payzin S. 2001. Does *Helicobacter pylori* infection have a role in coronary artery disease? *Turkish Journal of Gastroenterology* 12(4): 287-293.
- Besler HT, Comoglu S. 2003. Lipoprotein oxidation, plasma total antioxidant capacity and homocysteine level in patients with multiple sclerosis. *Nutr Neurosci* 6(3): 189-196.
- Bhattacharjee S, Sanikop S, Anil M, Patil S. 2011. Comparative evaluation of serum folic acid levels in smokers and non-smokers with chronic periodontitis. *Bangladesh Journal of Medical Science* 10(2): 83-90.
- Bleie Ø, Semb AG, Grundt H, Nordrehaug JE, Vollset SE, Ueland PM, Nilsen DWT, Bakken AM, Refsum H, Nygård OK. 2007. Homocysteine-lowering therapy does not affect inflammatory markers of atherosclerosis in patients with stable coronary artery disease. *Journal of Internal Medicine* 262(2): 244-253.

- Brazzelli V, Grasso V, Fornara L, Moggio E, Gamba G, Villani S, Borroni G. 2010. Homocysteine, vitamin B12 and folic acid levels in psoriatic patients and correlation with disease severity. *Int J Immunopathol Pharmacol* 23(3): 911-916.
- Bunout D, Barrera G, Hirsch S, Gattas V, de la Maza MP, Haschke F, Steenhout P, Klassen P, Hager C, Avendano M, Petermann M, Munoz C. 2004. Effects of a nutritional supplement on the immune response and cytokine production in free-living Chilean elderly. *JPEN J Parenter Enteral Nutr* 28(5): 348-354.
- Butterworth CE, Hatch KD, Soong SJ, Cole P, Tamura T, Sauberlich HE, Borst M, Macaluso M, Baker V. 1992. ORAL FOLIC-ACID SUPPLEMENTATION FOR CERVICAL DYSPLASIA - A CLINICAL INTERVENTION TRIAL. *American Journal of Obstetrics and Gynecology* 166(3): 803-809.
- Cakmak SK, Gul U, Kilic C, Gonul M, Soylu S, Kilic A. 2009. Homocysteine, vitamin B12 and folic acid levels in psoriasis patients. *J Eur Acad Dermatol Venereol* 23(3): 300-303.
- Casais P, Meschengieser SS, Gennari LC, Alberto MF, Sanchez-Luceros A, Blanco AN, Lazzari MA. 2006. Antiphospholipid antibodies and hyperhomocysteinaemia in patients with vascular occlusive disease. *Thromb Haemost* 96(1): 19-23.
- Chen K, Zhang XA, Li TY, Chen L, Wei XP, Qu P, Liu YX. 2011. Effect of vitamin A, vitamin A plus iron and multiple micronutrient-fortified seasoning powder on infectious morbidity of preschool children. *Nutrition* 27(4): 428-434.
- Christian P, Stewart CP, LeClerq SC, Wu L, Katz J, West KP, Jr., Khatry SK. 2009. Antenatal and postnatal iron supplementation and childhood mortality in rural Nepal: a prospective follow-up in a randomized, controlled community trial. *Am J Epidemiol* 170(9): 1127-1136.
- Coca AF. 1945. Successful therapy of a dermatologic syndrome with L. casei factor (folic acid). *Ann Allergy* 3: 443-446.
- Dar-Odeh N, Shehabi A, Al-Bitar Z, Al-Omari I, Badran S, Al-Omiri M, Naser M, Al-Beyari M, Abu-Hammad O. 2011. Oral Candida colonization in patients with fixed orthodontic appliances: The importance of some nutritional and salivary factors. *Afr. J. Microbiol. Res.* 5(15): 2150-2154.
- de Franciscis S, De Sarro G, Longo P, Buffone G, Molinari V, Stillitano DM, Gallelli L, Serra R. 2015. Hyperhomocysteinaemia and chronic venous ulcers. *Int Wound J* 12(1): 22-26.
- do Prado R, D'Almeida VM, Guerra-Shinohara E, Galdieri LC, Terreri MT, Hilario MO. 2006. Increased concentration of plasma homocysteine in children with systemic lupus erythematosus. *Clin Exp Rheumatol* 24(5): 594-598.
- Durga J, van Tits LJ, Schouten EG, Kok FJ, Verhoef P. 2005. Effect of lowering of homocysteine levels on inflammatory markers: a randomized controlled trial. *Arch Intern Med* 165(12): 1388-1394.
- Durmazlar SPK, Akgul A, Eskioglu F, Tatlican S. 2009. B Vitamin Supplementation Reduced Serum Homocysteine and Interleukin-6 Levels in Patients with Behcet's Disease with Acute Venous Thrombosis: A Prospective Controlled Study. *Turk. Klin. Tip Bilim. Derg.* 29(2): 361-366.
- Durusoy C, Ozenli Y, Adiguzel A, Budakoglu IY, Tugal O, Arikan S, Uslu A, Gulec AT. 2009. The role of psychological factors and serum zinc, folate and vitamin B12 levels in the aetiology of trichodynia: a case-control study. *Clin Exp Dermatol* 34(7): 789-792.
- Duthie SJ, Horgan G, de Roos B, Rucklidge G, Reid M, Duncan G, Pirie L, Basten GP, Power HJ. 2010. Blood Folate Status and Expression of Proteins Involved in Immune Function, Inflammation, and Coagulation: Biochemical and Proteomic Changes in the Plasma of Humans in Response to Long-Term Synthetic Folic Acid Supplementation. *Journal of Proteome Research* 9(4): 1941-1950.
- Emmer PM, Nelen WL, Steegers EA, Hendriks JC, Veerhoek M, Joosten I. 2000. Peripheral natural killer cytotoxicity and CD56(pos)CD16(pos) cells increase during early pregnancy in women with a history of recurrent spontaneous abortion. *Hum Reprod* 15(5): 1163-1169.

- Emre S, Sirin A, Ergen A, Bilge I, Sucu A, Yilmaz A, Isbir T. 2011. Methylenetetrahydrofolate reductase C677T polymorphism in patients with Henoch-Schonlein purpura. *Pediatr Int* 53(3): 358-362.
- Erdem SS, Yerlikaya FH, Cicekler H, Gul M. 2012. Association between ischemia-modified albumin, homocysteine, vitamin B(12) and folic acid in patients with severe sepsis. *Clin Chem Lab Med* 50(8): 1417-1421.
- Ertugrul DT, Karadag AS, Takci Z, Bilgili SG, Ozkol HU, Tural E, Akin KO. 2013. Serum holotranscobalamine, vitamin B12, folic acid and homocysteine levels in alopecia areata patients. *Cutaneous and ocular toxicology* 32(1): 1-3.
- Evrengul H, Tanriverdi H, Kuru O, Enli Y, Yuksel D, Kilic A, Kaftan A, Kirac S, Kilic M. 2007. Elevated homocysteine levels in patients with slow coronary flow: relationship with *Helicobacter pylori* infection. *Helicobacter* 12(4): 298-305.
- Flynn MA, Irvin W, Krause G. 1994. The effect of folate and cobalamin on osteoarthritic hands. *J Am Coll Nutr* 13(4): 351-356.
- Gecene M, Tuncay F, Borman P, Yucler D, Senes M, Yilmaz BK. 2013. Atherosclerosis in male patients with ankylosing spondylitis: the relation with methylenetetrahydrofolate reductase (C677T) gene polymorphism and plasma homocysteine levels. *Rheumatol Int* 33(6): 1519-1524.
- Gonul M, Cakmak SK, Soylu S, Kilic A, Gul U. 2009a. Serum vitamin B12, folate, ferritin, and iron levels in Turkish patients with alopecia areata. *Indian J Dermatol Venereol Leprol* 75(5): 552.
- Gonul M, Gul U, Kilinc C, Cakmak SK, Soylu S, Kilic A. 2009b. Homocysteine levels in patients with Behcet's disease and patients with recurrent aphthous stomatitis. *Clin Rheumatol* 28(10): 1153-1156.
- Gonul M, Cakmak SK, Soylu S, Kilic A, Gul U. 2010. Serum vitamin B12, folate, ferritin and iron levels in Turkish patients with vitiligo. *Indian J Dermatol Venereol Leprol* 76(4): 448.
- Goodwin JS, Garry PJ. 1983. Relationship between megadose vitamin supplementation and immunological function in a healthy elderly population. *Clinical and Experimental Immunology* 51(3): 647-653.
- Goodwin JS, Garry PJ. 1988. Lack of correlation between indices of nutritional status and immunologic function in elderly humans. *J Gerontol* 43(2): M46-49.
- Hara M, Tanaka K, Hirota Y. 2005. Immune response to influenza vaccine in healthy adults and the elderly: association with nutritional status. *Vaccine* 23(12): 1457-1463.
- Heresi GP, Saitua MT, Schlesinger L. 1981. Leukocyte migration inhibition factor production in marasmic infants. *Am J Clin Nutr* 34(5): 909-913.
- Hirsch S, Miranda D, Fuentes C, Leiva L, Barrera G, Montoya M, Ronco AM, de la Maza MP, Bunout D. 2012. Effect of supraphysiological concentration of serum folate on natural killer cell activity in healthy subjects. *e-SPEN Journal* 7(3): e125-e128.
- Holt EM, Steffen LM, Moran A, Basu S, Steinberger J, Ross JA, Hong CP, Sinaiko AR. 2009. Fruit and vegetable consumption and its relation to markers of inflammation and oxidative stress in adolescents. *J Am Diet Assoc* 109(3): 414-421.
- Jacobsson L, Lindgarde F, Manthorpe R, Akesson B. 1990. Correlation of fatty acid composition of adipose tissue lipids and serum phosphatidylcholine and serum concentrations of micronutrients with disease duration in rheumatoid arthritis. *Ann Rheum Dis* 49(11): 901-905.
- Jaskiewicz K, Labadarios D, Van Helden PD, Jaskiewicz IB, Heine EWP, Van Wyk JM, Wiid IJF. 1990. Chronic atrophic gastritis and micronutrients in a population at risk for gastric carcinoma. *Cancer Journal* 3(3): 143-146.
- Johansson U, Portinsson S, Akesson A, Svantesson H, Ockerman PA, Akesson B. 1986. Nutritional status in girls with juvenile chronic arthritis. *Hum Nutr Clin Nutr* 40(1): 57-67.
- Karat ABA, Rao PSS. 1978. Haematological profile in leprosy. II. Relationship to severity of disease and treatment status. *Leprosy In India* 50(1): 18-25.

- Kaufman RE. 1951. Effect of vitamin B12 in asthma. *Annals of allergy* 9(4): 517-518.
- Kocer B, Engur S, Ak F, Yilmaz M. 2009. Serum vitamin B12, folate, and homocysteine levels and their association with clinical and electrophysiological parameters in multiple sclerosis. *J Clin Neurosci* 16(3): 399-403.
- Kopjaat L. 1968. Folic acid for the treatment of chronic leg ulcers in elderly patients. *Journal of the American Geriatrics Society* 16(3): 338-342.
- Krauss-Etschmann S, Hard D, Rzehak P, Heinrich J, Shadid R, Ramirez-Tortosa MDC, Campoy C, Pardillo S, Schendel DJ, Decsi T, Dermelmair H, Koletzko BV. 2008. Decreased cord blood IL-4, IL-13, and CCR4 and increased TGF-beta levels after fish oil supplementation of pregnant women. *Journal of Allergy and Clinical Immunology* 121(2): 464-470.
- Lewerin C, Jacobsson S, Lindstedt G, Nilsson-Ehle H. 2008. Serum biomarkers for atrophic gastritis and antibodies against *Helicobacter pylori* in the elderly: Implications for vitamin B12, folic acid and iron status and response to oral vitamin therapy. *Scandinavian Journal of Gastroenterology* 43(9): 1050-1056.
- Liu YH, Jing HJ, Wang J, Zhang RX, Zhang YH, Zhang Y, Xu Q, Yu XM, Xue CY. 2011. Micronutrients decrease incidence of common infections in type 2 diabetes outpatients. *Asia Pac. J. Clin. Nutr.* 20(3): 375-382.
- Lundstrom IM, Lindstrom FD. 2001. Iron and vitamin deficiencies, endocrine and immune status in patients with primary Sjogren's syndrome. *Oral Dis* 7(3): 144-149.
- Malerba M, Gisondi P, Radaeli A, Sala R, Calzavara Pinton PG, Girolomoni G. 2006a. Plasma homocysteine and folate levels in patients with chronic plaque psoriasis. *Br J Dermatol* 155(6): 1165-1169.
- Malerba M, Gisondi P, Radaeli A, Sala R, Pinton PGC, Girolomoni G. 2006b. Plasma homocysteine and folate levels in patients with chronic plaque psoriasis. *British Journal of Dermatology* 155(6): 1165-1169.
- Marasini B, Casari S, Bestetti A, Maioli C, Cugno M, Zeni S, Turri O, Guagnellini E, Biondi ML. 2000. Homocysteine concentration in primary and systemic sclerosis associated Raynaud's phenomenon. *J Rheumatol* 27(11): 2621-2623.
- Martinez-Berriotxo A, Ruiz-Irastorza G, Egurbide MV, Rueda M, Aguirre C. 2004. Homocysteine, antiphospholipid antibodies and risk of thrombosis in patients with systemic lupus erythematosus. *Lupus* 13(12): 927-933.
- Mavrikakis M, Kesse-Elias M, Mouloupoulou-Karakitsou A. 1983. Red cell and serum folic acid and serum vitamin B12 in systemic lupus erythematosus. *Rhumatologie - Revue Internationale de Rhumatologie* 13(6): 385-388.
- McKay DL, Perrone G, Rasmussen H, Dallal G, Hartman W, Cao G, Prior RL, Roubenoff R, Blumberg JB. 2000. The effects of a multivitamin/mineral supplement on micronutrient status, antioxidant capacity and cytokine production in healthy older adults consuming a fortified diet. *J Am Coll Nutr* 19(5): 613-621.
- Messedi M, Frigui M, Ben Mahfoudh K, Feki H, Ben Mahfoudh ST, Mnif J, Bahloul Z, Ayadi F. 2011. Intima-media thickness of carotid artery in patients with Behcet's disease. *Arch Med Res* 42(5): 398-404.
- Michaelsson G, Kraaz W, Gerden B, Hagforsen E, Hjelmqvist G, Loof L, Sjoberg O, Scheynius A. 1995. Increased lymphocyte infiltration in duodenal mucosa from patients with psoriasis and serum IgA antibodies to gliadin. *Br J Dermatol* 133(6): 896-904.
- Minami Y, Hirabayashi Y, Nagata C, Ishii T, Harigae H, Sasaki T. 2011. Intakes of vitamin B6 and dietary fiber and clinical course of systemic lupus erythematosus: a prospective study of Japanese female patients. *J Epidemiol* 21(4): 246-254.
- Molls RR, Ahluwalia N, Mastro AM, Smiciklas-Wright H, Handte GC. 2005. Nutritional status predicts primary subclasses of T cells and the lymphocyte proliferation response in healthy older women. *J Nutr* 135(11): 2644-2650.

- Morales E, Bustamante M, Vilahur N, Escaramis G, Montfort M, de Cid R, Garcia-Esteban R, Torrent M, Estivill X, Grimalt JO, Sunyer J. 2012. DNA hypomethylation at ALOX12 is associated with persistent wheezing in childhood. *Am J Respir Crit Care Med* 185(9): 937-943.
- Nazarinia M, Shams M, Kamali Sarvestani E, Shenavande S, Khademalhosseini M, Khademalhosseini Z. 2013. Serum homocysteine level in patients with scleroderma. *Iranian Red Crescent medical journal* 15(1): 29-31.
- Neggers YH, Nansel TR, Andrews WW, Schwebke JR, Yu KF, Goldenberg RL, Klebanoff MA. 2007. Dietary intake of selected nutrients affects bacterial vaginosis in women. *J Nutr* 137(9): 2128-2133.
- Nijst TQ, Wevers RA, Schoonderwaldt HC, Hommes OR, de Haan AF. 1990. Vitamin B12 and folate concentrations in serum and cerebrospinal fluid of neurological patients with special reference to multiple sclerosis and dementia. *J Neurol Neurosurg Psychiatry* 53(11): 951-954.
- Olson JA, Feinberg I, Silverman S, Jr., Abrams D, Greenspan JS. 1982. Serum vitamin B12, folate, and iron levels in recurrent aphthous ulceration. *Oral Surg Oral Med Oral Pathol* 54(5): 517-520.
- Palmas W. 2006. Effects of short-term supplementation with ascorbate, folate, and vitamins B6 and B12 on inflammatory factors and estrogen levels in obese postmenopausal women. *Int J Vitam Nutr Res* 76(1): 34-38.
- Peeters AC, van Aken BE, Blom HJ, Reitsma PH, den Heijer M. 2007. The effect of homocysteine reduction by B-vitamin supplementation on inflammatory markers. *Clin Chem Lab Med* 45(1): 54-58.
- Peterlana D, Puccetti A, Caramaschi P, Biasi D, Beri R, Simeoni S, Corrocher R, Lunardi C. 2006. Endothelin-1 serum levels correlate with MCP-1 but not with homocysteine plasma concentration in patients with systemic sclerosis. *Scand J Rheumatol* 35(2): 133-137.
- Piyathilake CJ, Heno OL, Macaluso M, Cornwell PE, Meleth S, Heimburger DC, Partridge EE. 2004. Folate is associated with the natural history of high-risk human papillomaviruses. *Cancer Res* 64(23): 8788-8793.
- Porter SR, Scully C, Flint S. 1988. Hematologic status in recurrent aphthous stomatitis compared with other oral disease. *Oral Surg Oral Med Oral Pathol* 66(1): 41-44.
- Protiva P, Mason JB, Liu Z, Hopkins ME, Nelson C, Marshall JR, Lambrecht RW, Pendyala S, Kopelovich L, Kim M, Kleinstein SH, Laird PW, Lipkin M, Holt PR. 2011. Altered folate availability modifies the molecular environment of the human colorectum: implications for colorectal carcinogenesis. *Cancer Prev Res (Phila)* 4(4): 530-543.
- Ramsaransing GS, Fokkema MR, Teelken A, Arutjunyan AV, Koch M, De Keyser J. 2006. Plasma homocysteine levels in multiple sclerosis. *J Neurol Neurosurg Psychiatry* 77(2): 189-192.
- Ravaglia G, Forti P, Maioli F, Bastagli L, Facchini A, Mariani E, Savarino L, Sassi S, Cucinotta D, Lenaz G. 2000. Effect of micronutrient status on natural killer cell immune function in healthy free-living subjects aged ≥ 90 y. *Am J Clin Nutr* 71(2): 590-598.
- Reynolds EH, Bottiglieri T, Laundry M, Crellin RF, Kirker SG. 1992. Vitamin B12 metabolism in multiple sclerosis. *Arch Neurol* 49(6): 649-652.
- Richards RS, Roberts TK, Mathers D, Dunstan RH, McGregor NR, Butt HL. 2000. Investigation of erythrocyte oxidative damage in rheumatoid arthritis and chronic fatigue syndrome. *Journal of Chronic Fatigue Syndrome* 6(1): 37-46.
- Rinhelhann B, Revicky A, Arvai I, Megyeri A, Gomor B, Jofay L, Csak E. 1980. Radioisotope binding capacity of serum in folic acid, vitamin B12 and ferritin in haematologic and rheumatologic patients. *Folia Haematol Int Mag Klin Morphol Blutforsch* 107(4): 661-671.
- Romani J, Caixas A, Carrascosa JM, Ribera M, Rigla M, Luelmo J. 2012. Effect of narrowband ultraviolet B therapy on inflammatory markers and body fat composition in moderate to severe psoriasis. *Br J Dermatol* 166(6): 1237-1244.

