

INTERNATIONAL REVIEW OF

NATURAL FAMILY PLANNING

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Volume II, Number 4

Winter 1978

\$5.00 a copy

The Postmenstrual Phase of the Menstrual Cycle

Rudolf F. Vollman

THEORETICALLY, THE postmenstrual phase begins with the onset of menstruation (day 1) and extends through the day before ovulation. The premenstrual phase begins on the day of ovulation and extends through the day before the onset of the next menstrual period. The lengths of the postmenstrual and premenstrual phases together add up to the length of the menstrual cycle.

Practically, however, there is no specific test of ovulation at present available which women could apply regularly and without fail. In research on woman's reproductive physiology, changing levels of pituitary or ovarian hormones are used to estimate the time of ovulation. In NFP, clinical signs and symptoms related to ovulation are used to gauge woman's fertile days empirically.

Subsequently to my paper "The Premenstrual Phase of the Menstrual Cycle" (Vollman 1977a) I shall now treat the postmenstrual phase, using data on cervical mucorrhea, intermenstrual pain, and BBT curves reported by the same woman (case 562:1906:13).

The median length of the postmenstrual phases changes regularly with the length of the menstrual cycles (fig. 1). Short cycles are associated with short postmenstrual phases and long cycles with long postmenstrual phases. The regression lines for the median length of the postmenstrual phases by basal body temperature (BBT) and intermenstrual pain (IP) run a parallel course between the shortest and longest menstrual cycles recorded. On the average, the postmenstrual phase by BBT is two days longer than the postmenstrual phase by intermenstrual pain. This fact demonstrates that intermenstrual pain and BBT are systemically associated.

The course for the median length of the postmenstrual phase by cervical mucorrhea ascends in association with the length of the menstrual cycles, too,

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in a lower slope, however, than the curves for the BBT and intermenstrual pain. This means that the onset of cervical mucorrhea has been noticed progressively earlier in long than in short menstrual cycles in comparison with the length of the postmenstrual phases by BBT and intermenstrual pain.

In 13,785 menstrual cycles observed by 524 women, a straight, linear correlation was found between menstrual cycles of 15 to 50 days' length and the median length of the postmenstrual phases by BBT (fig. 2). The range of variability of the length of the postmenstrual phases is independent of the length of the menstrual cycles, 3 days between the 25th and 75th percentiles, and 9-10 days between the 5th and 95th percentiles over the total distribution. Postmenstrual phases of 13 to 17 days occurred with the same frequency as menstrual cycles of 25 to 29 days—54.4 and 54.8 percent, respectively.

To study a possible effect of age on the menstrual function, the individual woman's observations are presented in successive scores of cycles before menopause (fig. 3). The curve of the median length of the menstrual cycles follows a slowly descending slope from the fifteenth to the second score before menopause—from 29.4 to 26.1 days. In the last score the median length of the cycles abruptly rises to 31.4 days. The curve of the median lengths of the postmenstrual phases by BBT follows a parallel pattern, from 15.7 days at the twelfth score to 12.4 days at the second score and a terminal elevation to 22.4 days in the last score of cycles before menopause. The 10- to 90-percentile range of variability is identically the same for the menstrual cycles and the postmenstrual phases. For both, the degree of variability increases, however, as early as the third score before menopause.

The length of the shortest menstrual cycles, together with their postmenstrual phases by BBT, intermenstrual pain, and cervical mucorrhea, decreases in successive scores of cycles before menopause (table 1). From the fifteenth to the tenth scores the length of the cycles varied between 24 and 26 days; from the seventh to the first scores, however, the shortest cycles oscillated between 17 and 23 days. A parallel shortening was observed in the length of the postmenstrual phases. In the last six scores of cycles prior to menopause, short postmenstrual phases by BBT of 5 to 7 days, by intermenstrual pain of 4 to 5 days, and by cervical mucorrhea of 5 to 7 days have been observed.

Discussion

Most likely Sorel was the first who recognized that the length of the postmenstrual phase varies independently from the length of the premenstrual phase (Sorel 1886, 1895). Ogino observed that the premenstrual phase has a small but autonomous degree of variability, independent of the length of the menstrual cycle, while the postmenstrual phase varies in concordance with the length of the cycle (Ogino 1924). By counting the days of the menstrual cycle in reverse, Ogino was able to present a rule for the estimation of the fertile and infertile days of the menstrual cycle.

Knaus went one step backward by postulating an absolute constancy of the length of the premenstrual phase (Knaus 1929). The rule for the calculation of the fertile and infertile days, based on the invariability of the premenstrual phase, most likely contributed to the many failures claimed by couples who used the strict Knaus method.

From the study of more than 20,000 menstrual cycles I have learned that the premenstrual phase has an individual, autonomous length and variability, independent of the length of the menstrual cycle (Vollman 1977b). With the BBT curve each woman can discover the characteristics of her own premenstrual phase.

The identity in the changes of the length and the degree of variability of the menstrual cycles with the changes in the corresponding postmenstrual phases means that the length of the postmenstrual phase determines the length of the menstrual cycle. The postmenstrual phase is the driver of the menstrual cycle.