- Roubenoff R, Roubenoff RA, Selhub J, Nadeau MR, Cannon JG, Freeman LM, Dinarello CA, Rosenberg IH. 1995. Abnormal vitamin B6 status in rheumatoid cachexia. Association with spontaneous tumor necrosis factor alpha production and markers of inflammation. *Arthritis Rheum* 38(1): 105-109.
- Russo C, Morabito F, Luise F, Piromalli A, Battaglia L, Vinci A, Lombardo VT, de Marco V, Morabito P, Condino F, Quattrone A, Aguglia U. 2008. Hyperhomocysteinemia is associated with cognitive impairment in multiple sclerosis. *Journal of Neurology* 255(1): 64-69.
- Salemi G, Gueli MC, Vitale F, Battaglieri F, Guglielmini E, Ragonese P, Trentacosti A, Massenti MF, Savettieri G, Bono A. 2010. Blood lipids, homocysteine, stress factors, and vitamins in clinically stable multiple sclerosis patients. *Lipids Health Dis* 9: 19.
- Sandyk R, Awerbuch GI. 1993. Vitamin B12 and its relationship to age of onset of multiple sclerosis. *Int J Neurosci* 71(1-4): 93-99.
- Sedjo RL, Fowler BM, Schneider A, Henning SM, Hatch K, Giuliano AR. 2003. Folate, vitamin B12, and homocysteine status. findings of no relation between human papillomavirus persistence and cervical dysplasia. *Nutrition* 19(6): 497-502.
- Sekeryapan B, Oner V, Kirbas A, Turkyilmaz K, Durmus M. 2013. Plasma homocysteine levels in dry eye patients. *Cornea* 32(5): e94-96.
- Shalita AR, Falcon R, Olansky A, Iannotta P, Akhavan A, Day D, Janiga A, Singri P, Kallal JE. 2012. Inflammatory acne management with a novel prescription dietary supplement. *Journal of drugs in dermatology : JDD* 11(12): 1428-1433.
- Simhan HN, Himes KP, Venkataramanan R, Bodnar LM. 2011. Maternal serum folate species in early pregnancy and lower genital tract inflammatory milieu. *American Journal of Obstetrics and Gynecology* 205(1).
- Staudte H, Kranz S, Volpel A, Schutze J, Sigusch BW. 2012. Comparison of nutrient intake between patients with periodontitis and healthy subjects. *Quintessence international (Berlin, Germany : 1985)* 43(10): 907-916.
- Stephens CAL, Borden AL, Holbrook WP, Hill DF. 1947. The use of folic acid in the treatment of anemia of rheumatoid arthritis. *Annals of Internal Medicine* 27(3): 420-432.
- Sternberg Z, Leung C, Sternberg D, Li F, Karmon Y, Chadha K, Levy E. 2013. The prevalence of the classical and non-classical cardiovascular risk factors in multiple sclerosis patients. *CNS Neurol Disord Drug Targets* 12(1): 104-111.
- Sun YY, Ma AG, Yang F, Zhang FZ, Luo YB, Jiang DC, Han XX, Liang H. 2010. A combination of iron and retinol supplementation benefits iron status, IL-2 level and lymphocyte proliferation in anemic pregnant women. *Asia Pac J Clin Nutr* 19(4): 513-519.
- Tamura T, Goldenberg RL, Freeberg LE, Cliver SP, Cutter GR, Hoffman HJ. 1992. Maternal serum folate and zinc concentrations and their relationships to pregnancy outcome. *Am J Clin Nutr* 56(2): 365-370.
- Thomson ME, Pack ARC. 1982. Effects of extended systemic and topical folate supplementation on gingivitis of pregnancy. *Journal of Clinical Periodontology* 9(3): 275-280.
- Thongprasom K, Youngnak P, Aneksuk V. 2002. Hematologic abnormalities in recurrent oral ulceration. *Southeast Asian Journal of Tropical Medicine and Public Health* 33(4): 872-877.
- Tobin KA, Holven KB, Retterstol K, Strom E, Ose L, Aukrust P, Nenseter MS. 2009. Cystatin C levels in plasma and peripheral blood mononuclear cells among hyperhomocysteinaemic subjects: effect of treatment with B-vitamins. *Br J Nutr* 102(12): 1783-1789.
- Troen AM, Mitchell B, Sorensen B, Wener MH, Johnston A, Wood B, Selhub J, McTiernan A, Yasui Y, Oral E, Potter JD, Ulrich CM. 2006. Unmetabolized folic acid in plasma is associated with reduced natural killer cell cytotoxicity among postmenopausal women. *J Nutr* 136(1): 189-194.

- Turton CW, Turner-Warwick M, Owens R, Edgcumbe JO, Drummond HE, Ferguson A, Scott-Morgan CL. 1983. Red cell folate levels, food antibodies and reticulín antibodies in farmer's lung--is there an association with coeliac disease? *Br J Dis Chest* 77(4): 397-402.
- van Rensburg SJ, Kotze MJ, Hon D, Haug P, Kuyler J, Hendricks M, Botha J, Potocnik FC, Matsha T, Erasmus RT. 2006. Iron and the folate-vitamin B12-methylation pathway in multiple sclerosis. *Metab Brain Dis* 21(2-3): 121-137.
- Vrethem M, Mattsson E, Hebelka H, Leerbeck K, Osterberg A, Landtblom AM, Balla B, Nilsson H, Hultgren M, Brattstrom L, Kagedal B. 2003. Increased plasma homocysteine levels without signs of vitamin B12 deficiency in patients with multiple sclerosis assessed by blood and cerebrospinal fluid homocysteine and methylmalonic acid. *Mult Scler* 9(3): 239-245.
- Wang YP, Lin HP, Chen HM, Kuo YS, Lang MJ, Sun A. 2014. Hemoglobin, iron, and vitamin B12 deficiencies and high blood homocysteine levels in patients with anti-thyroid autoantibodies. *Journal of the Formosan Medical Association = Taiwan yi zhi* 113(3): 155-160.
- Weger W, Hofer A, Stanger O, Wolf P, El-Shabrawi Y, Renner W, Kerl H, Salmhofer W. 2008. The methylenetetrahydrofolate reductase 677C>T gene polymorphism is not associated with chronic plaque psoriasis. *Exp Dermatol* 17(9): 748-751.
- Williams CM, Lines CM, McKay EC. 1988. Iron and zinc status in multiple sclerosis patients with pressure sores. *Eur J Clin Nutr* 42(4): 321-328.
- Yesilova Z, Pay S, Oktenli C, Musabak U, Saglam K, Sanisoglu SY, Dagalp K, Erbil MK, Kocar IH. 2005. Hyperhomocysteinemia in patients with Behcet's disease: is it due to inflammation or therapy? *Rheumatology International* 25(6): 423-428.
- Yu YH, Kuo HK, Lai YL. 2007. The association between serum folate levels and periodontal disease in older adults: data from the National Health and Nutrition Examination Survey 2001/02. *J Am Geriatr Soc* 55(1): 108-113.

2.6 Other Endocrine and Metabolic Disease Outcomes – Human Studies (n=95)

- Abdu TA, Elhadd TA, Akber M, Hartland A, Neary R, Clayton RN. 2001. Plasma homocysteine is not a major risk factor for vascular disease in growth hormone deficient adults. *Clin Endocrinol (Oxf)* 55(5): 635-638.
- Aghamohammadi V, Gargari BP, Aliasgharzadeh A. 2011. Effect of folic acid supplementation on homocysteine, serum total antioxidant capacity, and malondialdehyde in patients with type 2 diabetes mellitus. *J Am Coll Nutr* 30(3): 210-215.
- Agostini R, Rossi F, Pajalich R. 2006. Myoinositol/folic acid combination for the treatment of erectile dysfunction in type 2 diabetes men: a double-blind, randomized, placebo-controlled study. *Eur Rev Med Pharmacol Sci* 10(5): 247-250.
- Al-Maskari MY, Waly MI, Ali A, Al-Shuaibi YS, Ouhtit A. 2012. Folate and vitamin B12 deficiency and hyperhomocysteinemia promote oxidative stress in adult type 2 diabetes. *Nutrition* 28(7-8): e23-26.
- Alian Z, Hashemipour M, Dehkordi EH, Hovsepian S, Amini M, Moadab MH, Javanmard SH. 2012. The effects of folic acid on markers of endothelial function in patients with type 1 diabetes mellitus. *Med Arh* 66(1): 12-15.
- Altug Sen T, Koken R, Narci A, Yilmazer M. 2011. Homocysteine and ghrelin link with polycystic ovary syndrome in relation to obesity. *J Pediatr Adolesc Gynecol* 24(4): 211-217.
- Aydin E, Demir HD, Ozyurt H, Etikan I. 2008. Association of plasma homocysteine and macular edema in type 2 diabetes mellitus. *Eur J Ophthalmol* 18(2): 226-232.

- Banhidy F, Dakhlaoui A, Puho EH, Czeizel AA. 2011. Is there a reduction of congenital abnormalities in the offspring of diabetic pregnant women after folic acid supplementation? A population-based case-control study. *Congenit Anom (Kyoto)* 51(2): 80-86.
- Bates JH, Young IS, Galway L, Traub AI, Hadden DR. 1997. Antioxidant status and lipid peroxidation in diabetic pregnancy. *British Journal of Nutrition* 78(4): 523-532.
- Bayraktar F, Dereli D, Ozgen AG, Yilmaz C. 2004. Plasma homocysteine levels in polycystic ovary syndrome and congenital adrenal hyperplasia. *Endocr J* 51(6): 601-608.
- Bentley S, Hermes A, Phillips D, Daoud YA, Hanna S. 2011. Comparative effectiveness of a prenatal medical food to prenatal vitamins on hemoglobin levels and adverse outcomes: a retrospective analysis. *Clin Ther* 33(2): 204-210.
- Bidad K, Anari S, Tavasoli S, Nazemi L, Gholami N, Zadhush S, Moayeri H. 2008. Dietary intakes of adolescent girls in relation to weight. *Iran J. Public Health* 37(1): 114-118.
- Cagnacci A, Cannoletta M, Xholli A, Piacenti I, Palma F, Palmieri B. 2014. Folate administration decreases oxidative status and blood pressure in postmenopausal women. *European Journal of Nutrition*.
- Casanueva E, Drijanski A, Fernandez-Gaxiola AC, Meza C, Pfeffer F. 2000. Folate deficiency is associated with obesity and anemia in Mexican urban women. *Nutrition Research* 20(10): 1389-1394.
- Chang N, Kim JM, Kim H, Cho YW. 2007. Plasma total homocysteine and macrovascular complications are associated with food and nutrient intake in patients with Type II diabetes mellitus. *Nutr Res Pract* 1(2): 79-83.
- de la Calle M, Gallardo T, Diestro MD, Hernanz A, Perez E, Fernandez-Miranda C. 2007. [Increased homocysteine levels in polycystic ovary syndrome]. *Med Clin (Barc)* 129(8): 292-294.
- de Luis DA, Pacheco D, Izaola O, Terroba MC, Cuellar L, Cabezas G. 2013. Micronutrient status in morbidly obese women before bariatric surgery. *Surg Obes Relat Dis* 9(2): 323-327.
- Deburgos AM, Wartanowicz M, Ziemiński S. 1992. BLOOD VITAMIN AND LIPID-LEVELS IN OVERWEIGHT AND OBESE WOMEN. *European Journal of Clinical Nutrition* 46(11): 803-808.
- Derbyshire E, Davies J, Costarelli V, Dettmar P. 2006. Prepregnancy body mass index and dietary intake in the first trimester of pregnancy. *J Hum Nutr Diet* 19(4): 267-273.
- Dunlop AL, Taylor RN, Tangpricha V, Fortunato S, Menon R. 2012. Maternal micronutrient status and preterm versus term birth for black and white US women. *Reprod Sci* 19(9): 939-948.
- Faggiano A, Melis D, Alfieri R, De Martino M, Filippella M, Milone F, Lombardi G, Colao A, Pivonello R. 2005. Sulfur amino acids in Cushing's disease: insight in homocysteine and taurine levels in patients with active and cured disease. *J Clin Endocrinol Metab* 90(12): 6616-6622.
- Farvid MS, Homayouni F, Amiri Z, Adelmanesh F. 2011. Improving neuropathy scores in type 2 diabetic patients using micronutrients supplementation. *Diabetes Res Clin Pract* 93(1): 86-94.
- Fernandezbanares F, Gine JJ, Cabre E, Abadlacruz A, Estevecomas M, Gonzalezhuix F, Gassull MA. 1994. FACTORS ASSOCIATED WITH LOW VALUES OF BIOCHEMICAL VITAMIN PARAMETERS IN HEALTHY-SUBJECTS. *International Journal for Vitamin and Nutrition Research* 64(1): 68-74.
- Fiatarone Singh MA, Bernstein MA, Ryan AD, O'Neill EF, Clements KM, Evans WJ. 2000. The effect of oral nutritional supplements on habitual dietary quality and quantity in frail elders. *J Nutr Health Aging* 4(1): 5-12.
- Fonseca VA, Lavery LA, Thethi TK, Daoud Y, DeSouza C, Ovalle F, Denham DS, Bottiglieri T, Sheehan P, Rosenstock J. 2013. Metanx in type 2 diabetes with peripheral neuropathy: a randomized trial. *Am J Med* 126(2): 141-149.

- Fontanive RS, da Costa RS, Soares ED. 2002. Comparison between the nutritional status of eutrophic and overweight adolescents living in Brazil. *Nutrition Research* 22(6): 667-678.
- Frohlich-Reiterer EE, Huber J, Katz H, Suppan E, Obermayer-Pietsch B, Deutschmann A, Demel U, Acham-Roschitz B, Weinhandl G, Ambros-Rudolph CM, Hauer A, Borkenstein MH. 2011. Do children and adolescents with type 1 diabetes mellitus have a higher frequency of parietal cell antibodies than healthy controls? *J Pediatr Gastroenterol Nutr* 52(5): 558-562.
- Gallistl S, Sudi K, Mangge H, Erwa W, Borkenstein M. 2000. Insulin is an independent correlate of plasma homocysteine levels in obese children and adolescents. *Diabetes Care* 23(9): 1348-1352.
- Gargari BP, Aghamohammadi V, Aliasgharzadeh A. 2011. Effect of folic acid supplementation on biochemical indices in overweight and obese men with type 2 diabetes. *Diabetes Res Clin Pract* 94(1): 33-38.
- Gariballa S, Afandi B, Haltem MA, Yassin J, Alessa A. 2013. Effect of antioxidants and B-group vitamins on risk of infections in patients with type 2 diabetes mellitus. *Nutrients* 5(3): 711-724.
- Girish BN, Vaidyanathan K, Rao NA, Rajesh G, Reshmi S, Balakrishnan V. 2010. Chronic pancreatitis is associated with hyperhomocysteinemia and derangements in transsulfuration and transmethylation pathways. *Pancreas* 39(1): e11-16.
- Glasbrenner B, Malfertheiner P, Buchler M, Kuhn K, Ditschuneit H. 1991. Vitamin B12 and folic acid deficiency in chronic pancreatitis: a relevant disorder? *Klin Wochenschr* 69(4): 168-172.
- Gonzalez R, Pedro T, Real JT, Martinez-Hervas S, Abellan MR, Lorente R, Priego A, Catala M, Chaves FJ, Ascaso JF, Carmena R. 2010. Plasma homocysteine levels are associated with ulceration of the foot in patients with type 2 diabetes mellitus. *Diabetes Metab Res Rev* 26(2): 115-120.
- Goyle A. 2012. Effect of micronutrient fortified biscuit supplementation on the weight, height and BMI of adolescent girls. *Coll Antropol* 36(2): 573-579.
- Gunanti IR, Marks GC, Al-Mamun A, Long KZ. 2014. Low serum vitamin B-12 and folate concentrations and low thiamin and riboflavin intakes are inversely associated with greater adiposity in mexican american children. *J Nutr* 144(12): 2027-2033.
- Han YS, Ha EH, Park HS, Kim YJ, Lee SS. 2011. Relationships between pregnancy outcomes, biochemical markers and pre-pregnancy body mass index. *Int J Obes (Lond)* 35(4): 570-577.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Hekimsoy Z, Ozmen B, Ulusoy S. 2005. Homocysteine levels in acromegaly patients. *Neuro Endocrinol Lett* 26(6): 811-814.
- Hernandez-Guerrero C, Romo-Palafox I, Diaz-Gutierrez MC, Iturbe-Garcia M, Texcahua-Salazar A, Perez-Lizaur AB. 2013. PREVALENCIA DEL POLIMORFISMO C677T DE LA METILENTETRAIDROFOLATO REDUCTASA, CONSUMO DE LAS VITAMINAS B6, B9, B12 Y DETERMINACION DE HIDROPEROXIDOS LIPIDICOS EN POBLACION MEXICANA OBESA Y CON PESO NORMAL. *Nutricion Hospitalaria* 28(6): 2142-2150.
- Hunter-Lavin C, Hudson PR, Mukherjee S, Davies GK, Williams CP, Harvey JN, Child DF, Williams JH. 2004. Folate supplementation reduces serum hsp70 levels in patients with type 2 diabetes. *Cell Stress Chaperones* 9(4): 344-349.
- Ismail SAM, Fahmy IA, Farrag SAM. 2008. Inverse Correlation of Low Vitamin B-12, Folic Acid and Homocysteine Levels in Diabetic Retinopathy. *Turk. J. Biochem.* 33(1): 14-18.
- Karatela RA, Sainani GS. 2009. Plasma homocysteine in obese, overweight and normal weight hypertensives and normotensives. *Indian Heart J* 61(2): 156-159.

- Kaya C, Cengiz SD, Satiroglu H. 2009a. Obesity and insulin resistance associated with lower plasma vitamin B12 in PCOS. *Reprod Biomed Online* 19(5): 721-726.
- Kaya C, Erkan AF, Cengiz SD, Dunder I, Demirel OE, Bilgihan A. 2009b. Advanced oxidation protein products are increased in women with polycystic ovary syndrome: relationship with traditional and nontraditional cardiovascular risk factors in patients with polycystic ovary syndrome. *Fertil Steril* 92(4): 1372-1377.
- Kliemann M, Pra D, Muller LL, Hermes L, Horta JA, Reckziegel MB, Burgos MS, Maluf SW, Franke SI, Silva J. 2012. DNA damage in children and adolescents with cardiovascular disease risk factors. *Anais da Academia Brasileira de Ciencias* 84(3): 833-840.
- Koike T, Kuzuya M, Kanda S, Okada K, Izawa S, Enoki H, Iguchi A. 2008. Raised homocysteine and low folate and vitamin B-12 concentrations predict cognitive decline in community-dwelling older Japanese adults. *Clin Nutr* 27(6): 865-871.
- Kronold M, Coleman PH, Bradley CL, Lau D, Ryan N. 1999. Subjectively healthy elderly consuming a liquid nutrition supplement maintained body mass index and improved some nutritional parameters and perceived well-being. *J Am Diet Assoc* 99(12): 1542-1548.
- Lailou A, Yakes E, Le TH, Wieringa FT, Le BM, Moench-Pfanner R, Berger J. 2014. Intra-Individual Double Burden of Overweight and Micronutrient Deficiencies among Vietnamese Women. *PLoS One* 9(10): e110499.
- Lazalde-Ramos BP, Zamora-Perez AL, Sosa-Macias M, Guerrero-Velazquez C, Zuniga-Gonzalez GM. 2012. DNA and oxidative damages decrease after ingestion of folic acid in patients with type 2 diabetes. *Arch Med Res* 43(6): 476-481.
- Lewis SJ, Leary S, Davey Smith G, Ness A. 2009. Body composition at age 9 years, maternal folate intake during pregnancy and methyltetrahydrofolate reductase (MTHFR) C677T genotype. *Br J Nutr* 102(4): 493-496.
- Li J, Shi M, Zhang H, Yan L, Xie M, Zhuang L, Zhu Y, Chen J. 2012. Relation of homocysteine to early nephropathy in patients with Type 2 diabetes. *Clin Nephrol* 77(4): 305-310.
- Lin YH, Pao KY, Yang WS, Wu VC, Chen YJ, Lin YL, Tsai WS, Tsai IJ, Gau CS, Hwang JJ. 2008. Waist-to-hip ratio correlates with homocysteine levels in male patients with coronary artery disease. *Clin Chem Lab Med* 46(1): 125-130.
- Liu LJ, Yin XY, Ikeda K, Sullivan DH, Eisen HJ. 2007. Micronutrients, inflammation and congestive heart failure among the elderly: Nutritional perspectives on primary prevention and clinical treatment. *Clinical and Experimental Pharmacology and Physiology* 34: S14-S16.
- Mahabir S, Ettinger S, Johnson L, Baer DJ, Clevidence BA, Hartman TJ, Taylor PR. 2008. Measures of adiposity and body fat distribution in relation to serum folate levels in postmenopausal women in a feeding study. *Eur J Clin Nutr* 62(5): 644-650.
- Mangge H, Schauenstein K, Stroedter L, Griesl A, Maerz W, Borkenstein M. 2004. Low grade inflammation in juvenile obesity and type 1 diabetes associated with early signs of atherosclerosis. *Exp Clin Endocrinol Diabetes* 112(7): 378-382.
- Marazzi G, Cacciotti L, Pelliccia F, Iaia L, Volterrani M, Caminiti G, Sposato B, Massaro R, Grieco F, Rosano G. 2011. Long-term effects of nutraceuticals (berberine, red yeast rice, policosanol) in elderly hypercholesterolemic patients. *Adv Ther* 28(12): 1105-1113.
- Marchesini G, Manini R, Bianchi G, Sassi S, Natale S, Chierici S, Visani F, Baraldi L, Forlani G, Melchionda N. 2002. Homocysteine and psychological traits: a study in obesity. *Nutrition* 18(5): 403-407.
- Medeiros DA, Hadler MC, Sugai A, Torres VM. 2015. The effect of folic acid supplementation with ferrous sulfate on the linear and ponderal growth of children aged 6-24 months: a randomized controlled trial. *Eur J Clin Nutr* 69(2): 198-204.

- Mehmetoglu I, Yerlikaya FH, Kurban S, Polat H. 2012. Plasma omega-3 fatty acid levels negatively and omega-6 fatty acid levels positively associated with other cardiovascular risk factors including homocysteine in severe obese subjects. *Asia Pac J Clin Nutr* 21(4): 519-525.
- Mello AL, Cunha SF, Foss-Freitas MC, Vannucchi H. 2012. Evaluation of plasma homocysteine level according to the C677T and A1298C polymorphism of the enzyme MTHFR in type 2 diabetic adults. *Arq Bras Endocrinol Metabol* 56(7): 429-434.
- Mojtabai R. 2004. Body mass index and serum folate in childbearing age women. *Eur J Epidemiol* 19(11): 1029-1036.
- Moor de Burgos A, Wartanowicz M, Ziemiński S. 1992. Blood vitamin and lipid levels in overweight and obese women. *Eur J Clin Nutr* 46(11): 803-808.
- Nakazato M, Maeda T, Takamura N, Wada M, Yamasaki H, Johnston K, Tamura T. 2011. Relation of body mass index to blood folate and total homocysteine concentrations in Japanese adults. *European Journal of Nutrition* 50(7): 581-585.
- Narin F, Atabek ME, Karakucuk M, Narin N, Kurtoglu S, Gumus H, Coksevim B, Erez R. 2005. The association of plasma homocysteine levels with serum leptin and apolipoprotein B levels in childhood obesity. *Ann Saudi Med* 25(3): 209-214.
- Palep-Singh M, Picton HM, Yates ZR, Barth JH, Balen AH. 2008. Plasma homocysteine concentrations and the single nucleotide polymorphisms in the methionine synthase gene (MTR 2756A>G): Associations with the polycystic ovary syndrome An observational study. *Eur J Obstet Gynecol Reprod Biol* 138(2): 180-186.
- Papaleo E, Unfer V, Baillargeon JP, De Santis L, Fusi F, Brigante C, Marelli G, Cino I, Redaelli A, Ferrari A. 2007. Myo-inositol in patients with polycystic ovary syndrome: A novel method for ovulation induction. *Gynecological Endocrinology* 23(12): 700-703.
- Pena AS, Belobrajdic DP, Wiltshire E, Gent R, Hirte C, Couper J. 2010. Adiponectin relates to smooth muscle function and folate in obese children. *Int J Pediatr Obes* 5(2): 185-191.
- Ramakrishnan U, Neufeld LM, Flores R, Rivera J, Martorell R. 2009. Multiple micronutrient supplementation during early childhood increases child size at 2 y of age only among high compliers. *Am J Clin Nutr* 89(4): 1125-1131.
- Rigas AN, Wilson EA, Montgomery DAD. 1968. Folic acid metabolism in thyroid disease. *Irish Journal of Medical Science* 7(6): 255-261.
- Rozza F, de Simone G, Izzo R, De Luca N, Trimarco B. 2009. Nutraceuticals for treatment of high blood pressure values in patients with metabolic syndrome. *High blood pressure & cardiovascular prevention : the official journal of the Italian Society of Hypertension* 16(4): 177-182.
- Russo GT, Di Benedetto A, Magazzu D, Giandalia A, Giorda CB, Ientile R, Previti M, Di Cesare E, Cucinotta D. 2011. Mild hyperhomocysteinemia, C677T polymorphism on methylenetetrahydrofolate reductase gene and the risk of macroangiopathy in type 2 diabetes: a prospective study. *Acta Diabetol* 48(2): 95-101.
- Sakuta H, Suzuki T, Yasuda H, Ito T. 2005. Adiponectin levels and cardiovascular risk factors in Japanese men with type 2 diabetes. *Endocrine Journal* 52(2): 241-244.
- Sen A, Kanani S. 2012. Intermittent iron folate supplementation: impact on hematinic status and growth of school girls. *ISRN hematology* 2012: 482153.
- Sen S, Iyer C, Meydani SN. 2014. Obesity during pregnancy alters maternal oxidant balance and micronutrient status. *J Perinatol* 34(2): 105-111.
- Shargorodsky M, Boaz M, Pasternak S, Hanah R, Matas Z, Fux A, Beigel Y, Mashavi M. 2009. Serum homocysteine, folate, vitamin B12 levels and arterial stiffness in diabetic patients: which of them is really important in atherogenesis? *Diabetes Metab Res Rev* 25(1): 70-75.

- Stewart CP, Christian P, LeClerq SC, West KP, Jr., Khattry SK. 2009. Antenatal supplementation with folic acid + iron + zinc improves linear growth and reduces peripheral adiposity in school-age children in rural Nepal. *Am J Clin Nutr* 90(1): 132-140.
- Straub RH, Rokitzki L, Schumacher T, Hillmann C, Palitzsch KD, Scholmerich J. 1993. No evidence of deficiency of vitamins A, E, beta-carotene, B1, B2, B6, B12 and folate in neuropathic type II diabetic women. *Int J Vitam Nutr Res* 63(3): 239-240.
- Tebi A, Belbraouet S, Chau N, Debry G. 2000. Plasma vitamin, beta-carotene, and alpha-tocopherol status according to age and disease in hospitalized elderly. *Nutrition Research* 20(10): 1395-1408.
- Terruzzi I, Senesi P, Fermo I, Lattuada G, Luzi L. 2007. Are genetic variants of the methyl group metabolism enzymes risk factors predisposing to obesity? *J Endocrinol Invest* 30(9): 747-753.
- Thawnashom K, Tungtrongchitr R, Petmitr S, Pongpaew P, Phonrat B, Tungtrongchitr A, Schelp FP. 2005. Methylenetetrahydrofolate reductase (MTHFR) polymorphism (C677T) in relation to homocysteine concentration in overweight and obese Thais. *Southeast Asian J Trop Med Public Health* 36(2): 459-466.
- Timmermans S, Jaddoe VW, Silva LM, Hofman A, Raat H, Steegers-Theunissen RP, Steegers EA. 2011. Folic acid is positively associated with uteroplacental vascular resistance: the Generation R study. *Nutr Metab Cardiovasc Dis* 21(1): 54-61.
- Tinker SC, Hamner HC, Berry RJ, Bailey LB, Pfeiffer CM. 2012. Does obesity modify the association of supplemental folic acid with folate status among nonpregnant women of childbearing age in the United States? *Birth Defects Res A Clin Mol Teratol* 94(10): 749-755.
- Tomedi LE, Chang CCH, Newby PK, Evans RW, Luther JF, Wisner KL, Bodnar LM. 2013. Pre-pregnancy obesity and maternal nutritional biomarker status during pregnancy: a factor analysis. *Public Health Nutrition* 16(8): 1414-1418.
- Tungtrongchitr R, Pongpaew P, Tongboonchoo C, Vudhivai N, Changbumrung S, Tungtrongchitr A, Phonrat B, Viroonudomphol D, Pooudong S, Schelp FP. 2003. Serum homocysteine, B12 and folic acid concentration in Thai overweight and obese subjects. *Int J Vitam Nutr Res* 73(1): 8-14.
- van Oostrom O, de Kleijn DP, Fledderus JO, Pescatori M, Stubbs A, Tuinenburg A, Lim SK, Verhaar MC. 2009. Folic acid supplementation normalizes the endothelial progenitor cell transcriptome of patients with type 1 diabetes: a case-control pilot study. *Cardiovasc Diabetol* 8: 47.
- Veena SR, Krishnaveni GV, Srinivasan K, Wills AK, Muthayya S, Kurpad AV, Yajnik CS, Fall CH. 2010. Higher maternal plasma folate but not vitamin B-12 concentrations during pregnancy are associated with better cognitive function scores in 9- to 10- year-old children in South India. *J Nutr* 140(5): 1014-1022.
- Volek JS, Gomez AL, Love DM, Weyers AM, Hesslink R, Jr., Wise JA, Kraemer WJ. 2002. Effects of an 8-week weight-loss program on cardiovascular disease risk factors and regional body composition. *Eur J Clin Nutr* 56(7): 585-592.
- Voutilainen S, Lakka TA, Porkkala-Sarataho E, Rissanen T, Kaplan GA, Salonen JT. 2000. Low serum folate concentrations are associated with an excess incidence of acute coronary events: the Kuopio Ischaemic Heart Disease Risk Factor Study. *European Journal of Clinical Nutrition* 54(5): 424-428.
- Weijun G, Juming L, Guoqing Y, Jingtao D, Qinghua G, Yiming M, Changyu P. 2008. Effects of plasma homocysteine levels on serum HTase/PON activity in patients with type 2 diabetes. *Adv Ther* 25(9): 884-893.
- Wein EE, Basualdo CG, Johnson PA, Basu TK. 1996. Nutrient intakes of a sample of first nations adults with and without diabetes mellitus in Central Alberta. *J. Can. Diet. Assoc.-Rev. Assoc. Can. Diet.* 57(4): 153-161.
- Yarali H, Yildirim A, Aybar F, Kabakci G, Bukulmez O, Akgul E, Oto A. 2001. Diastolic dysfunction and increased serum homocysteine concentrations may contribute to increased cardiovascular risk in patients with polycystic ovary syndrome. *Fertil Steril* 76(3): 511-516.

- Yilmaz M, Biri A, Bukan N, Karakoc A, Sancak B, Toruner F, Pasaoglu H. 2005. Levels of lipoprotein and homocysteine in non-obese and obese patients with polycystic ovary syndrome. *Gynecol Endocrinol* 20(5): 258-263.
- Yuzbasioglu MF, Ozkaya M, Cakal E, Goksu M. 2008. Changes in plasma levels of homocysteine in patients with acute pancreatitis. *JOP* 9(3): 357-361.
- Zhu JH, Hu DJ, Hao L, Zhang BL, Cogswell ME, Bailey LB, Li Z, Berry RJ. 2010. Iron, folate, and B(12) deficiencies and their associations with anemia among women of childbearing age in a rural area in Northern China. *Int J Vitam Nutr Res* 80(2): 144-154.
- Zhu W, Huang X, Li M, Neubauer H. 2006. Elevated plasma homocysteine in obese schoolchildren with early atherosclerosis. *Eur J Pediatr* 165(5): 326-331.

2.7 Other Reproductive Outcomes – Human Studies (n=272)

- Achadi EL, Hansell MJ, Sloan NL, Anderson MA. 1995. Women's nutritional status, iron consumption and weight gain during pregnancy in relation to neonatal weight and length in West Java, Indonesia. *Int J Gynaecol Obstet* 48 Suppl: S103-119.
- Acilmis YG, Dikensoy E, Kutlar AI, Balat O, Cebesoy FB, Ozturk E, Cicek H, Pence S. 2011. Homocysteine, folic acid and vitamin B12 levels in maternal and umbilical cord plasma and homocysteine levels in placenta in pregnant women with pre-eclampsia. *J Obstet Gynaecol Res* 37(1): 45-50.
- Acs N, Banhidly F, Puho EH, Czeizel AE. 2006. Acute respiratory infections during pregnancy and congenital abnormalities: a population-based case-control study. *Congenit Anom (Kyoto)* 46(2): 86-96.
- Agarwal KN, Agarwal DK, Mishra KP. 1991. Impact of anaemia prophylaxis in pregnancy on maternal haemoglobin, serum ferritin & birth weight. *Indian J Med Res* 94: 277-280.
- Al-Shoshan AA. 2007. Diet history and birth weight relationship among Saudi pregnant women. *Pakistan Journal of Medical Sciences* 23(2): 176-181.
- Also-Rallo E, Lopez-Quesada E, Urreiziti R, Vilaseca MA, Laila JM, Balcells S, Grinberg D. 2005. Polymorphisms of genes involved in homocysteine metabolism in preeclampsia and in uncomplicated pregnancies. *Eur J Obstet Gynecol Reprod Biol* 120(1): 45-52.
- Ananth CV, Peltier MR, Moore DF, Kinzler WL, Leclerc D, Rozen RR. 2008. Reduced folate carrier 80A-->G polymorphism, plasma folate, and risk of placental abruption. *Hum Genet* 124(2): 137-145.
- Asfour R, Wahbeh N, Waslien CI. 1977. Folic acid requirement of children. III. Normal infants. *American Journal of Clinical Nutrition* 30(7): 1098-1105.
- Avalos LA, Kaskutas LA, Block G, Li DK. 2009. Do multivitamin supplements modify the relationship between prenatal alcohol intake and miscarriage? *American Journal of Obstetrics and Gynecology* 201(6).
- Baker H, Thind IS, Frank O, DeAngelis B, Caterini H, Louriya DB. 1977. Vitamin levels in low-birth-weight newborn infants and their mothers. *Am J Obstet Gynecol* 129(5): 521-524.
- Baker PN, Wheeler SJ, Sanders TA, Thomas JE, Hutchinson CJ, Clarke K, Berry JL, Jones RL, Seed PT, Poston L. 2009. A prospective study of micronutrient status in adolescent pregnancy. *Am J Clin Nutr* 89(4): 1114-1124.
- Bakker R, Timmermans S, Steegers EA, Hofman A, Jaddoe VW. 2011. Folic Acid supplements modify the adverse effects of maternal smoking on fetal growth and neonatal complications. *J Nutr* 141(12): 2172-2179.
- Bang SW, Lee SS. 2009. The factors affecting pregnancy outcomes in the second trimester pregnant women. *Nutr Res Pract* 3(2): 134-140.

- Banhidy F, Dakhlaoui A, Dudas I, Czeizel AE. 2011. Birth outcomes of newborns after folic Acid supplementation in pregnant women with early and late pre-eclampsia: a population-based study. *Adv Prev Med* 2011: 127369.
- Baumslag N, Edelstein T, Metz J. 1970. Reduction of incidence of prematurity by folic acid supplementation in pregnancy. *Br Med J* 1(5687): 16-17.
- Bawadi HA, Al-Kuran O, Al-Bastoni LA, Tayyem RF, Jaradat A, Tuuri G, Al-Beitawi SN, Al-Mehaisen LM. 2010. Gestational nutrition improves outcomes of vaginal deliveries in Jordan: an epidemiologic screening. *Nutr Res* 30(2): 110-117.
- Bayraktar F, Dereli D, Ozgen AG, Yilmaz C. 2004. Plasma homocysteine levels in polycystic ovary syndrome and congenital adrenal hyperplasia. *Endocr J* 51(6): 601-608.
- Beltrame AL, Serafini P, Motta ELA, Soares JM, Baracat EC. 2013. The effects of bromocriptine on VEGF, kidney function and ovarian hyperstimulation syndrome in in vitro fertilization patients: a pilot study. *Gynecological Endocrinology* 29(3): 201-204.
- Bergen NE, Jaddoe VW, Timmermans S, Hofman A, Lindemans J, Russcher H, Raat H, Steegers-Theunissen RP, Steegers EA. 2012. Homocysteine and folate concentrations in early pregnancy and the risk of adverse pregnancy outcomes: the Generation R Study. *BJOG* 119(6): 739-751.
- Bhatla N, Kaul N, Lal N, Kriplani A, Agarwal N, Saxena R, Gupta SK. 2009. Comparison of effect of daily versus weekly iron supplementation during pregnancy on lipid peroxidation. *J Obstet Gynaecol Res* 35(3): 438-445.
- Blot I, Papiernik E, Kaltwasser JP, Werner E, Tchernia G. 1981. Influence of routine administration of folic acid and iron during pregnancy. *Gynecol Obstet Invest* 12(6): 294-304.
- Bodnar LM, Himes KP, Venkataramanan R, Chen JY, Evans RW, Meyer JL, Simhan HN. 2010. Maternal serum folate species in early pregnancy and risk of preterm birth. *American Journal of Clinical Nutrition* 92(4): 864-871.
- Bouwland-Both MI, Steegers EA, Lindemans J, Russcher H, Hofman A, Geurts-Moespot AJ, Sweep FC, Jaddoe VW, Steegers-Theunissen RP. 2013. Maternal soluble fms-like tyrosine kinase-1, placental growth factor, plasminogen activator inhibitor-2, and folate concentrations and early fetal size: the Generation R study. *Am J Obstet Gynecol* 209(2): 121 e121-111.
- Boxmeer JC, Macklon NS, Lindemans J, Beckers NG, Eijkemans MJ, Laven JS, Steegers EA, Steegers-Theunissen RP. 2009a. IVF outcomes are associated with biomarkers of the homocysteine pathway in monofollicular fluid. *Hum Reprod* 24(5): 1059-1066.
- Boxmeer JC, Smit M, Utomo E, Romijn JC, Eijkemans MJ, Lindemans J, Laven JS, Macklon NS, Steegers EA, Steegers-Theunissen RP. 2009b. Low folate in seminal plasma is associated with increased sperm DNA damage. *Fertil Steril* 92(2): 548-556.
- Braekke K, Ueland PM, Harsem NK, Karlsen A, Blomhoff R, Staff AC. 2007. Homocysteine, cysteine, and related metabolites in maternal and fetal plasma in preeclampsia. *Pediatr Res* 62(3): 319-324.
- Brough L, Rees GA, Crawford MA, Morton RH, Dorman EK. 2010. Effect of multiple-micronutrient supplementation on maternal nutrient status, infant birth weight and gestational age at birth in a low-income, multi-ethnic population. *Br J Nutr* 104(3): 437-445.
- Bukowski R, Malone FD, Porter FT, Nyberg DA, Comstock CH, Hankins GD, Eddleman K, Gross SJ, Dugoff L, Craigo SD, Timor-Tritsch IE, Carr SR, Wolfe HM, D'Alton ME. 2009. Preconceptional folate supplementation and the risk of spontaneous preterm birth: a cohort study. *PLoS Med* 6(5): e1000061.
- Burriss HH, Mitchell AA, Werler MM. 2010. Periconceptional Multivitamin Use and Infant Birth Weight Disparities. *Annals of Epidemiology* 20(3): 233-240.
- Butte NF, Calloway DH. 1982. Proteins, vitamin A, carotene, folacin, ferritin and zinc in Navajo maternal and cord blood. *Biol Neonate* 41(5-6): 273-278.

- Byrne J. 2011. Periconceptual folic acid prevents miscarriage in Irish families with neural tube defects. *Ir J Med Sci* 180(1): 59-62.
- Carmichael SL, Rasmussen SA, Lammer EJ, Ma C, Shaw GM. 2010. Craniosynostosis and nutrient intake during pregnancy. *Birth Defects Res A Clin Mol Teratol* 88(12): 1032-1039.
- Catov JM, Nohr EA, Bodnar LM, Knudson VK, Olsen SF, Olsen J. 2009. Association of periconceptual multivitamin use with reduced risk of preeclampsia among normal-weight women in the Danish National Birth Cohort. *Am J Epidemiol* 169(11): 1304-1311.
- Cavalli P, Tonni G, Grosso E, Poggiani C. 2011. Effects of inositol supplementation in a cohort of mothers at risk of producing an NTD pregnancy. *Birth Defects Res A Clin Mol Teratol* 91(11): 962-965.
- Chatzi L, Papadopoulou E, Koutra K, Roumeliotaki T, Georgiou V, Stratakis N, Lebentakou V, Karachaliou M, Vassilaki M, Kogevas M. 2012. Effect of high doses of folic acid supplementation in early pregnancy on child neurodevelopment at 18 months of age: the mother-child cohort 'Rhea' study in Crete, Greece. *Public Health Nutr* 15(9): 1728-1736.
- Chaudhary AK, Asha C, Tiwari SC, Dwivedi R. 2012. Can community-based, low-cost antenatal care in the third trimester of pregnancy reduce the incidence of low birth weight newborns? *Journal of Obstetrics and Gynecology of India* 62(3): 286-290.
- Chavarro JE, Rich-Edwards JW, Rosner BA, Willett WC. 2008. Use of multivitamins, intake of B vitamins, and risk of ovulatory infertility. *Fertil Steril* 89(3): 668-676.
- Chen K, Li TY, Chen L, Qu P, Liu YX. 2008. Effects of vitamin A, vitamin A plus iron and multiple micronutrient-fortified seasoning powder on preschool children in a suburb of Chongqing, China. *Journal of Nutritional Science and Vitaminology* 54(6): 440-447.
- Chen Q, Ng V, Mei J, Chia SE. 2001. [Comparison of seminal vitamin B12, folate, reactive oxygen species and various sperm parameters between fertile and infertile males]. *Wei Sheng Yan Jiu* 30(2): 80-82.
- Chocano-Bedoya PO, Manson JE, Hankinson SE, Willett WC, Johnson SR, Chasan-Taber L, Ronnenberg AG, Bigelow C, Bertone-Johnson ER. 2011. Dietary B vitamin intake and incident premenstrual syndrome. *Am J Clin Nutr* 93(5): 1080-1086.
- Chowdhury S, Cleves MA, MacLeod SL, James SJ, Zhao W, Hobbs CA. 2011. Maternal DNA hypomethylation and congenital heart defects. *Birth Defects Res A Clin Mol Teratol* 91(2): 69-76.
- Christian P, Khatri SK, Katz J, Pradhan EK, LeClerq SC, Shrestha SR, Adhikari RK, Sommer A, West KP, Jr. 2003a. Effects of alternative maternal micronutrient supplements on low birth weight in rural Nepal: double blind randomised community trial. *BMJ* 326(7389): 571.
- Christian P, West KP, Khatri SK, Leclerq SC, Pradhan EK, Katz J, Shrestha SR, Sommer A. 2003b. Effects of maternal micronutrient supplementation on fetal loss and infant mortality: a cluster-randomized trial in Nepal. *Am J Clin Nutr* 78(6): 1194-1202.
- Christian P, Darmstadt GL, Wu L, Khatri SK, Leclerq SC, Katz J, West KP, Jr., Adhikari RK. 2008. The effect of maternal micronutrient supplementation on early neonatal morbidity in rural Nepal: a randomised, controlled, community trial. *Arch Dis Child* 93(8): 660-664.
- Christian P, Khatri SK, LeClerq SC, Dali SM. 2009a. Effects of prenatal micronutrient supplementation on complications of labor and delivery and puerperal morbidity in rural Nepal. *Int J Gynaecol Obstet* 106(1): 3-7.
- Christian P, Stewart CP, LeClerq SC, Wu L, Katz J, West KP, Jr., Khatri SK. 2009b. Antenatal and postnatal iron supplementation and childhood mortality in rural Nepal: a prospective follow-up in a randomized, controlled community trial. *Am J Epidemiol* 170(9): 1127-1136.
- Christian P, Nanayakkara-Bind A, Schulze K, Wu L, LeClerq SC, Khatri SK. 2014. Antenatal micronutrient supplementation and third trimester cortisol and erythropoietin concentrations. *Matern Child Nutr*.

- Clemmensen D, Thygesen M, Rasmussen MM, Fenger-Gron M, Petersen OB, Mosdal C. 2011. Decreased incidence of myelomeningocele at birth: effect of folic acid recommendations or prenatal diagnostics? *Childs Nerv Syst* 27(11): 1951-1955.
- Creus M, Deulofeu R, Penarrubia J, Carmona F, Balasch J. 2013. Plasma homocysteine and vitamin B12 serum levels, red blood cell folate concentrations, C677T methylenetetrahydrofolate reductase gene mutation and risk of recurrent miscarriage: a case-control study in Spain. *Clin Chem Lab Med* 51(3): 693-699.
- Czeizel AE, Dudas I, Metneki J. 1994. Pregnancy outcomes in a randomised controlled trial of periconceptional multivitamin supplementation. Final report. *Archives of Gynecology and Obstetrics* 255(3): 131-139.
- Czeizel AE, Metneki J, Dudas I. 1996. The effect of preconceptional multivitamin supplementation on fertility. *International Journal for Vitamin and Nutrition Research* 66(1): 55-58.
- Czeizel AE, Puho EH, Langmar Z, Acs N, Banhidy F. 2010. Possible association of folic acid supplementation during pregnancy with reduction of preterm birth: a population-based study. *Eur J Obstet Gynecol Reprod Biol* 148(2): 135-140.
- Czeizel AE, Banhidy F. 2011. Folic acid supplementation and risk reduction in preterm birth. *Am J Clin Nutr* 94(6): 1651-1652.
- D'Uva M, Di Micco P, Strina I, Alviggi C, Iannuzzo M, Ranieri A, Mollo A, De Placido G. 2007. Hyperhomocysteinemia in women with unexplained sterility or recurrent early pregnancy loss from Southern Italy: a preliminary report. *Thromb J* 5: 10.
- Darling AM, Chavarro JE, Malspeis S, Harris HR, Missmer SA. 2013. A prospective cohort study of Vitamins B, C, E, and multivitamin intake and endometriosis. *Journal of endometriosis* 5(1): 17-26.
- Dawson EB, Evans DR, Van Hook JW. 1998. Amniotic fluid B-12 and folate levels associated with neural tube defects. *American Journal of Perinatology* 15(9): 511-514.
- de Weerd S, Steegers-Theunissen RP, de Boo TM, Thomas CM, Steegers EA. 2003. Maternal periconceptional biochemical and hematological parameters, vitamin profiles and pregnancy outcome. *Eur J Clin Nutr* 57(9): 1128-1134.
- Dhillon VS, Shahid M, Husain SA. 2007. Associations of MTHFR DNMT3b 4977 bp deletion in mtDNA and GSTM1 deletion, and aberrant CpG island hypermethylation of GSTM1 in non-obstructive infertility in Indian men. *Mol Hum Reprod* 13(4): 213-222.
- Dhobale M, Chavan P, Kulkarni A, Mehendale S, Pisal H, Joshi S. 2012. Reduced folate, increased vitamin B(12) and homocysteine concentrations in women delivering preterm. *Ann Nutr Metab* 61(1): 7-14.
- Dudas I, Rockenbauer M, Czeizel AE. 1995. THE EFFECT OF PRECONCEPTIONAL MULTIVITAMIN SUPPLEMENTATION ON THE MENSTRUAL-CYCLE. *Archives of Gynecology and Obstetrics* 256(3): 115-123.
- Dunlop AL, Taylor RN, Tangpricha V, Fortunato S, Menon R. 2012. Maternal micronutrient status and preterm versus term birth for black and white US women. *Reprod Sci* 19(9): 939-948.
- Dutta GP. 1977. Serum folic level in abortion. *Journal of the Indian Medical Association* 69(7): 149-153.
- Ek J. 1980. Plasma and red cell folate values in newborn infants and their mothers in relation to gestational age. *J Pediatr* 97(2): 288-292.
- Ek J. 1981. Plasma and red cell folate in newborn twins and their mothers in relation to gestational age. *Acta Obstet Gynecol Scand* 60(4): 379-383.
- Ek J. 1982. Plasma and red cell folate in mothers and infants in normal pregnancies. Relation to birth weight. *Acta Obstet Gynecol Scand* 61(1): 17-20.
- Engel SM, Olshan AF, Siega-Riz AM, Savitz DA, Chanock SJ. 2006. Polymorphisms in folate metabolizing genes and risk for spontaneous preterm and small-for-gestational age birth. *Am J Obstet Gynecol* 195(5): 1231 e1231-1211.

- Ericson A, Kallen B, Aberg A. 2001. Use of multivitamins and folic acid in early pregnancy and multiple births in Sweden. *Twin Res* 4(2): 63-66.
- Escolano-Margarit MV, Ramos R, Beyer J, Csabi G, Parrilla-Roure M, Cruz F, Perez-Garcia M, Hadders-Algra M, Gil A, Decsi T, Koletzko BV, Campoy C. 2011. Prenatal DHA status and neurological outcome in children at age 5.5 years are positively associated. *J Nutr* 141(6): 1216-1223.
- Fadnavis R, Faruqui AA, Joshi C. 2011. Evaluation of efficacy and tolerability of RB Tone forte tablet in the treatment of pregnancy anaemia. *J Indian Med Assoc* 109(2): 121-123.
- Ferguson SE, Smith GN, Salenieks ME, Windrim R, Walker MC. 2002. Preterm premature rupture of membranes. Nutritional and socioeconomic factors. *Obstet Gynecol* 100(6): 1250-1256.
- Fernandez G, Diez Ewald M, Velazquez N, Oberto J. 1976. Interrelationship between iron deficiency anemia and impaired renal function in toxemia of pregnancy. *Investigacion Clinica* 17(4): 191-199.
- Fleming AF, Martin JD, Hahnel R, Westlake AJ. 1974. Effects of iron and folic acid antenatal supplements on maternal haematology and fetal wellbeing. *Med J Aust* 2(12): 429-436.
- Fletcher J. 1971. The value of folie add supplemente in pregnancy. *Dept Clin. Haematol. Obstet, Univ. Coil Hosp. Med. Seh Lond. J.Obstetjgynabciut.Cwith* 78(9): 781-785.
- Fletcher J, Gurr A, Fellingham FR, Pranker TA, Brant HA, Menzies DN. 1971. The value of folic acid supplements in pregnancy. *J Obstet Gynaecol Br Commonw* 78(9): 781-785.
- Foged N, Lillquist K, Rolschau J, Blaabjerg O. 1989. Effect of folic acid supplementation on small-for-gestational-age infants born at term. *Eur J Pediatr* 149(1): 65-67.
- Frelut ML, de Courcy GP, Christides JP, Blot P, Navarro J. 1995. Relationship between maternal folate status and foetal hypotrophy in a population with a good socio-economical level. *Int J Vitam Nutr Res* 65(4): 267-271.
- Furness D, Fenech M, Dekker G, Khong TY, Roberts C, Hague W. 2013. Folate, vitamin B12, vitamin B6 and homocysteine: impact on pregnancy outcome. *Matern Child Nutr* 9(2): 155-166.
- Furness DL, Yasin N, Dekker GA, Thompson SD, Roberts CT. 2012. Maternal red blood cell folate concentration at 10-12 weeks gestation and pregnancy outcome. *J Matern Fetal Neonatal Med* 25(8): 1423-1427.
- Gadhok AK, Sinha M, Khunteta R, Vardey SK, Upadhyaya C, Sharma TK, Jha M. 2011. Serum homocysteine level and its association with folic acid and vitamin B12 in the third trimester of pregnancies complicated with intrauterine growth restriction. *Clinical Laboratory* 57(11-12): 933-938.
- Gandy G, Jacobson W. 1977. Influence of folic acid on birthweight and growth of the erythroblastotic infant. III. Effect of folic acid supplementation. *Arch Dis Child* 52(1): 16-21.
- Gaskins AJ, Mumford SL, Chavarro JE, Zhang C, Pollack AZ, Wactawski-Wende J, Perkins NJ, Schisterman EF. 2012. The impact of dietary folate intake on reproductive function in premenopausal women: a prospective cohort study. *PLoS One* 7(9): e46276.
- Gaskins AJ, Afeiche MC, Wright DL, Toth TL, Williams PL, Gillman MW, Hauser R, Chavarro JE. 2014. Dietary folate and reproductive success among women undergoing assisted reproduction. *Obstet Gynecol* 124(4): 801-809.
- Gaweesh SS, Abdel-Gawad MM, Nagaty AM, Ewies AA. 2010. Folic acid supplementation may cure hot flushes in postmenopausal women: a prospective cohort study. *Gynecol Endocrinol* 26(9): 658-662.
- George L, Mills JL, Johansson AL, Nordmark A, Olander B, Granath F, Cnattingius S. 2002a. Plasma folate levels and risk of spontaneous abortion. *JAMA* 288(15): 1867-1873.
- George L, Mills JL, Johansson ALV, Nordmark A, Olander B, Granath F, Cnattingius S. 2002b. Plasma foliate levels and risk of spontaneous abortion. *JAMA-J. Am. Med. Assoc.* 288(15): 1867-1873.

- George L, Granath F, Johansson AL, Olander B, Cnattingius S. 2006. Risks of repeated miscarriage. *Paediatr Perinat Epidemiol* 20(2): 119-126.
- Giles RF, Harcourt AX, Whiteside MG. 1971. The effect of prescribing folic acid during pregnancy on birth weight and duration of pregnancy. a double blind trial. *Medjaust.* 2(1): 313-334.
- Gindler J, Li Z, Berry RJ, Zheng JC, Correa A, Sun XM, Wong LY, Cheng LC, Erickson JD, Wang Y, Tong QL, Jiaying City Collaborative P. 2001. Folic acid supplements during pregnancy and risk of miscarriage. *Lancet* 358(9284): 796-800.
- Giovannini M, Sala D, Uselli M, Livio L, Francescato G, Braga M, Radaelli G, Riva E. 2006. Double-blind, placebo-controlled trial comparing effects of supplementation with two different combinations of micronutrients delivered as sprinkles on growth, anemia, and iron deficiency in cambodian infants. *J Pediatr Gastroenterol Nutr* 42(3): 306-312.
- Goddijn-Wessel TA, Wouters MG, van de Molen EF, Spuijbroek MD, Steegers-Theunissen RP, Blom HJ, Boers GH, Eskes TK. 1996. Hyperhomocysteinemia: a risk factor for placental abruption or infarction. *Eur J Obstet Gynecol Reprod Biol* 66(1): 23-29.
- Goldenberg RL, Tamura T, Cliver SP, Cutter GR, Hoffman HJ, Copper RL. 1992. Serum folate and fetal growth retardation: a matter of compliance? *Obstet Gynecol* 79(5 (Pt 1)): 719-722.
- Goyle A. 2012. Effect of micronutrient fortified biscuit supplementation on the weight, height and BMI of adolescent girls. *Coll Antropol* 36(2): 573-579.
- Gris JC, Quere I, Monpeyroux F, Mercier E, Ripart-Neveu S, Tailland ML, Hoffet M, Berlan J, Daures JP, Mares P. 1999. Case-control study of the frequency of thrombophilic disorders in couples with late foetal loss and no thrombotic antecedent--the Nimes Obstetricians and Haematologists Study5 (NOHA5). *Thromb Haemost* 81(6): 891-899.
- Guerra-Shinohara EM, Pereira PM, Kubota AM, Silva TA, Reis JL, Miyashita GS, D'Almeida V, Allen RH, Stabler SP. 2010. Increased MMA concentration and body mass index are associated with spontaneous abortion in Brazilian women: a pilot study. *Clin Chim Acta* 411(5-6): 423-427.
- Guyen MA, Coskun A, Ertas IE, Aral M, Zencirci B, Oksuz H. 2009. Association of maternal serum CRP, IL-6, TNF-alpha, homocysteine, folic acid and vitamin B12 levels with the severity of preeclampsia and fetal birth weight. *Hypertens Pregnancy* 28(2): 190-200.
- Haggarty P, McCallum H, McBain H, Andrews K, Duthie S, McNeill G, Templeton A, Haites N, Campbell D, Bhattacharya S. 2006. Effect of B vitamins and genetics on success of in-vitro fertilisation: prospective cohort study. *Lancet* 367(9521): 1513-1519.
- Haggarty P, Campbell DM, Duthie S, Andrews K, Hoad G, Piyathilake C, Fraser I, McNeill G. 2008. Folic acid use in pregnancy and embryo selection. *BJOG* 115(7): 851-856.
- Harma M, Kocyigit A, Yurtseven S, Demir N. 2004. Serum levels of folate, vitamin B12 and homocysteine in complete hydatidiform mole. *J Reprod Med* 49(4): 285-288.
- Hasan R, Olshan AF, Herring AH, Savitz DA, Siega-Riz AM, Hartmann KE. 2009. Self-reported Vitamin Supplementation in Early Pregnancy and Risk of Miscarriage. *American Journal of Epidemiology* 169(11): 1312-1318.
- Haworth KE, Farrell WE, Emes RD, Ismail KM, Carroll WD, Borthwick HA, Yates AM, Hubball E, Rooney A, Khanam M, Aggarwal N, Jones PW, Fryer AA. 2013. Combined influence of gene-specific cord blood methylation and maternal smoking habit on birth weight. *Epigenomics* 5(1): 37-49.
- Hay G, Clausen T, Whitelaw A, Trygg K, Johnston C, Henriksen T, Refsum H. 2010. Maternal folate and cobalamin status predicts vitamin status in newborns and 6-month-old infants. *J Nutr* 140(3): 557-564.
- Hernandez-Diaz S, Werler MM, Louik C, Mitchell AA. 2002. Risk of gestational hypertension in relation to folic acid supplementation during pregnancy. *Am J Epidemiol* 156(9): 806-812.

- Herrmann W, Hubner U, Koch I, Obeid R, Retzke U, Geisel J. 2004. Alteration of homocysteine catabolism in pre-eclampsia, HELLP syndrome and placental insufficiency. *Clin Chem Lab Med* 42(10): 1109-1116.
- Herrmann W, Isber S, Obeid R, Herrmann M, Jouma M. 2005. Concentrations of homocysteine, related metabolites and asymmetric dimethylarginine in preeclamptic women with poor nutritional status. *Clin Chem Lab Med* 43(10): 1139-1146.
- Hibbard ED, Kenna AP. 1974. Plasma and erythrocyte folate levels in low birth weight infants. *Journal of Pediatrics* 84(5): 750-753.
- Hininger I, Favier M, Arnaud J, Faure H, Thoulon JM, Hariveau E, Favier A, Roussel AM. 2004. Effects of a combined micronutrient supplementation on maternal biological status and newborn anthropometrics measurements: a randomized double-blind, placebo-controlled trial in apparently healthy pregnant women. *Eur J Clin Nutr* 58(1): 52-59.
- Hoffman ML, Scoccia B, Kurczynski TW, Shulman LP, Gao W. 2008. Abnormal folate metabolism as a risk factor for first-trimester spontaneous abortion. *J Reprod Med* 53(3): 207-212.
- Hogeveen M, Blom HJ, van der Heijden EH, Semmekrot BA, Sporcken JM, Ueland PM, den Heijer M. 2010. Maternal homocysteine and related B vitamins as risk factors for low birthweight. *Am J Obstet Gynecol* 202(6): 572 e571-576.
- Hogg BB, Tamura T, Johnston KE, Dubard MB, Goldenberg RL. 2000. Second-trimester plasma homocysteine levels and pregnancy-induced hypertension, preeclampsia, and intrauterine growth restriction. *Am J Obstet Gynecol* 183(4): 805-809.
- Hong J, Park EA, Kim YJ, Lee HY, Park BH, Ha EH, Kong KA, Park H. 2008. Association of antioxidant vitamins and oxidative stress levels in pregnancy with infant growth during the first year of life. *Public Health Nutr* 11(10): 998-1005.
- Hossein-nezhad A, Mirzaei K, Maghbooli Z, Najmafshar A, Larijani B. 2011. The influence of folic acid supplementation on maternal and fetal bone turnover. *J Bone Miner Metab* 29(2): 186-192.
- Hubner U, Alwan A, Jouma M, Tabbaa M, Schorr H, Herrmann W. 2008. Low serum vitamin B12 is associated with recurrent pregnancy loss in Syrian women. *Clin Chem Lab Med* 46(9): 1265-1269.
- Hussian MA. 1977. Nutrient reserve in congenital malformations. *Bangladesh Med Res Counc Bull* 3(2): 94-100.
- Imhof M, Lackner J, Lipovac M, Chedraui P, Riedl C. 2011. Micronutrient supplementation increases sperm quality in the sub-fertile male. *European Urological Review* 6(2): 120-123.
- Imhof M, Lackner J, Lipovac M, Chedraui P, Riedl C. 2012. Improvement of sperm quality after micronutrient supplementation. *e-SPEN Journal* 7(1): e50-e53.
- Iyengar L, Rajalakshmi K. 1975. Effect of folic acid supplement on birth weights of infants. *Am J Obstet Gynecol* 122(3): 332-336.
- Jackson E, Mathur K. 1991. Adolescent pregnancy: effects of nutrients on hematocrit and birth weight in Orangeburg County. *J S C Med Assoc* 87(1): 8-11.
- Jacobsen K, Ramlau-Hansen CH, Thulstrup AM, Olsen J, Bonde JP. 2011. Maternal folic acid supplement intake and semen quality in Danish sons: a follow-up study. *Fertil Steril* 96(2): 295-298.
- Jia ZL, Shi B, Chen CH, Shi JY, Wu J, Xu X. 2011. Maternal malnutrition, environmental exposure during pregnancy and the risk of non-syndromic orofacial clefts. *Oral Dis* 17(6): 584-589.
- Jiang YL, Sun NH, Xiang Y, Li SL, Qi QW, Liu JT, Bian XM, Yang JQ. 2007. [Study on the correlation of serum folate and red blood cell folate level with birth defects and unexplained recurrent pregnancy loss]. *Zhonghua Fu Chan Ke Za Zhi* 42(7): 448-452.
- Johnson AA, Knight EM, Edwards CH, Oyemade UJ, Cole OJ, Westney OE, Westney LS, Laryea H, Jones S. 1994. Dietary intakes, anthropometric measurements and pregnancy outcomes. *J Nutr* 124(6 Suppl): 936S-942S.

- Joseph N, Subba SH, Naik VA, Mahantshetti NS, Unnikrishnan B, Nelliyanil M, Mallapur, Shashidhar Kotian M. 2011. Incidence, correlates and outcomes of low birth weight - a one year longitudinal study. *Indian Journal of Public Health Research and Development* 2(1): 63-67.
- Kaestel P, Michaelsen KF, Aaby P, Friis H. 2005. Effects of prenatal multimicronutrient supplements on birth weight and perinatal mortality: a randomised, controlled trial in Guinea-Bissau. *Eur J Clin Nutr* 59(9): 1081-1089.
- Kanani SJ, Poojara RH. 2000. Supplementation with iron and folic acid enhances growth in adolescent Indian girls. *J Nutr* 130(2S Suppl): 452S-455S.
- Katz J, Christian P, Dominici F, Zeger SL. 2006. Treatment effects of maternal micronutrient supplementation vary by percentiles of the birth weight distribution in rural Nepal. *J Nutr* 136(5): 1389-1394.
- Khashaba AA, El-Shobaki FA, El-Basousy MM, Fahmi HA, Osman E, El-Shafie MM. 1976. Assessment of parameters of physical growth of the newborn in relation to maternal supplementation with iron alone or with some biological additives. *Gaz Egypt Paediatr Assoc* 24(1-2): 59-68.
- Kim H, Hwang JY, Ha EH, Park H, Ha M, Lee SJ, Hong YC, Chang N. 2011. Association of maternal folate nutrition and serum C-reactive protein concentrations with gestational age at delivery. *Eur J Clin Nutr* 65(3): 350-356.
- Klingler M, Blaschitz A, Campoy C, Cano A, Molloy AM, Scott JM, Dohr G, Demmelmair H, Koletzko B, Desoye G. 2006. The effect of docosahexaenoic acid and folic acid supplementation on placental apoptosis and proliferation. *Br J Nutr* 96(1): 182-190.
- Knight EM, Spurlock BG, Johnson AA, Oyemade UJ, Cole OJ, West WL, Manning MG, Nolan G, Bonds D, Laryea H, Jones S, Westney L, Edwards CH. 1991. Hematologic and vitamin status of African American women and their relationships to pregnancy outcome. *Nutrition Research* 11(12): 1357-1375.
- Kokanali MK, Ozturkkan D, Unsal N, Moroy P, Gungor T, Mollamahmutoglu L. 2008. Plasma homocysteine, vitamin B12 and folate levels in hydatidiform moles and histopathological subtypes. *Arch Gynecol Obstet* 278(6): 531-534.
- Kordas K, Ettinger AS, Lamadrid-Figueroa H, Tellez-Rojo MM, Hernandez-Avila M, Hu H, Wright RO. 2009. Methylenetetrahydrofolate reductase (MTHFR) C677T, A1298C and G1793A genotypes, and the relationship between maternal folate intake, tibia lead and infant size at birth. *Br J Nutr* 102(6): 907-914.
- Kukla L, Bouchalova M, Coupek P. 2001. [Birth weight and gestational age in relation to the course of pregnancy]. *Cas Lek Cesk* 140(21): 662-667.
- Kulkarni A, Mehendale S, Pisal H, Kilari A, Dangat K, Salunkhe S, Taralekar V, Joshi S. 2011. Association of omega-3 fatty acids and homocysteine concentrations in pre-eclampsia. *Clin Nutr* 30(1): 60-64.
- Kumar KS, Govindaiah V, Naushad SE, Devi RR, Jyothy A. 2003. Plasma homocysteine levels correlated to interactions between folate status and methylene tetrahydrofolate reductase gene mutation in women with unexplained recurrent pregnancy loss. *J Obstet Gynaecol* 23(1): 55-58.
- Lachmeijer AM, Arngrimsson R, Bastiaans EJ, Pals G, ten Kate LP, de Vries JI, Kostense PJ, Aarnoudse JG, Dekker GA. 2001. Mutations in the gene for methylenetetrahydrofolate reductase, homocysteine levels, and vitamin status in women with a history of preeclampsia. *Am J Obstet Gynecol* 184(3): 394-402.
- Laivuori H, Kaaja R, Turpeinen U, Viinikka L, Ylikorkala O. 1999. Plasma homocysteine levels elevated and inversely related to insulin sensitivity in preeclampsia. *Obstet Gynecol* 93(4): 489-493.
- Lee RM, Brown MA, Ward K, Nelson L, Branch DW, Silver RM. 2004. Homocysteine levels in women with antiphospholipid syndrome and normal fertile controls. *J Reprod Immunol* 63(1): 23-30.
- Leung CF, Lao TT, Chang AM. 1989. Effect of folate supplement on pregnant women with beta-thalassaemia minor. *Eur J Obstet Gynecol Reprod Biol* 33(3): 209-213.

- Li XM, Zhang YZ, Xu YX, Jiang S. 2004. [Study on the relationship of MTHFR polymorphisms with unexplained recurrent spontaneous abortion]. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi* 21(1): 39-42.
- Li Z, Ye R, Zhang L, Li H, Liu J, Ren A. 2013. Folic acid supplementation during early pregnancy and the risk of gestational hypertension and preeclampsia. *Hypertension* 61(4): 873-879.
- Lindblad B, Zaman S, Malik A, Martin H, Ekstrom AM, Amu S, Holmgren A, Norman M. 2005. Folate, vitamin B12, and homocysteine levels in South Asian women with growth-retarded fetuses. *Acta Obstet Gynecol Scand* 84(11): 1055-1061.
- Lombardo F, Lupini C, Fiducia M, Marchetti L, Pallotti F, Koverech A, Gandini L, Lenzi A. 2010. L-carnitine fumarate, L-acetyl-carnitine and other components in male infertility: A pilot study of nutraceuticals on sperm motility. *Journal of Andrological Sciences* 17(1): 30-33.
- Lopez-Quesada E, Vilaseca MA, Laila JM. 2003. Plasma total homocysteine in uncomplicated pregnancy and in preeclampsia. *Eur J Obstet Gynecol Reprod Biol* 108(1): 45-49.
- Lopez-Quesada E, Vilaseca MA, Vela A, Laila JM. 2004. Perinatal outcome prediction by maternal homocysteine and uterine artery Doppler velocimetry. *Eur J Obstet Gynecol Reprod Biol* 113(1): 61-66.
- Mahmoud A, Elkattan EA, Eldaly AA, Omran EF, Mandour I. 2009. A comparative study of folate and vitamin B12 serum levels in preeclamptic versus normotensive pregnant women in correlation with uterine and umbilical artery Doppler findings and pregnancy outcome. *Journal of the Turkish German Gynecology Association* 10(3): 152-157.
- Makedos G, Papanicolaou A, Hitoglou A, Kalogiannidis I, Makedos A, Vrazioti V, Goutzioulis M. 2007. Homocysteine, folic acid and B12 serum levels in pregnancy complicated with preeclampsia. *Arch Gynecol Obstet* 275(2): 121-124.
- Mamabolo RL, Alberts M, Steyn NP, Levitt NS. 2006. The effect of maternal glucose metabolism, iron, vitamin B12 and folate status on pregnancy outcomes. *South African Journal of Clinical Nutrition* 19(3): 120-130.
- Manizheh SM, Mandana S, Hassan A, Amir GH, Mahlisha KS, Morteza G. 2009. Comparison study on the effect of prenatal administration of high dose and low dose folic acid. *Saudi Med J* 30(1): 88-97.
- Martin H, Lindblad B, Norman M. 2007. Endothelial function in newborn infants is related to folate levels and birth weight. *Pediatrics* 119(6): 1152-1158.
- Martin JD, Davis RE, Stenhouse N. 1967. Serum folate and vitamin B12 levels in pregnancy with particular reference to uterine bleeding and bacteriuria. *J Obstet Gynaecol Br Commonw* 74(5): 697-701.
- Masse PG, Dosy J, Cole DE, Evrovski J, Mahuren JD, Coburn SP. 2005. Elevation of plasma homocysteine in natural menopause can not be explained by a lack of vitamin coenzyme availability: relevance to the risk of cardiovascular disease. *J Nutr Health Aging* 9(1): 59-64.
- Mathews F, Yudkin P, Neil A. 1999. Influence of maternal nutrition on outcome of pregnancy: prospective cohort study. *BMJ* 319(7206): 339-343.
- Matoth Y, Zehavi I, Topper E, Klein T. 1979. Folate nutrition and growth in infancy. *Arch Dis Child* 54(9): 699-702.
- McDonald SD, Vermeulen MJ, Ray JG. 2005. Folic acid and placental pathology. *Epidemiology* 16(3): 419-420.
- Medeiros DA, Hadler MC, Sugai A, Torres VM. 2015. The effect of folic acid supplementation with ferrous sulfate on the linear and ponderal growth of children aged 6-24 months: a randomized controlled trial. *Eur J Clin Nutr* 69(2): 198-204.
- Mendiola J, Torres-Cantero AM, Vioque J, Moreno-Grau JM, Ten J, Roca M, Moreno-Grau S, Bernabeu R. 2010. A low intake of antioxidant nutrients is associated with poor semen quality in patients attending fertility clinics. *Fertil Steril* 93(4): 1128-1133.
- Michals K, Acosta PB, Austin V, Castiglioni L, Rohr F, Wenz E, Azen C. 1996. Nutrition and reproductive outcome in maternal phenylketonuria. *Eur J Pediatr* 155 Suppl 1: S165-168.

- Mistry HD, Mather J, Ramsay MM, Kurlak LO, Symonds ME, Pipkin FB. 2011. Homocysteine and folate plasma concentrations in mother and baby at delivery after pre-eclamptic or normotensive pregnancy: Influence of parity. *Pregnancy Hypertension* 1(2): 150-155.
- Mitchell EA, Robinson E, Clark PM, Becroft DM, Glavish N, Pattison NS, Pryor JE, Thompson JM, Wild CJ. 2004. Maternal nutritional risk factors for small for gestational age babies in a developed country: a case-control study. *Arch Dis Child Fetal Neonatal Ed* 89(5): F431-435.
- Monsen AL, Schneede J, Ueland PM. 2006. Mid-trimester amniotic fluid methionine concentrations: a predictor of birth weight and length. *Metabolism* 55(9): 1186-1191.
- Mook-Kanamori DO, Steegers EA, Eilers PH, Raat H, Hofman A, Jaddoe VW. 2010. Risk factors and outcomes associated with first-trimester fetal growth restriction. *JAMA* 303(6): 527-534.
- Mosha D, Mazuguni F, Mrema S, Abdulla S, Genton B. 2014. Medication exposure during pregnancy: a pilot pharmacovigilance system using health and demographic surveillance platform. *BMC Pregnancy Childbirth* 14: 322.
- Mujawar SA, Patil VW, Daver RG. 2011. Study of serum homocysteine, folic acid and vitamin B12 in patients with preeclampsia. *Indian Journal of Clinical Biochemistry* 26(3): 257-260.
- Murphy LE, Mills JL, Molloy AM, Qian C, Carter TC, Strevens H, Wide-Swensson D, Giwercman A, Levine RJ. 2011. Folate and vitamin B(12) in idiopathic male infertility. *Asian J Androl* 13(6): 856-861.
- Murto T, Skoog Svanberg A, Yngve A, Nilsson TK, Altmae S, Wanggren K, Salumets A, Stavreus-Evers A. 2014. Folic acid supplementation and IVF pregnancy outcome in women with unexplained infertility. *Reprod Biomed Online* 28(6): 766-772.
- Murto T, Kallak TK, Hoas A, Altmae S, Salumets A, Nilsson TK, Skoog Svanberg A, Wanggren K, Yngve A, Stavreus-Evers A. 2015. Folic acid supplementation and methylenetetrahydrofolate reductase (MTHFR) gene variations in relation to in vitro fertilization pregnancy outcome. *Acta Obstet Gynecol Scand* 94(1): 65-71.
- Nadjarzadeh A, Mehraei A, Mostafaei E, Gohari MR, Shidfar F. 2013. The association between dietary antioxidant intake and semen quality in infertile men. *Medical journal of the Islamic Republic of Iran* 27(4): 204-209.
- Navarro J, Causse MB, Desquilbet N, Herve F, Lallemand D. 1984. The vitamin status of low birth weight infants and their mothers. *J Pediatr Gastroenterol Nutr* 3(5): 744-748.
- Ndeezi G, Tylleskar T, Ndugwa CM, Tumwine JK. 2010. Effect of multiple micronutrient supplementation on survival of HIV-infected children in Uganda: a randomized, controlled trial. *J Int AIDS Soc* 13: 18.
- Ndyomugenyi R, Magnussen P. 2000. Chloroquine prophylaxis, iron-folic acid supplementation or case management of malaria attacks in primigravidae in western Uganda: effects on maternal parasitaemia and haemoglobin levels and on birthweight. *Trans R Soc Trop Med Hyg* 94(4): 413-418.
- Neela J, Raman L. 1997. The relationship between maternal nutritional status and spontaneous abortion. *Natl Med J India* 10(1): 15-16.
- Neggers YH, Goldenberg RL, Tamura T, Cliver SP, Hoffman HJ. 1997. The relationship between maternal dietary intake and infant birthweight. *Acta Obstet Gynecol Scand Suppl* 165: 71-75.
- Neiger R, Wise C, Contag SA, Tumber MB, Canick JA. 1993. First trimester bleeding and pregnancy outcome in gravidas with normal and low folate levels. *Am J Perinatol* 10(6): 460-462.
- Nelen WL, Blom HJ, Steegers EA, den Heijer M, Thomas CM, Eskes TK. 2000. Homocysteine and folate levels as risk factors for recurrent early pregnancy loss. *Obstet Gynecol* 95(4): 519-524.
- Nilsen RM, Vollset SE, Rasmussen SA, Ueland PM, Daltveit AK. 2008. Folic acid and multivitamin supplement use and risk of placental abruption: a population-based registry study. *Am J Epidemiol* 167(7): 867-874.

- Nilsen RM, Vollset SE, Monsen AL, Ulvik A, Haugen M, Meltzer HM, Magnus P, Ueland PM. 2010. Infant birth size is not associated with maternal intake and status of folate during the second trimester in Norwegian pregnant women. *J Nutr* 140(3): 572-579.
- Nilsen RM, Mastroiacovo P, Gunnes N, Alsaker ER, Bjorke-Monsen AL, Eussen SJ, Haugen M, Johannessen A, Meltzer HM, Stoltenberg C, Ueland PM, Vollset SE. 2014. Folic acid supplementation and interpregnancy interval. *Paediatr Perinat Epidemiol* 28(3): 270-274.
- Oken E, Ning Y, Rifas-Shiman SL, Rich-Edwards JW, Olsen SF, Gillman MW. 2007. Diet during pregnancy and risk of preeclampsia or gestational hypertension. *Ann Epidemiol* 17(9): 663-668.
- Ouyang F, Longnecker MP, Venners SA, Johnson S, Korrick S, Zhang J, Xu X, Christian P, Wang MC, Wang X. 2014. Preconception serum 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane and B-vitamin status: independent and joint effects on women's reproductive outcomes. *Am J Clin Nutr* 100(6): 1470-1478.
- Pagán K, Hou J, Goldenberg RL, Cliver SP, Tamura T. 2002. Mid-pregnancy serum homocysteine and B-vitamin concentrations and fetal growth. *Nutrition Research* 22(10): 1133-1141.
- Palma S, Perez-Iglesias R, Prieto D, Pardo R, Llorca J, Delgado-Rodriguez M. 2008. Iron but not folic acid supplementation reduces the risk of low birthweight in pregnant women without anaemia: a case-control study. *J Epidemiol Community Health* 62(2): 120-124.
- Papadopoulou E, Stratakis N, Roumeliotaki T, Sarri K, Merlo DF, Kogevinas M, Chatzi L. 2013. The effect of high doses of folic acid and iron supplementation in early-to-mid pregnancy on prematurity and fetal growth retardation: the mother-child cohort study in Crete, Greece (Rhea study). *Eur J Nutr* 52(1): 327-336.
- Papaleo E, Unfer V, Baillargeon JP, Fusi F, Occhi F, De Santis L. 2009. Myo-inositol may improve oocyte quality in intracytoplasmic sperm injection cycles. A prospective, controlled, randomized trial. *Fertility and Sterility* 91(5): 1750-1754.
- Parazzini F, Chiaffarino F, Ricci E, Improta L, Monni G, Homocysteine Pregnancy Study G. 2011. Homocysteine, red cell, and plasma folate concentrations and birth weight in Italian women: results from a prospective study. *J. Matern.-Fetal Neonatal Med.* 24(3): 427-431.
- Park H, Kim YJ, Ha EH, Lee BE, Park BH, Lee HY, Park EA, Chang N, Hong YC. 2005. Interaction between maternal serum folate and the methylenetetrahydrofolate reductase (MTHFR) polymorphisms on infant birthweight. *Mol. Cell. Toxicol.* 1(2): 130-136.
- Parkkali S, Abacassamo F, Nwaru BI, Salome G, Augusto O, Regushevskaya E, Dgedge M, Sousa C, Cliff J, Chilundo B, Hemminki E. 2013. Comparison of routine prenatal iron prophylaxis and screening and treatment for anaemia: pregnancy results and preliminary birth results from a pragmatic randomised controlled trial (PROFEG) in Maputo, Mozambique. *BMJ open* 3(2).
- Passerini L, Casey GJ, Biggs BA, Cong DT, Phu LB, Phuc TQ, Carone M, Montresor A. 2012. Increased birth weight associated with regular pre-pregnancy deworming and weekly iron-folic acid supplementation for Vietnamese women. *PLoS neglected tropical diseases* 6(4): e1608.
- Pastor-Valero M, Navarrete-Munoz EM, Rebagliato M, Iniguez C, Murcia M, Marco A, Ballester F, Vioque J. 2011. Periconceptional folic acid supplementation and anthropometric measures at birth in a cohort of pregnant women in Valencia, Spain. *Br J Nutr* 105(9): 1352-1360.
- Pathak A, Godwin HA. 1972. Vitamin B 12 and folic acid values in premature infants. *Pediatrics* 50(4): 584-589.
- Patrick TE, Powers RW, Daftary AR, Ness RB, Roberts JM. 2004. Homocysteine and folic acid are inversely related in black women with preeclampsia. *Hypertension* 43(6): 1279-1282.
- Perry H, Muita JW, Omwega AM. 1996. Dietary habits, pregnancy weight gain and birthweights in a highland population of Kenya. *East Afr Med J* 73(7): 424-426.

- Powers RW, Dunbar MS, Gallaher MJ, Roberts JM. 2003. The 677 C-T methylenetetrahydrofolate reductase mutation does not predict increased maternal homocysteine during pregnancy. *Obstet Gynecol* 101(4): 762-766.
- Puri M, Kaur L, Walia GK, Mukhopadhyay R, Sachdeva MP, Trivedi SS, Ghosh PK, Saraswathy KN. 2013. MTHFR C677T polymorphism, folate, vitamin B12 and homocysteine in recurrent pregnancy losses: a case control study among north Indian women. *J Perinat Med*: 1-6.
- Quere I, Mercier E, Bellet H, Janbon C, Mares P, Gris JC. 2001. Vitamin supplementation and pregnancy outcome in women with recurrent early pregnancy loss and hyperhomocysteinemia. *Fertil Steril* 75(4): 823-825.
- Raigani M, Yaghmaei B, Amirjannti N, Lakpour N, Akhondi MM, Zeraati H, Hajihosseinal M, Sadeghi MR. 2014. The micronutrient supplements, zinc sulphate and folic acid, did not ameliorate sperm functional parameters in oligoasthenoteratozoospermic men. *Andrologia* 46(9): 956-962.
- Rajkovic A, Catalano PM, Malinow MR. 1997. Elevated homocyst(e)ine levels with preeclampsia. *Obstet Gynecol* 90(2): 168-171.
- Rajkovic A, Mahomed K, Rozen R, Malinow MR, King IB, Williams MA. 2000. Methylenetetrahydrofolate reductase 677 C --> T polymorphism, plasma folate, vitamin B(12) concentrations, and risk of preeclampsia among black African women from Zimbabwe. *Mol Genet Metab* 69(1): 33-39.
- Ramakrishnan U, Neufeld LM, Flores R, Rivera J, Martorell R. 2009. Multiple micronutrient supplementation during early childhood increases child size at 2 y of age only among high compliers. *Am J Clin Nutr* 89(4): 1125-1131.
- Rao S, Yajnik CS, Kanade A, Fall CH, Margetts BM, Jackson AA, Shier R, Joshi S, Rege S, Lubree H, Desai B. 2001. Intake of micronutrient-rich foods in rural Indian mothers is associated with the size of their babies at birth: Pune Maternal Nutrition Study. *J Nutr* 131(4): 1217-1224.
- Ratanachu-Ek S. 2003. Effects of multivitamin and folic acid supplementation in malnourished children. *J Med Assoc Thai* 86 Suppl 3: S537-542.
- Ray JG, Mamdani MM. 2002. Association between folic acid food fortification and hypertension or preeclampsia in pregnancy. *Arch Intern Med* 162(15): 1776-1777.
- Relton CL, Pearce MS, Parker L. 2005. The influence of erythrocyte folate and serum vitamin B12 status on birth weight. *Br J Nutr* 93(5): 593-599.
- Reznikoff-Etievant MF, Zittoun J, Vaylet C, Pernet P, Milliez J. 2002. Low Vitamin B(12) level as a risk factor for very early recurrent abortion. *Eur J Obstet Gynecol Reprod Biol* 104(2): 156-159.
- Rivera JA, Gonzalez-Cossio T, Flores M, Romero M, Rivera M, Tellez-Rojo MM, Rosado JL, Brown KH. 2001. Multiple micronutrient supplementation increases the growth of Mexican infants. *Am J Clin Nutr* 74(5): 657-663.
- Rodriguez-Guillen Mdel R, Torres-Sanchez L, Chen J, Galvan-Portillo M, Blanco-Munoz J, Anaya MA, Silva-Zolezzi I, Hernandez-Valero MA, Lopez-Carrillo L. 2009. Maternal MTHFR polymorphisms and risk of spontaneous abortion. *Salud Publica Mex* 51(1): 19-25.
- Rolschau J, Date J, Kristoffersen K. 1979. Folic acid supplement and intrauterine growth. *Acta Obstet Gynecol Scand* 58(4): 343-346.
- Rondo PH, Abbott R, Rodrigues LC, Tomkins AM. 1995. Vitamin A, folate, and iron concentrations in cord and maternal blood of intra-uterine growth retarded and appropriate birth weight babies. *Eur J Clin Nutr* 49(6): 391-399.
- Rondo PH, Abbott R, Rodrigues LC, Tomkins AM. 1997. The influence of maternal nutritional factors on intrauterine growth retardation in Brazil. *Paediatr Perinat Epidemiol* 11(2): 152-166.
- Rondo PH, Tomkins AM. 2000. Folate and intrauterine growth retardation. *Ann Trop Paediatr* 20(4): 253-258.

- Ronnenberg AG, Goldman MB, Chen D, Aitken IW, Willett WC, Selhub J, Xu X. 2002a. Preconception folate and vitamin B(6) status and clinical spontaneous abortion in Chinese women. *Obstet Gynecol* 100(1): 107-113.
- Ronnenberg AG, Goldman MB, Chen D, Aitken IW, Willett WC, Selhub J, Xu X. 2002b. Preconception homocysteine and B vitamin status and birth outcomes in Chinese women. *Am J Clin Nutr* 76(6): 1385-1391.
- Ronnenberg AG, Venners SA, Xu X, Chen C, Wang L, Guang W, Huang A, Wang X. 2007. Preconception B-vitamin and homocysteine status, conception, and early pregnancy loss. *Am J Epidemiol* 166(3): 304-312.
- Rosado JL, Gonzalez KE, Caamano Mdel C, Garcia OP, Preciado R, Odio M. 2010. Efficacy of different strategies to treat anemia in children: a randomized clinical trial. *Nutr J* 9: 40.
- Rumiris D, Purwosunu Y, Wibowo N, Farina A, Sekizawa A. 2006. Lower rate of preeclampsia after antioxidant supplementation in pregnant women with low antioxidant status. *Hypertens Pregnancy* 25(3): 241-253.
- Russu M, Stanculescu R, Nastasia S, Paun M, Mubarak N, Marin JA, Lachanas I. 2009. Pregnancy Outcomes following Preconception, Early and Late Administration of Vaginal Micronized Progesterone for Recurrent Pregnancy Loss. *Gineco ro* 5(1): 10-15.
- Safarinejad MR, Shafiei N, Safarinejad S. 2011. Relationship between genetic polymorphisms of methylenetetrahydrofolate reductase (C677T, A1298C, and G1793A) as risk factors for idiopathic male infertility. *Reprod Sci* 18(3): 304-315.
- Sanchez SE, Zhang C, Rene Malinow M, Ware-Jauregui S, Larrabure G, Williams MA. 2001. Plasma folate, vitamin B(12), and homocyst(e)ine concentrations in preeclamptic and normotensive Peruvian women. *Am J Epidemiol* 153(5): 474-480.
- Schlotz W, Jones A, Phillips DI, Gale CR, Robinson SM, Godfrey KM. 2010. Lower maternal folate status in early pregnancy is associated with childhood hyperactivity and peer problems in offspring. *J Child Psychol Psychiatry* 51(5): 594-602.
- Schmid TE, Eskenazi B, Marchetti F, Young S, Weldon RH, Baumgartner A, Anderson D, Wyrobek AJ. 2012. Micronutrients intake is associated with improved sperm DNA quality in older men. *Fertil Steril* 98(5): 1130-1137 e1131.
- Scholl TO, Hediger ML, Schall JI, Khoo CS, Fischer RL. 1996. Dietary and serum folate: their influence on the outcome of pregnancy. *Am J Clin Nutr* 63(4): 520-525.
- Scholl TO, Hediger ML, Bendich A, Schall JI, Smith WK, Krueger PM. 1997. Use of multivitamin/mineral prenatal supplements: influence on the outcome of pregnancy. *Am J Epidemiol* 146(2): 134-141.
- Sen A, Kanani S. 2012. Intermittent iron folate supplementation: impact on hematinic status and growth of school girls. *ISRN hematology* 2012: 482153.
- Shah R, Mullany LC, Darmstadt GL, Mannan I, Rahman SM, Talukder RR, Applegate JA, Begum N, Mitra D, Arifeen SE, Baqui AH. 2014. Incidence and risk factors of preterm birth in a rural Bangladeshi cohort. *BMC pediatrics* 14: 112.
- Shaw GM, Carmichael SL, Nelson V, Selvin S, Schaffer DM. 2004. Occurrence of low birthweight and preterm delivery among California infants before and after compulsory food fortification with folic acid. *Public Health Rep* 119(2): 170-173.
- Shaw GM, Carmichael SL, Yang W, Siega-Riz AM, National Birth Defects Prevention S. 2011. Periconceptional intake of folic acid and food folate and risks of preterm delivery. *Am J Perinatol* 28(10): 747-752.
- Siega-Riz AM, Savitz DA, Zeisel SH, Thorp JM, Herring A. 2004. Second trimester folate status and preterm birth. *Am J Obstet Gynecol* 191(6): 1851-1857.
- Sikora J, Magnucki J, Zietek J, Kobielska L, Partyka R, Kokocinska D, Bialas A. 2007. Homocysteine, folic acid and vitamin B12 concentration in patients with recurrent miscarriages. *Neuro Endocrinol Lett* 28(4): 507-512.

- Sinan Karadeniz R, Metin Altay M, Ensari TA, Okyar Erol A, Ozdogan S, Haberal A. 2012. There is no relationship between the number of subsequent pregnancy losses and thrombophilic factors. *Turkiye Klinikleri Journal of Medical Sciences* 32(2): 376-381.
- Smuts CM, Lombard CJ, Benade AJS, Dhansay MA, Berger J, Hop LT, de Romana GL, Untoro J, Karyadi E, Erhardt J, Gross R, Inter Res Infant S. 2005. Efficacy of a foodlet-based multiple micronutrient supplement for preventing growth faltering, anemia, and micronutrient deficiency of infants: The four country IRIS trial pooled data analysis. *Journal of Nutrition* 135(3): 631S-638S.
- Sram RJ, Binkova B, Lnenickova Z, Solansky I, Dejmek J. 2005. The impact of plasma folate levels of mothers and newborns on intrauterine growth retardation and birth weight. *Mutat. Res.-Fundam. Mol. Mech. Mutagen.* 591(1-2): 302-310.
- Steegers-Theunissen RP, Renier WO, Borm GF, Thomas CM, Merkus HM, Op de Coul DA, De Jong PA, van Geijn HP, Wouters M, Eskes TK. 1994. Factors influencing the risk of abnormal pregnancy outcome in epileptic women: a multi-centre prospective study. *Epilepsy Res* 18(3): 261-269.
- Steegers-Theunissen RP, Van Iersel CA, Peer PG, Nelen WL, Steegers EA. 2004. Hyperhomocysteinemia, pregnancy complications, and the timing of investigation. *Obstet Gynecol* 104(2): 336-343.
- Steegers-Theunissen RP, Obermann-Borst SA, Kremer D, Lindemans J, Siebel C, Steegers EA, Slagboom PE, Heijmans BT. 2009. Periconceptional Maternal Folic Acid Use of 400 μ g per Day Is Related to Increased Methylation of the IGF2 Gene in the Very Young Child. *PLoS One* 4(11).
- Stevens D, Burman D, Strelling MK, Morris A. 1979. Folic acid supplementation in low birth weight infants. *Pediatrics* 64(3): 333-335.
- Stewart CP, Christian P, LeClerq SC, West KP, Jr., Khattry SK. 2009a. Antenatal supplementation with folic acid + iron + zinc improves linear growth and reduces peripheral adiposity in school-age children in rural Nepal. *Am J Clin Nutr* 90(1): 132-140.
- Stewart CP, Christian P, Schulze KJ, Leclercq SC, West KP, Jr., Khattry SK. 2009b. Antenatal micronutrient supplementation reduces metabolic syndrome in 6- to 8-year-old children in rural Nepal. *J Nutr* 139(8): 1575-1581.
- Surkan PJ, Shankar M, Katz J, Siegel EH, Leclercq SC, Khattry SK, Stoltzfus RJ, Tielsch JM. 2012. Beneficial effects of zinc supplementation on head circumference of Nepalese infants and toddlers: a randomized controlled trial. *Eur J Clin Nutr* 66(7): 836-842.
- Sutterlin M, Bussen S, Ruppert D, Steck T. 1997. Serum levels of folate and cobalamin in women with recurrent spontaneous abortion. *Hum Reprod* 12(10): 2292-2296.
- Takimoto H, Mito N, Umegaki K, Ishiwaki A, Kusama K, Abe S, Yamawaki M, Fukuoka H, Ohta C, Yoshiike N. 2007. Relationship between dietary folate intakes, maternal plasma total homocysteine and B-vitamins during pregnancy and fetal growth in Japan. *Eur J Nutr* 46(5): 300-306.
- Takimoto H, Hayashi F, Kusama K, Kato N, Yoshiike N, Toba M, Ishibashi T, Miyasaka N, Kubota T. 2011. Elevated maternal serum folate in the third trimester and reduced fetal growth: a longitudinal study. *J Nutr Sci Vitaminol (Tokyo)* 57(2): 130-137.
- Tamura T, Goldenberg RL, Freeberg LE, Cliver SP, Cutter GR, Hoffman HJ. 1992. Maternal serum folate and zinc concentrations and their relationships to pregnancy outcome. *Am J Clin Nutr* 56(2): 365-370.
- Tamura T, Goldenberg RL, Johnston KE, Cliver SP, Hoffman HJ. 1997. Serum concentrations of zinc, folate, vitamins A and E, and proteins, and their relationships to pregnancy outcome. *Acta Obstet Gynecol Scand Suppl* 165: 63-70.
- Tebi A, Belbraouet S, Chau N, Debry G. 2000. Plasma vitamin, beta-carotene, and alpha-tocopherol status according to age and disease in hospitalized elderly. *Nutrition Research* 20(10): 1395-1408.

- Theriault S, Giguere Y, Masse J, Lavoie SB, Girouard J, Bujold E, Forest JC. 2013. Absence of association between serum folate and preeclampsia in women exposed to food fortification. *Obstet Gynecol* 122(2 Pt 1): 345-351.
- Timmermans S, Jaddoe VW, Hofman A, Steegers-Theunissen RP, Steegers EA. 2009. Periconception folic acid supplementation, fetal growth and the risks of low birth weight and preterm birth: the Generation R Study. *Br J Nutr* 102(5): 777-785.
- Timmermans S, Jaddoe VW, Silva LM, Hofman A, Raat H, Steegers-Theunissen RP, Steegers EA. 2011. Folic acid is positively associated with uteroplacental vascular resistance: the Generation R study. *Nutr Metab Cardiovasc Dis* 21(1): 54-61.
- Trigg KH, Rendall EJ, Johnson A, Fellingham FR, Pranker TA. 1976. Folate supplements during pregnancy. *J R Coll Gen Pract* 26(164): 228-230.
- Vahratian A, Siega-Riz AM, Savitz DA, Thorp JM. 2004. Multivitamin use and the risk of preterm birth. *American Journal of Epidemiology* 160(9): 886-892.
- van den Berg G, van Eijsden M, Galindo-Garre F, Vrijkotte TG, Gemke RJ. 2013. Smoking overrules many other risk factors for small for gestational age birth in less educated mothers. *Early Hum Dev* 89(7): 497-501.
- van der Molen EF, Arends GE, Nelen WL, van der Put NJ, Heil SG, Eskes TK, Blom HJ. 2000. A common mutation in the 5,10-methylenetetrahydrofolate reductase gene as a new risk factor for placental vasculopathy. *Am J Obstet Gynecol* 182(5): 1258-1263.
- Van Dijk AE, Van Eijsden M, Stronks K, Gemke RJ, Vrijkotte TG. 2010. Maternal depressive symptoms, serum folate status, and pregnancy outcome: results of the Amsterdam Born Children and their Development study. *Am J Obstet Gynecol* 203(6): 563 e561-567.
- Vanderjagt DJ, Patel RJ, El-Nafaty AU, Melah GS, Crossey MJ, Glew RH. 2004. High-density lipoprotein and homocysteine levels correlate inversely in preeclamptic women in northern Nigeria. *Acta Obstet Gynecol Scand* 83(6): 536-542.
- Vanderlelie J, Scott R, Shibl R, Lewkowicz J, Perkins A, Scuffham PA. 2014. First trimester multivitamin/mineral use is associated with reduced risk of pre-eclampsia among overweight and obese women. *Matern Child Nutr.*
- Veena SR, Krishnaveni GV, Srinivasan K, Wills AK, Muthayya S, Kurpad AV, Yajnik CS, Fall CH. 2010. Higher maternal plasma folate but not vitamin B-12 concentrations during pregnancy are associated with better cognitive function scores in 9- to 10- year-old children in South India. *J Nutr* 140(5): 1014-1022.
- Villamor E, Saathoff E, Bosch RJ, Hertzmark E, Baylin A, Manji K, Msamanga G, Hunter DJ, Fawzi WW. 2005. Vitamin supplementation of HIV-infected women improves postnatal child growth. *Am J Clin Nutr* 81(4): 880-888.
- Wallock LM, Tamura T, Mayr CA, Johnston KE, Ames BN, Jacob RA. 2001. Low seminal plasma folate concentrations are associated with low sperm density and count in male smokers and nonsmokers. *Fertil Steril* 75(2): 252-259.
- Watanabe H, Fukuoka H, Sugiyama T, Nagai Y, Ogasawara K, Yoshiike N. 2008. Dietary folate intake during pregnancy and birth weight in Japan. *Eur J Nutr* 47(6): 341-347.
- Wehby GL, Felix TM, Goco N, Richieri-Costa A, Chakraborty H, Souza J, Pereira R, Padovani C, Moretti-Ferreira D, Murray JC. 2013. High dosage folic acid supplementation, oral cleft recurrence and fetal growth. *Int J Environ Res Public Health* 10(2): 590-605.
- Wen SW, Chen XK, Rodger M, Rennicks White R, Yang Q, Smith GN, Sigal RJ, Perkins SL, Walker MC. 2008. Folic acid supplementation in early second trimester and the risk of preeclampsia. *American Journal of Obstetrics and Gynecology* 198(1): 45.e41-45.e47.
- Westphal LM, Polan ML, Trant AS, Mooney SB. 2004. A nutritional supplement for improving fertility in women: a pilot study. *J Reprod Med* 49(4): 289-293.

- Westphal LM, Polan ML, Trant AS. 2006. Double-blind, placebo-controlled study of Fertilityblend: a nutritional supplement for improving fertility in women. *Clin Exp Obstet Gynecol* 33(4): 205-208.
- Whiteside MG, Ungar B, Cowling DC. 1968. Iron, folic acid and vitamin B12 levels in normal pregnancy, and their influence on birth-weight and the duration of pregnancy. *Med J Aust* 1(9): 338-342.
- Williams MA, Sanchez SE, Zhang C, Bazul V. 2004. Methylenetetrahydrofolate reductase 677 C->T polymorphism and plasma folate in relation to pre-eclampsia risk among Peruvian women. *J Matern Fetal Neonatal Med* 15(5): 337-344.
- Windham GC, Shaw GM, Todoroff K, Swan SH. 2000. Miscarriage and use of multi-vitamins or folic acid. *Am J Med Genet* 90(3): 261-262.
- Wise LA, Radin RG, Palmer JR, Kumanyika SK, Boggs DA, Rosenberg L. 2011. Intake of fruit, vegetables, and carotenoids in relation to risk of uterine leiomyomata. *Am J Clin Nutr* 94(6): 1620-1631.
- Wong WY, Merkus H, Thomas CMG, Menkveld R, Zielhuis GA, Steegers-Theunissen RPM. 2002. Effects of folic acid and zinc sulfate on male factor subfertility: a double-blind, randomized, placebo-controlled trial. *Fertility and Sterility* 77(3): 491-498.
- Yajnik CS, Deshpande SS, Panchanadikar AV, Naik SS, Deshpande JA, Coyaji KJ, Fall C, Refsum H. 2005. Maternal total homocysteine concentration and neonatal size in India. *Asia Pac J Clin Nutr* 14(2): 179-181.
- Yajnik CS, Deshpande SS, Jackson AA, Refsum H, Rao S, Fisher DJ, Bhat DS, Naik SS, Coyaji KJ, Joglekar CV, Joshi N, Lubree HG, Deshpande VU, Rege SS, Fall CH. 2008. Vitamin B12 and folate concentrations during pregnancy and insulin resistance in the offspring: the Pune Maternal Nutrition Study. *Diabetologia* 51(1): 29-38.
- Yanez P, Vasquez CJ, Rodas L, Duran A, Chedraui P, Liem KH, Perez-Lopez FR, Teran E. 2013. Erythrocyte folate content and serum folic acid and homocysteine levels in preeclamptic primigravidae teenagers living at high altitude. *Archives of Gynecology and Obstetrics* 288(5): 1011-1015.
- Young SS, Eskenazi B, Marchetti FM, Block G, Wyrobek AJ. 2008. The association of folate, zinc and antioxidant intake with sperm aneuploidy in healthy non-smoking men. *Hum Reprod* 23(5): 1014-1022.
- Zhang X, Li J, Gu Y, Zhao Y, Wang Z, Jia G. 2011. A pilot study on environmental and behavioral factors related to missed abortion. *Environ Health Prev Med* 16(4): 273-278.

2.8 Mortality – Human Studies (n=104)

- Albert CM, Cook NR, Gaziano JM, Zaharris E, MacFadyen J, Danielson E, Buring JE, Manson JE. 2008. Effect of folic acid and B vitamins on risk of cardiovascular events and total mortality among women at high risk for cardiovascular disease: a randomized trial. *JAMA* 299(17): 2027-2036.
- Andersen GS, Friis H, Michaelsen KF, Rodrigues A, Benn CS, Aaby P, Kaestel P. 2010. Effects of maternal micronutrient supplementation on fetal loss and under-2-years child mortality: long-term follow-up of a randomised controlled trial from Guinea-Bissau. *Afr J Reprod Health* 14(2): 17-26.
- Anderson JL, Jensen KR, Carlquist JF, Bair TL, Horne BD, Muhlestein JB. 2004. Effect of folic acid fortification of food on homocysteine-related mortality. *Am J Med* 116(3): 158-164.
- Andersson I, Gronberg A, Slinde F, Bosaeus I, Larsson S. 2007. Vitamin and mineral status in elderly patients with chronic obstructive pulmonary disease. *Clin Respir J* 1(1): 23-29.
- Andreassi MG, Botto N, Cocci F, Battaglia D, Antonioli E, Masetti S, Manfredi S, Colombo MG, Biagini A, Clerico A. 2003. Methylenetetrahydrofolate reductase gene C677T polymorphism, homocysteine, vitamin B12, and DNA damage in coronary artery disease. *Hum Genet* 112(2): 171-177.

- Appollonio I, Carabellese C, Frattola A, Trabucchi M. 1997. Influence of dental status on dietary intake and survival in community-dwelling elderly subjects. *Age Ageing* 26(6): 445-456.
- Armitage JM, Bowman L, Clarke RJ, Wallendszus K, Bulbulia R, Rahimi K, Haynes R, Parish S, Sleight P, Peto R, Collins R. 2010. Effects of homocysteine-lowering with folic acid plus vitamin B12 vs placebo on mortality and major morbidity in myocardial infarction survivors: a randomized trial. *JAMA* 303(24): 2486-2494.
- Bassett JK, Severi G, Hodge AM, Baglietto L, Hopper JL, English DR, Giles GG. 2012. Dietary intake of B vitamins and methionine and prostate cancer incidence and mortality. *Cancer Causes Control* 23(6): 855-863.
- Bates CJ, Mansoor MA, Pentieva KD, Hamer M, Mishra GD. 2010. Biochemical risk indices, including plasma homocysteine, that prospectively predict mortality in older British people: the National Diet and Nutrition Survey of People Aged 65 Years and Over. *Br J Nutr* 104(6): 893-899.
- Bayir A, Ak A, Ozdinc S, Seydanoglu A, Kostekci SK, Kara F. 2010. Acute-phase vitamin B12 and folic acid levels in patients with ischemic and hemorrhagic stroke: is there a relationship with prognosis? *Neurol Res* 32(2): 115-118.
- Bonaa KH, Njolstad I, Ueland PM, Schirmer H, Tverdal A, Steigen T, Wang H, Nordrehaug JE, Arnesen E, Rasmussen K, Investigators NT. 2006. Homocysteine lowering and cardiovascular events after acute myocardial infarction. *New England Journal of Medicine* 354(15): 1578-1588.
- Charles D, Ness AR, Campbell D, Davey Smith G, Hall MH. 2004. Taking folate in pregnancy and risk of maternal breast cancer. *BMJ* 329(7479): 1375-1376.
- ChasanTaber L, Selhub J, Rosenberg IH, Malinow MR, Terry P, Tishler PV, Willett W, Hennekens CH, Stampfer MJ. 1996. A prospective study of folate and vitamin B-6 and risk of myocardial infarction in US physicians. *Journal of the American College of Nutrition* 15(2): 136-143.
- Christian P, West KP, Khattry SK, Leclercq SC, Pradhan EK, Katz J, Shrestha SR, Sommer A. 2003. Effects of maternal micronutrient supplementation on fetal loss and infant mortality: a cluster-randomized trial in Nepal. *Am J Clin Nutr* 78(6): 1194-1202.
- Christian P, Stewart CP, LeClerq SC, Wu L, Katz J, West KP, Jr., Khattry SK. 2009. Antenatal and postnatal iron supplementation and childhood mortality in rural Nepal: a prospective follow-up in a randomized, controlled community trial. *Am J Epidemiol* 170(9): 1127-1136.
- Connor SL, Ojeda LS, Sexton G, Weidner G, Connor WE. 2004. Diets lower in folic acid and carotenoids are associated with the coronary disease epidemic in Central and Eastern Europe. *J Am Diet Assoc* 104(12): 1793-1799.
- Cui R, Iso H, Date C, Kikuchi S, Tamakoshi A. 2010. Dietary folate and vitamin b6 and B12 intake in relation to mortality from cardiovascular diseases: Japan collaborative cohort study. *Stroke* 41(6): 1285-1289.
- Czeizel AE, Dudas I, Metneki J. 1994. Pregnancy outcomes in a randomised controlled trial of periconceptional multivitamin supplementation. Final report. *Archives of Gynecology and Obstetrics* 255(3): 131-139.
- Dangour AD, Breeze E, Clarke R, Shetty PS, Uauy R, Fletcher AE. 2008. Plasma homocysteine, but not folate or vitamin B-12, predicts mortality in older people in the United Kingdom. *J Nutr* 138(6): 1121-1128.
- de Bree A, Verschuren WM, Blom HJ, Nadeau M, Trijbels FJ, Kromhout D. 2003. Coronary heart disease mortality, plasma homocysteine, and B-vitamins: a prospective study. *Atherosclerosis* 166(2): 369-377.
- DeLorenze GN, McCoy L, Tsai AL, Quesenberry CP, Jr., Rice T, Il'yasova D, Wrensch M. 2010. Daily intake of antioxidants in relation to survival among adult patients diagnosed with malignant glioma. *BMC Cancer* 10: 215.
- Dibley MJ, Titaley CR, d'Este C, Agho K. 2012. Iron and folic acid supplements in pregnancy improve child survival in Indonesia. *Am J Clin Nutr* 95(1): 220-230.

- Dixon SC, Ibiebele TI, Protani MM, Beesley J, deFazio A, Crandon AJ, Gard GB, Rome RM, Webb PM, Nagle CM. 2014. Dietary folate and related micronutrients, folate-metabolising genes, and ovarian cancer survival. *Gynecol Oncol* 132(3): 566-572.
- Ebbing M, Bleie O, Ueland PM, Nordrehaug JE, Nilsen DW, Vollset SE, Refsum H, Pedersen EK, Nygard O. 2008. Mortality and cardiovascular events in patients treated with homocysteine-lowering B vitamins after coronary angiography: a randomized controlled trial. *JAMA* 300(7): 795-804.
- Ebbing M, Bonna KH, Nygard O, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Refsum H, Nilsen DW, Tverdal A, Meyer K, Vollset SE. 2009. Cancer incidence and mortality after treatment with folic acid and vitamin B12. *JAMA* 302(19): 2119-2126.
- Ebbing M, Bonna KH, Arnesen E, Ueland PM, Nordrehaug JE, Rasmussen K, Njolstad I, Nilsen DW, Refsum H, Tverdal A, Vollset SE, Schirmer H, Bleie O, Steigen T, Middttun O, Fredriksen A, Pedersen ER, Nygard O. 2010. Combined analyses and extended follow-up of two randomized controlled homocysteine-lowering B-vitamin trials. *J Intern Med* 268(4): 367-382.
- Escolano-Margarit MV, Ramos R, Beyer J, Csabi G, Parrilla-Roure M, Cruz F, Perez-Garcia M, Hadders-Algra M, Gil A, Decsi T, Koletzko BV, Campoy C. 2011. Prenatal DHA status and neurological outcome in children at age 5.5 years are positively associated. *J Nutr* 141(6): 1216-1223.
- Fauveau V, Wojtyniak B, Chakraborty J, Sarder AM, Briend A. 1990. The effect of maternal and child health and family planning services on mortality: is prevention enough? *BMJ* 301(6743): 103-107.
- Faxen-Irving G, Basun H, Cederholm T. 2005. Nutritional and cognitive relationships and long-term mortality in patients with various dementia disorders. *Age Ageing* 34(2): 136-141.
- Fletcher J. 1971. The value of folie add supplemente in pregnancy. *Dept Clin. Haematol. Obstet, Univ. Coil Hosp. Med. Seh Lond. J.Obstetjgynabciut.Cwlth* 78(9): 781-785.
- Fletcher J, Gurr A, Fellingham FR, Pranker TA, Brant HA, Menzies DN. 1971. The value of folic acid supplements in pregnancy. *J Obstet Gynaecol Br Commonw* 78(9): 781-785.
- Ford ES, Byers TE, Giles WH. 1998. Serum folate and chronic disease risk: findings from a cohort of United States adults. *International Journal of Epidemiology* 27(4): 592-598.
- Freng A, Daae LN, Engeland A, Norum KR, Sander J, Solvoll K, Tretli S. 1998. Malignant epithelial tumours in the upper digestive tract: a dietary and socio-medical case-control and survival study. *Eur J Clin Nutr* 52(4): 271-278.
- Galan P, Kesse-Guyot E, Czernichow S, Briancon S, Blacher J, Hercberg S. 2010. Effects of B vitamins and omega 3 fatty acids on cardiovascular diseases: a randomised placebo controlled trial. *BMJ* 341: c6273.
- Galvan-Portillo MV, Onate-Ocana LF, Perez-Perez GI, Chen J, Herrera-Goepfert R, Chihu-Ampanan L, Flores-Luna L, Mohar-Betancourt A, Lopez-Carrillo L. 2010. Dietary folate and vitamin B12 intake before diagnosis decreases gastric cancer mortality risk among susceptible MTHFR 677TT carriers. *Nutrition* 26(2): 201-208.
- Garcia-Pinilla JM, Espinosa-Caliani S, Gomez-Doblas JJ, Jimenez-Navarro M, Gaitan MJ, Ortega-Jimenez MV, Ruiz-Galdon M, Reyes-Engel A, de Teresa-Galvan E. 2007. Influence of high homocysteine and low folate plasmatic levels in medium-term prognosis after acute coronary syndromes. *International Journal of Cardiology* 118(2): 220-226.
- Gariballa S, Forster S, Walters S, Powers H. 2006. A randomized, double-blind, placebo-controlled trial of nutritional supplementation during acute illness. *Am J Med* 119(8): 693-699.
- Gerdhem P, Ivaska KK, Isaksson A, Pettersson K, Vaananen HK, Obrant KJ, Akesson K. 2007. Associations between homocysteine, bone turnover, BMD, mortality, and fracture risk in elderly women. *J Bone Miner Res* 22(1): 127-134.
- Gonzalez S, Huerta JM, Fernandez S, Patterson AM, Lasheras C. 2007. Homocysteine increases the risk of mortality in elderly individuals. *Br J Nutr* 97(6): 1138-1143.

- Gopinath B, Flood VM, Rohtchina E, Thiagalingam A, Mitchell P. 2012. Serum homocysteine and folate but not vitamin B12 are predictors of CHD mortality in older adults. *European journal of preventive cardiology* 19(6): 1420-1429.
- Hankey GJ, Eikelboom JW, Yi Q, Lees KR, Chen C, Xavier D, Navarro JC, Ranawaka UK, Uddin W, Ricci S, Gommans J, Schmidt R. 2012. Treatment with B vitamins and incidence of cancer in patients with previous stroke or transient ischemic attack: results of a randomized placebo-controlled trial. *Stroke* 43(6): 1572-1577.
- Harris HR, Bergkvist L, Wolk A. 2012. Folate intake and breast cancer mortality in a cohort of Swedish women. *Breast Cancer Res Treat* 132(1): 243-250.
- Hertz N, Lister RE. 2009. Improved survival in patients with end-stage cancer treated with coenzyme Q(10) and other antioxidants: a pilot study. *J Int Med Res* 37(6): 1961-1971.
- Huang YC, Lee MS, Wahlqvist ML. 2012. Prediction of all-cause mortality by B group vitamin status in the elderly. *Clin Nutr* 31(2): 191-198.
- Hung J, Beilby JP, Knuiman MW, Divitini M. 2003. Folate and vitamin B-12 and risk of fatal cardiovascular disease: cohort study from Busselton, Western Australia. *BMJ* 326(7381): 131.
- Imasa MS, Gomez NT, Nevado JB, Jr. 2009. Folic acid-based intervention in non-ST elevation acute coronary syndromes. *Asian Cardiovasc Thorac Ann* 17(1): 13-21.
- Inoue-Choi M, Greenlee H, Oppeneer SJ, Robien K. 2014. The association between postdiagnosis dietary supplement use and total mortality differs by diet quality among older female cancer survivors. *Cancer Epidemiol Biomarkers Prev* 23(5): 865-875.
- Ito Y, Wakai K, Suzuki K, Tamakoshi A, Seki N, Ando M, Nishino Y, Kondo T, Watanabe Y, Ozasa K, Ohno Y, Grp JS. 2003. Serum carotenoids and mortality from lung cancer: a case-control study nested in the Japan Collaborative Cohort (JACC) Study. *Cancer Science* 94(1): 57-63.
- Jamison RL, Hartigan P, Kaufman JS, Goldfarb DS, Warren SR, Guarino PD, Gaziano JM. 2007. Effect of homocysteine lowering on mortality and vascular disease in advanced chronic kidney disease and end-stage renal disease: a randomized controlled trial. *JAMA* 298(10): 1163-1170.
- Jaszewski R, Misra S, Tobi M, Ullah N, Naumoff JA, Kucuk O, Levi E, Axelrod BN, Patel BB, Majumdar AP. 2008. Folic acid supplementation inhibits recurrence of colorectal adenomas: a randomized chemoprevention trial. *World J Gastroenterol* 14(28): 4492-4498.
- Jatoi A, Daly BD, Kramer G, Mason JB. 1998. A cross-sectional study of vitamin intake in postoperative non-small cell lung cancer patients. *J Surg Oncol* 68(4): 231-236.
- Jia X, Aucott LS, McNeill G. 2007. Nutritional status and subsequent all-cause mortality in men and women aged 75 years or over living in the community. *Br J Nutr* 98(3): 593-599.
- Johansson M, Fanidi A, Muller DC, Bassett JK, Midttun O, Vollset SE, Travis RC, Palli D, Mattiello A, Sieri S, Trichopoulou A, Lagiou P, Trichopoulos D, Ljungberg B, Hallmans G, Weiderpass E, Skeie G, Gonzalez CA, Dorransoro M, Peeters PH, Bueno-de-Mesquita HB, Ros MM, Boutron Ruault MC, Fagherazzi G, Clavel F, Sanchez MJ, Gurrea AB, Navarro C, Quiros JR, Overvad K, Tjonneland A, Aleksandrova K, Vineis P, Gunter MJ, Kaaks R, Giles G, Relton C, Riboli E, Boeing H, Ueland PM, Severi G, Brennan P. 2014. Circulating biomarkers of one-carbon metabolism in relation to renal cell carcinoma incidence and survival. *J Natl Cancer Inst* 106(12).
- Kaestel P, Michaelsen KF, Aaby P, Friis H. 2005. Effects of prenatal multimicronutrient supplements on birth weight and perinatal mortality: a randomised, controlled trial in Guinea-Bissau. *Eur J Clin Nutr* 59(9): 1081-1089.
- Kasperzyk JL, Fall K, Mucci LA, Hakansson N, Wolk A, Johansson JE, Andersson SO, Andren O. 2009. One-carbon metabolism-related nutrients and prostate cancer survival. *Am J Clin Nutr* 90(3): 561-569.

- Kawakita D, Matsuo K, Sato F, Oze I, Hosono S, Ito H, Watanabe M, Yatabe Y, Hanai N, Hasegawa Y, Tajima K, Murakami S, Tanaka H. 2012. Association between dietary folate intake and clinical outcome in head and neck squamous cell carcinoma. *Ann Oncol* 23(1): 186-192.
- Kullo IJ. 2006. HOPE 2: can supplementation with folic acid and B vitamins reduce cardiovascular risk? *Nat Clin Pract Cardiovasc Med* 3(8): 414-415.
- Lamas GA, Boineau R, Goertz C, Mark DB, Rosenberg Y, Stylianou M, Rozema T, Nahin RL, Lindblad L, Lewis EF, Drisko J, Lee KL. 2013. Oral high-dose multivitamins and minerals after myocardial infarction: A randomized trial. *Annals of internal medicine* 159(12): 797-804.
- Lonn E, Yusuf S, Arnold MJ, Sheridan P, Pogue J, Micks M, McQueen MJ, Probstfield J, Fodor G, Held C, Genest J, Investigators H. 2006. Homocysteine lowering with folic acid and B vitamins in vascular disease. *New England Journal of Medicine* 354(15): 1567-1577.
- Looker HC, Fagot-Campagna A, Gunter EW, Pfeiffer CM, Sievers ML, Bennett PH, Nelson RG, Hanson RL, Knowler WC. 2007. Homocysteine and vitamin B(12) concentrations and mortality rates in type 2 diabetes. *Diabetes Metab Res Rev* 23(3): 193-201.
- Loria CM, Ingram DD, Feldman JJ, Wright JD, Madans JH. 2000. Serum folate and cardiovascular disease mortality among US men and women. *Archives of Internal Medicine* 160(21): 3258-3262.
- Lu C, Xie H, Wang F, Shen H, Wang J. 2011. Diet folate, DNA methylation and genetic polymorphisms of MTHFR C677T in association with the prognosis of esophageal squamous cell carcinoma. *BMC Cancer* 11: 91.
- Mager A, Orvin K, Koren-Morag N, Lev IE, Assali A, Kornowski R, Shohat M, Battler A, Hasdai D. 2009. Impact of homocysteine-lowering vitamin therapy on long-term outcome of patients with coronary artery disease. *Am J Cardiol* 104(6): 745-749.
- Magni E, Bianchetti A, Rozzini R, Trabucchi M. 1994. Influence of nutritional intake on 6-year mortality in an Italian elderly population. *J Nutr Elder* 13(4): 25-34.
- Mann JFE, Sheridan P, McQueen MJ, Held C, Malcolm J, Arnold O, Fodor G, Yusuf S, Lonn EM, Invest H-. 2008. Homocysteine lowering with folic acid and B vitamins in people with chronic kidney disease - results of the renal Hope-2 study. *Nephrology Dialysis Transplantation* 23(2): 645-653.
- Marniemi J, Jarvisalo J, Toikka T, Raiha I, Ahotupa M, Sourander L. 1998. Blood vitamins, mineral elements and inflammation markers as risk factors of vascular and non-vascular disease mortality in an elderly population. *Int J Epidemiol* 27(5): 799-807.
- McCaw-Binns A, Greenwood R, Coard K, Ashley D, Golding J. 1994. Perinatal deaths as a result of immaturity in Jamaica. *Paediatr Perinat Epidemiol* 8 Suppl 1: 110-118.
- McEligot AJ, Largent J, Ziogas A, Peel D, Anton-Culver H. 2006. Dietary fat, fiber, vegetable, and micronutrients are associated with overall survival in postmenopausal women diagnosed with breast cancer. *Nutr Cancer* 55(2): 132-140.
- Medrano MJ, Sierra MJ, Almazan J, Olalla MT, Lopez-Abente G. 2000. The association of dietary folate, B6, and B12 with cardiovascular mortality in Spain: an ecological analysis. *Am J Public Health* 90(10): 1636-1638.
- Michals K, Acosta PB, Austin V, Castiglioni L, Rohr F, Wenz E, Azen C. 1996. Nutrition and reproductive outcome in maternal phenylketonuria. *Eur J Pediatr* 155 Suppl 1: S165-168.
- Mosha D, Mazuguni F, Mrema S, Abdulla S, Genton B. 2014. Medication exposure during pregnancy: a pilot pharmacovigilance system using health and demographic surveillance platform. *BMC Pregnancy Childbirth* 14: 322.
- Mursu J, Robien K, Harnack LJ, Park K, Jacobs DR, Jr. 2011. Dietary supplements and mortality rate in older women: the Iowa Women's Health Study. *Arch Intern Med* 171(18): 1625-1633.

- Ndeezi G, Tylleskar T, Ndugwa CM, Tumwine JK. 2010. Effect of multiple micronutrient supplementation on survival of HIV-infected children in Uganda: a randomized, controlled trial. *J Int AIDS Soc* 13: 18.
- Neuhouser ML, Wassertheil-Smoller S, Thomson C, Aragaki A, Anderson GL, Manson JE, Patterson RE, Rohan TE, van Horn L, Shikany JM, Thomas A, LaCroix A, Prentice RL. 2009. Multivitamin Use and Risk of Cancer and Cardiovascular Disease in the Women's Health Initiative Cohorts. *Archives of Internal Medicine* 169(3): 294-304.
- Nilsson K, Gustafson L, Hultberg B. 2009. Association between Plasma Homocysteine Levels and Mortality in Elderly Patients with Mental Illness. *Dementia and Geriatric Cognitive Disorders* 27(6): 579-583.
- Olivieri F, Spazzafumo L, Antonicelli R, Marchegiani F, Cardelli M, Sirolla C, Galeazzi R, Giovagnetti S, Mocchegiani E, Franceschi C. 2008. Combination of biomarkers to predict mortality in elderly patients with myocardial infarction. *Mech Ageing Dev* 129(4): 231-237.
- Persson EC, Schwartz LM, Park Y, Trabert B, Hollenbeck AR, Graubard BI, Freedman ND, McGlynn KA. 2013. Alcohol consumption, folate intake, hepatocellular carcinoma, and liver disease mortality. *Cancer Epidemiol Biomarkers Prev* 22(3): 415-421.
- Pocobelli G, Kristal AR, Patterson RE, Potter JD, Lampe JW, Kolar A, Evans I, White E. 2010. Total mortality risk in relation to use of less-common dietary supplements. *American Journal of Clinical Nutrition* 91(6): 1791-1800.
- Roswall N, Olsen A, Christensen J, Hansen L, Dragsted LO, Overvad K, Tjønneland A. 2012. Micronutrient intake in relation to all-cause mortality in a prospective Danish cohort. *Food Nutr Res* 56.
- Sazawal S, Black RE, Menon VP, Dingsra P, Caulfield LE, Dhingra U, Bagati A. 2001. Zinc supplementation in infants born small for gestational age reduces mortality: a prospective, randomized, controlled trial. *Pediatrics* 108(6): 1280-1286.
- Sazawal S, Black RE, Ramsan M, Chwaya HM, Stoltzfus RJ, Dutta A, Dhingra U, Kabole I, Deb S, Othman MK, Kabole FM. 2006. Effects of routine prophylactic supplementation with iron and folic acid on admission to hospital and mortality in preschool children in a high malaria transmission setting: community-based, randomised, placebo-controlled trial. *Lancet* 367(9505): 133-143.
- Schnyder G, Roffi M, Flammer Y, Pin R, Hess OM. 2002. Effect of homocysteine-lowering therapy with folic acid, vitamin B12, and vitamin B6 on clinical outcome after percutaneous coronary intervention: the Swiss Heart study: a randomized controlled trial. *JAMA* 288(8): 973-979.
- Singh A, Pallikadavath S, Ogollah R, Stones W. 2012. Maternal tetanus toxoid vaccination and neonatal mortality in rural north India. *PLoS One* 7(11): e48891.
- Slattery ML, Hines LH, Lundgreen A, Baumgartner KB, Wolff RK, Stern MC, John EM. 2014. Diet and lifestyle factors interact with MAPK genes to influence survival: the Breast Cancer Health Disparities Study. *Cancer Causes Control* 25(9): 1211-1225.
- Spence JD, Bang H, Chambless LE, Stampfer MJ. 2005. Vitamin Intervention For Stroke Prevention trial: an efficacy analysis. *Stroke* 36(11): 2404-2409.
- Steegers-Theunissen RP, Van Iersel CA, Peer PG, Nelen WL, Steegers EA. 2004. Hyperhomocysteinemia, pregnancy complications, and the timing of investigation. *Obstet Gynecol* 104(2): 336-343.
- Stevens VL, McCullough ML, Diver WR, Rodriguez C, Jacobs EJ, Thun MJ, Calle EE. 2005. Use of multivitamins and prostate cancer mortality in a large cohort of US men. *Cancer Causes & Control* 16(6): 643-650.
- Tielsch JM, Khatry SK, Stoltzfus RJ, Katz J, LeClerq SC, Adhikari R, Mullany LC, Shresta S, Black RE. 2006. Effect of routine prophylactic supplementation with iron and folic acid on preschool child mortality in southern Nepal: community-based, cluster-randomised, placebo-controlled trial. *Lancet* 367(9505): 144-152.
- Titaley CR, Dibley MJ, Roberts CL, Agho K. 2010. Combined iron/folic acid supplements and malaria prophylaxis reduce neonatal mortality in 19 sub-Saharan African countries. *Am J Clin Nutr* 92(1): 235-243.

- Titaley CR, Dibley MJ. 2012. Antenatal iron/folic acid supplements, but not postnatal care, prevents neonatal deaths in Indonesia: analysis of Indonesia Demographic and Health Surveys 2002/2003-2007 (a retrospective cohort study). *BMJ open* 2(6).
- Toole JF, Malinow MR, Chambless LE, Spence JD, Pettigrew LC, Howard VJ, Sides EG, Wang CH, Stampfer M. 2004. Lowering homocysteine in patients with ischemic stroke to prevent recurrent stroke, myocardial infarction, and death: the Vitamin Intervention for Stroke Prevention (VISP) randomized controlled trial. *JAMA* 291(5): 565-575.
- Towfighi A, Arshi B, Markovic D, Ovbiagele B. 2014. Homocysteine-lowering therapy and risk of recurrent stroke, myocardial infarction and death: the impact of age in the VISP trial. *Cerebrovasc Dis* 37(4): 263-267.
- Tsantes A, Tsangaris I, Nikolopoulos G, Bagos P, Kopterides P, Antonakos G, Dimopoulou I, Vrioni G, Kapsimali V, Dima K, Armaganidis A, Travlou A. 2010. The effect of homocysteine on the clinical outcomes of ventilated patients with severe sepsis. *Minerva Anesthesiol* 76(10): 787-794.
- van Wijngaarden JP, Swart KM, Enneman AW, Dhonukshe-Rutten RA, van Dijk SC, Ham AC, Brouwer-Brolsma EM, van der Zwaluw NL, Sohl E, van Meurs JB, Zillikens MC, van Schoor NM, van der Velde N, Brug J, Uitterlinden AG, Lips P, de Groot LC. 2014. Effect of daily vitamin B-12 and folic acid supplementation on fracture incidence in elderly individuals with an elevated plasma homocysteine concentration: B-PROOF, a randomized controlled trial. *Am J Clin Nutr* 100(6): 1578-1586.
- Vitamins Trial Study Group. 2010. B vitamins in patients with recent transient ischaemic attack or stroke in the VITamins TO Prevent Stroke (VITATOPS) trial: a randomised, double-blind, parallel, placebo-controlled trial. *Lancet Neurol* 9(9): 855-865.
- Watkins ML, Erickson JD, Thun MJ, Mulinaire J, Heath CW. 2000. Multivitamin use and mortality in a large prospective study. *American Journal of Epidemiology* 152(2): 149-162.
- Wolpin BM, Wei EK, Ng K, Meyerhardt JA, Chan JA, Selhub J, Giovannucci EL, Fuchs CS. 2008. Prediagnostic plasma folate and the risk of death in patients with colorectal cancer. *J Clin Oncol* 26(19): 3222-3228.
- Wu K, Platz EA, Willett WC, Fuchs CS, Selhub J, Rosner BA, Hunter DJ, Giovannucci E. 2009. A randomized trial on folic acid supplementation and risk of recurrent colorectal adenoma. *Am J Clin Nutr* 90(6): 1623-1631.
- Yang Q, Botto LD, Erickson JD, Berry RJ, Sambell C, Johansen H, Friedman JM. 2006. Improvement in stroke mortality in Canada and the United States, 1990 to 2002. *Circulation* 113(10): 1335-1343.
- Yang Q, Bostick RM, Friedman JM, Flanders WD. 2009. Serum folate and cancer mortality among U.S. adults: findings from the Third National Health and Nutritional Examination Survey linked mortality file. *Cancer Epidemiol Biomarkers Prev* 18(5): 1439-1447.
- Yang Q, Bailey L, Clarke R, Flanders WD, Liu T, Yesupriya A, Khoury MJ, Friedman JM. 2012. Prospective study of methylenetetrahydrofolate reductase (MTHFR) variant C677T and risk of all-cause and cardiovascular disease mortality among 6000 US adults. *Am J Clin Nutr* 95(5): 1245-1253.
- Zeitlin A, Frishman WH, Chang CJ. 1997. The association of vitamin b 12 and folate blood levels with mortality and cardiovascular morbidity incidence in the old old: the Bronx aging study. *Am J Ther* 4(7-8): 275-281.
- Zhang L, Liu W, Hao Q, Bao L, Wang K. 2012. Folate intake and methylenetetrahydrofolate reductase gene polymorphisms as predictive and prognostic biomarkers for ovarian cancer risk. *Int J Mol Sci* 13(4): 4009-4020.
- Zhang SM, Cook NR, Albert CM, Gaziano JM, Buring JE, Manson JE. 2008. Effect of combined folic acid, vitamin B6, and vitamin B12 on cancer risk in women: a randomized trial. *JAMA* 300(17): 2012-2021.

2.9 Other Pooled or Meta-analyses (n=65)

- Allen LH, Peerson JM, Olney DK. 2009. Provision of multiple rather than two or fewer micronutrients more effectively improves growth and other outcomes in micronutrient-deficient children and adults. *J Nutr* 139(5): 1022-1030.
- Andras A, Stansby G, Hansrani M. 2013. Homocysteine lowering interventions for peripheral arterial disease and bypass grafts. *Cochrane Database Syst Rev* 7: Cd003285.
- Bazzano LA, Reynolds K, Holder KN, He J. 2006. Effect of folic acid supplementation on risk of cardiovascular diseases: a meta-analysis of randomized controlled trials. *JAMA* 296(22): 2720-2726.
- Bleys J, Miller ER, 3rd, Pastor-Barriuso R, Appel LJ, Guallar E. 2006. Vitamin-mineral supplementation and the progression of atherosclerosis: a meta-analysis of randomized controlled trials. *Am J Clin Nutr* 84(4): 880-887; quiz 954-885.
- Cahill MT, Stinnett SS, Fekrat S. 2003. Meta-analysis of plasma homocysteine, serum folate, serum vitamin B(12), and thermolabile MTHFR genotype as risk factors for retinal vascular occlusive disease. *Am J Ophthalmol* 136(6): 1136-1150.
- Charles DH, Ness AR, Campbell D, Smith GD, Whitley E, Hall MH. 2005. Folic acid supplements in pregnancy and birth outcome: re-analysis of a large randomised controlled trial and update of Cochrane review. *Paediatr Perinat Epidemiol* 19(2): 112-124.
- Clarke R, Lewington S, Sherliker P, Armitage J. 2007. Effects of B-vitamins on plasma homocysteine concentrations and on risk of cardiovascular disease and dementia. *Curr Opin Clin Nutr Metab Care* 10(1): 32-39.
- Clarke R, Bennett D, Parish S, Lewington S, Skeaff M, Eussen SJ, Lewerin C, Stott DJ, Armitage J, Hankey GJ, Lonn E, Spence JD, Galan P, de Groot LC, Halsey J, Dangour AD, Collins R, Grodstein F, Collaboration BVTT. 2014. Effects of homocysteine lowering with B vitamins on cognitive aging: meta-analysis of 11 trials with cognitive data on 22,000 individuals. *Am J Clin Nutr* 100(2): 657-666.
- de Bree A, van Mierlo LA, Draijer R. 2007. Folic acid improves vascular reactivity in humans: a meta-analysis of randomized controlled trials. *Am J Clin Nutr* 86(3): 610-617.
- Dean SV, Lassi ZS, Imam AM, Bhutta ZA. 2014. Preconception care: nutritional risks and interventions. *Reprod Health* 11 Suppl 3: S3.
- Fekete K, Berti C, Trovato M, Lohner S, Dullemeijer C, Souverein OW, Cetin I, Decsi T. 2012. Effect of folate intake on health outcomes in pregnancy: a systematic review and meta-analysis on birth weight, placental weight and length of gestation. *Nutr J* 11: 75.
- Ford AH, Almeida OP. 2012. Effect of homocysteine lowering treatment on cognitive function: a systematic review and meta-analysis of randomized controlled trials. *J Alzheimers Dis* 29(1): 133-149.
- Frustaci A, Neri M, Cesario A, Adams JB, Domenici E, Dalla Bernardina B, Bonassi S. 2012. Oxidative stress-related biomarkers in autism: systematic review and meta-analyses. *Free Radic Biol Med* 52(10): 2128-2141.
- Haider BA, Bhutta ZA. 2006. Multiple-micronutrient supplementation for women during pregnancy. *Cochrane Database Syst Rev*(4): CD004905.
- Ho JJ, Chun WK, SM CA. 2011. Folic acid supplementation for the prevention of anaemia in preterm neonates. *The Cochrane Library (Intervention Protocol)*(3).
- Hodgetts V, Morris R, Francis A, Gardosi J, Ismail K. 2015. Effectiveness of folic acid supplementation in pregnancy on reducing the risk of small-for-gestational age neonates: a population study, systematic review and meta-analysis. *BJOG* 122(4): 478-490.
- Huang T, Chen Y, Yang B, Yang J, Wahlqvist ML, Li D. 2012. Meta-analysis of B vitamin supplementation on plasma homocysteine, cardiovascular and all-cause mortality. *Clinical Nutrition* 31(4): 448-454.

- Huo Y, Qin X, Wang J, Sun N, Zeng Q, Xu X, Liu L, Xu X, Wang X. 2012. Efficacy of folic acid supplementation in stroke prevention: new insight from a meta-analysis. *Int J Clin Pract* 66(6): 544-551.
- Husemoen LL, Skaaby T, Jorgensen T, Thuesen BH, Fenger M, Grarup N, Sandholt CH, Hansen T, Pedersen O, Linneberg A. 2014. MTHFR C677T genotype and cardiovascular risk in a general population without mandatory folic acid fortification. *Eur J Nutr* 53(7): 1549-1559.
- Imdad A, Yakoob MY, Bhutta ZA. 2011. The effect of folic acid, protein energy and multiple micronutrient supplements in pregnancy on stillbirths. *BMC Public Health* 11 Suppl 3: S4.
- Ji Y, Tan S, Xu Y, Chandra A, Shi C, Song B, Qin J, Gao Y. 2013. Vitamin B supplementation, homocysteine levels, and the risk of cerebrovascular disease: a meta-analysis. *Neurology* 81(15): 1298-1307.
- Jia X, McNeill G, Avenell A. 2008. Does taking vitamin, mineral and fatty acid supplements prevent cognitive decline? A systematic review of randomized controlled trials. *Journal of Human Nutrition and Dietetics* 21(4): 317-336.
- Khandanpour N, Loke YK, Meyer FJ, Jennings B, Armon MP. 2009. Homocysteine and peripheral arterial disease: systematic review and meta-analysis. *Eur J Vasc Endovasc Surg* 38(3): 316-322.
- Kulier R, de Onis M, Gulmezoglu AM, Villar J. 1998. Nutritional interventions for the prevention of maternal morbidity. *Int J Gynaecol Obstet* 63(3): 231-246.
- Lassi ZS, Salam RA, Haider BA, Bhutta ZA. 2013. Folic acid supplementation during pregnancy for maternal health and pregnancy outcomes. *Cochrane Database Syst Rev* 3: CD006896.
- Lee M, Hong KS, Chang SC, Saver JL. 2010. Efficacy of homocysteine-lowering therapy with folic Acid in stroke prevention: a meta-analysis. *Stroke* 41(6): 1205-1212.
- Li B, Lu Y, Wang L, Zhang CX. 2015. Folate intake and breast cancer prognosis: a meta-analysis of prospective observational studies. *Eur J Cancer Prev* 24(2): 113-121.
- Li MM, Yu JT, Wang HF, Jiang T, Wang J, Meng XF, Tan CC, Wang C, Tan L. 2014a. Efficacy of vitamins B supplementation on mild cognitive impairment and Alzheimer's disease: a systematic review and meta-analysis. *Curr Alzheimer Res* 11(9): 844-852.
- Li WF, Zhang DD, Xia JT, Wen SF, Guo J, Li ZC. 2014b. The association between B vitamins supplementation and adverse cardiovascular events: a meta-analysis. *Int. J. Clin. Exp. Med.* 7(8): 1923-1930.
- Liu Y, Tian T, Zhang H, Gao L, Zhou X. 2014. The effect of homocysteine-lowering therapy with folic acid on flow-mediated vasodilation in patients with coronary artery disease: a meta-analysis of randomized controlled trials. *Atherosclerosis* 235(1): 31-35.
- Lopes da Silva S, Vellas B, Elemans S, Luchsinger J, Kamphuis P, Yaffe K, Sijben J, Groenendijk M, Stijnen T. 2014. Plasma nutrient status of patients with Alzheimer's disease: Systematic review and meta-analysis. *Alzheimers Dement* 10(4): 485-502.
- Malouf R, Evans JG. 2008. Folic acid with or without vitamin B12 for the prevention and treatment of healthy elderly and demented people. *Cochrane Database of Systematic Reviews*(4).
- McRae MP. 2009. High-dose folic acid supplementation effects on endothelial function and blood pressure in hypertensive patients: a meta-analysis of randomized controlled clinical trials. *J Chiropr Med* 8(1): 15-24.
- Mei W, Rong Y, Jinming L, Yongjun L, Hui Z. 2010. Effect of homocysteine interventions on the risk of cardiocerebrovascular events: a meta-analysis of randomised controlled trials. *Int J Clin Pract* 64(2): 208-215.
- Miller ER, 3rd, Juraschek S, Pastor-Barriuso R, Bazzano LA, Appel LJ, Guallar E. 2010. Meta-analysis of folic acid supplementation trials on risk of cardiovascular disease and risk interaction with baseline homocysteine levels. *Am J Cardiol* 106(4): 517-527.

- Ojukwu JU, Okebe JU, Yahav D, Paul M. 2009. Oral iron supplementation for preventing or treating anaemia among children in malaria-endemic areas. *Cochrane Database Syst Rev*(3): CD006589.
- Pan Y, Guo LL, Cai LL, Zhu XJ, Shu JL, Liu XL, Jin HM. 2012. Homocysteine-lowering therapy does not lead to reduction in cardiovascular outcomes in chronic kidney disease patients: a meta-analysis of randomised, controlled trials. *Br J Nutr* 108(3): 400-407.
- Pena-Rosas JP, Viteri FE. 2009. Effects and safety of preventive oral iron or iron+folic acid supplementation for women during pregnancy. *Cochrane Database Syst Rev*(4): CD004736.
- Potter K, Hankey GJ, Green DJ, Eikelboom J, Jamrozik K, Arnolda LF. 2008. The effect of long-term homocysteine-lowering on carotid intima-media thickness and flow-mediated vasodilation in stroke patients: a randomized controlled trial and meta-analysis. *BMC Cardiovasc Disord* 8: 24.
- Qin X, Huo Y, Langman CB, Hou F, Chen Y, Matossian D, Xu X, Wang X. 2011. Folic acid therapy and cardiovascular disease in ESRD or advanced chronic kidney disease: a meta-analysis. *Clin J Am Soc Nephrol* 6(3): 482-488.
- Qin X, Xu M, Zhang Y, Li J, Xu X, Wang X, Xu X, Huo Y. 2012. Effect of folic acid supplementation on the progression of carotid intima-media thickness: a meta-analysis of randomized controlled trials. *Atherosclerosis* 222(2): 307-313.
- Qin X, Huo Y, Xie D, Hou F, Xu X, Wang X. 2013. Homocysteine-lowering therapy with folic acid is effective in cardiovascular disease prevention in patients with kidney disease: a meta-analysis of randomized controlled trials. *Clin Nutr* 32(5): 722-727.
- Qin X, Fan F, Cui Y, Chen F, Chen Y, Cheng X, Li Y, Wang B, Xu X, Xu X, Huo Y, Wang X. 2014. Folic acid supplementation with and without vitamin B6 and revascularization risk: a meta-analysis of randomized controlled trials. *Clin Nutr* 33(4): 603-612.
- Rumbold A, Middleton P, Crowther CA. 2005. Vitamin supplementation for preventing miscarriage - art. no. CD004073.pub2. *Cochrane Database of Systematic Reviews*(2).
- Rumbold A, Middleton P, Pan N, Crowther CA. 2011. Vitamin supplementation for preventing miscarriage. *Cochrane Database of Systematic Reviews*(1).
- Shah PS, Ohlsson A. 2009. Effects of prenatal multimicronutrient supplementation on pregnancy outcomes: a meta-analysis. *CMAJ* 180(12): E99-108.
- Sun CH, Li Y, Zhang YB, Wang F, Zhou XL. 2011. The effect of vitamin-mineral supplementation on CRP and IL-6: A systemic review and meta-analysis of randomised controlled trials. *Nutr. Metab. Cardiovasc. Dis.* 21(8): 576-583.
- Taylor MJ, Carney S, Geddes J, Goodwin G. 2003. Folate for depressive disorders. *Cochrane Database Syst Rev*(2): CD003390.
- Van Dam F, Van Gool WA. 2009. Hyperhomocysteinemia and Alzheimer's disease: A systematic review. *Arch Gerontol Geriatr* 48(3): 425-430.
- Vergouwen MDI, Roos YBWEM. 2008. Folic acid supplementation may be effective in stroke prevention: A meta-analysis. *Nederlands Tijdschrift voor Geneeskunde* 152(8): 468.
- Vitatops Trial Study Group. 2010. B vitamins in patients with recent transient ischaemic attack or stroke in the VITamins TO Prevent Stroke (VITATOPS) trial: a randomised, double-blind, parallel, placebo-controlled trial. *Lancet Neurol* 9(9): 855-865.
- Wald DS, Kasturiratne A, Simmonds M. 2010. Effect of Folic Acid, with or without Other B Vitamins, on Cognitive Decline: Meta-Analysis of Randomized Trials. *American Journal of Medicine* 123(6): 522-527.e522.
- Wang X, Qin X, Demirtas H, Li J, Mao G, Huo Y, Sun N, Liu L, Xu X. 2007. Efficacy of folic acid supplementation in stroke prevention: a meta-analysis. *Lancet* 369(9576): 1876-1882.

- Wang ZM, Zhou B, Nie ZL, Gao W, Wang YS, Zhao H, Zhu J, Yan JJ, Yang ZJ, Wang LS. 2012. Folate and risk of coronary heart disease: a meta-analysis of prospective studies. *Nutr Metab Cardiovasc Dis* 22(10): 890-899.
- Xu F, Zhang L, Li M. 2012a. Plasma homocysteine, serum folic acid, serum vitamin B12, serum vitamin B6, MTHFR and risk of pseudoexfoliation glaucoma: a meta-analysis. *Graefes Arch Clin Exp Ophthalmol* 250(7): 1067-1074.
- Xu F, Zhao X, Zeng SM, Li L, Zhong HB, Li M. 2012b. Homocysteine, B vitamins, methylenetetrahydrofolate reductase gene, and risk of primary open-angle glaucoma: a meta-analysis. *Ophthalmology* 119(12): 2493-2499.
- Yakoob MY, Bhutta ZA. 2011. Effect of routine iron supplementation with or without folic acid on anemia during pregnancy. *BMC Public Health* 11.
- Yang F, Liu QQ, Wang LJ, Guo WY, Yao Y. 2014. Risk factors of vascular cognitive impairment among Chinese population: Meta-analysis. *Journal of Jilin University Medicine Edition* 40(3): 626-632.
- Yang HT, Lee M, Hong KS, Ovbiagele B, Saver JL. 2012. Efficacy of folic acid supplementation in cardiovascular disease prevention: an updated meta-analysis of randomized controlled trials. *Eur J Intern Med* 23(8): 745-754.
- Yi X, Zhou Y, Jiang D, Li X, Guo Y, Jiang X. 2014. Efficacy of folic acid supplementation on endothelial function and plasma homocysteine concentration in coronary artery disease: A meta-analysis of randomized controlled trials. *Experimental and therapeutic medicine* 7(5): 1100-1110.
- Zeng R, Xu CH, Xu YN, Wang YL, Wang M. 2014. The effect of folate fortification on folic acid-based homocysteine-lowering intervention and stroke risk: a meta-analysis. *Public Health Nutr*: 1-8.
- Zhang C, Chi FL, Xie TH, Zhou YH. 2013. Effect of B-vitamin supplementation on stroke: a meta-analysis of randomized controlled trials. *PLoS One* 8(11): e81577.
- Zhang C, Wang ZY, Qin YY, Yu FF, Zhou YH. 2014. Association between B Vitamins Supplementation and Risk of Cardiovascular Outcomes: A Cumulative Meta-Analysis of Randomized Controlled Trials. *Plos One* 9(9): 13.
- Zhou K, Zhao R, Geng Z, Jiang L, Cao Y, Xu D, Liu Y, Huang L, Zhou J. 2012. Association between B-group vitamins and venous thrombosis: systematic review and meta-analysis of epidemiological studies. *J Thromb Thrombolysis* 34(4): 459-467.
- Zhu Y, He ZY, Liu HN. 2011. Meta-analysis of the relationship between homocysteine, vitamin B, folate, and multiple sclerosis. *J Clin Neurosci* 18(7): 933-938.