The differences in the length and variability of the menstrual cycle and its phases which we observe between different women are an expression of woman's individuality. The changes in the length and variability of the menstrual cycle and its phases which occur from menarche to menopause are related to the natural process of aging.

Through the study and continuous record-keeping of the clinical signs related to ovulation, the BBT, intermenstrual pain, and cervical mucorrhea, we have finally learned that each woman has her own pattern of reproductive physiology which she can recognize and use effectively in natural family planning.

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Table 1
 Length of the Shortest Menstrual Cycle and the Shortest
 Postmenstrual Phase by Scores of Cycles before Menopause

	Scores	Menstrual Cycles	Postmenstrual phase		
			BBT	IP	CM ₂
Scores before Menopause	1	17 Days	7 Days	5 Days	5 Days
	2	19	6	4	6
	3	18	5	4	5
	4	21	10	8	6
	5	23	10	9	7
	6	18	6	5	7
	7	18	7	4	-
	8	24	11	10	-
	9	24	10	10	-
	10	25	11	9	-
	11	25	13	11	-
	12	26	12	6	-
	13	24	11	7	-
	14	25	12	11	-
	15	26	-	-	-

BBT, basal body temperature
 IP, intermenstrual pain
 CM, cervical mucorrhoea

REGRESSION OF THE LENGTH OF THE POSTMENSTRUAL PHASE WITH THE LENGTH OF THE MENSTRUAL CYCLE

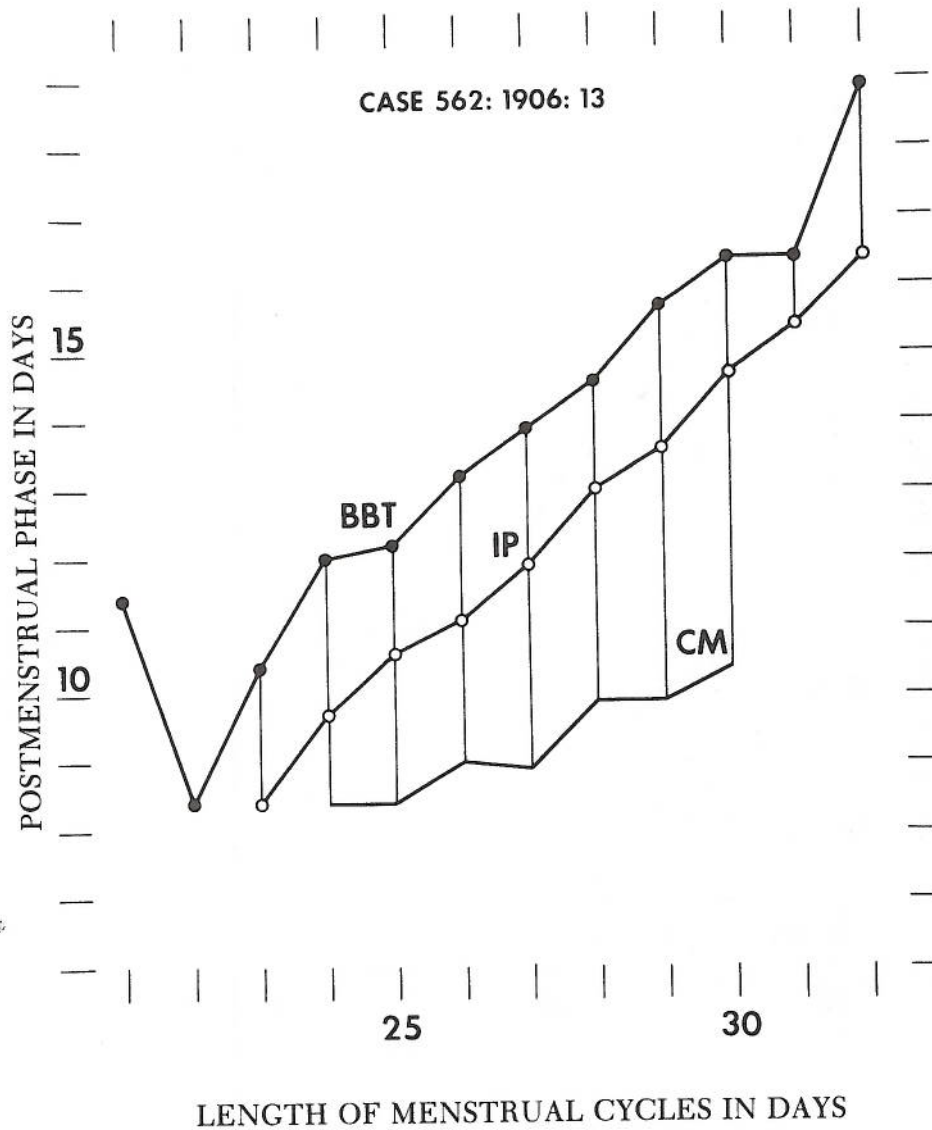


Fig. 1 The median length of the postmenstrual phase by basal body temperature (BBT), intermenstrual pain (IP), and cervical mucorrhea (CM) in regression with the length of the menstrual cycles. The two curves for the BBT and the intermenstrual pain run a nearly parallel course, while the curve for the cervical mucorrhea follows a slower slope (case 562:1906:13 with 258 successive menstrual cycles).

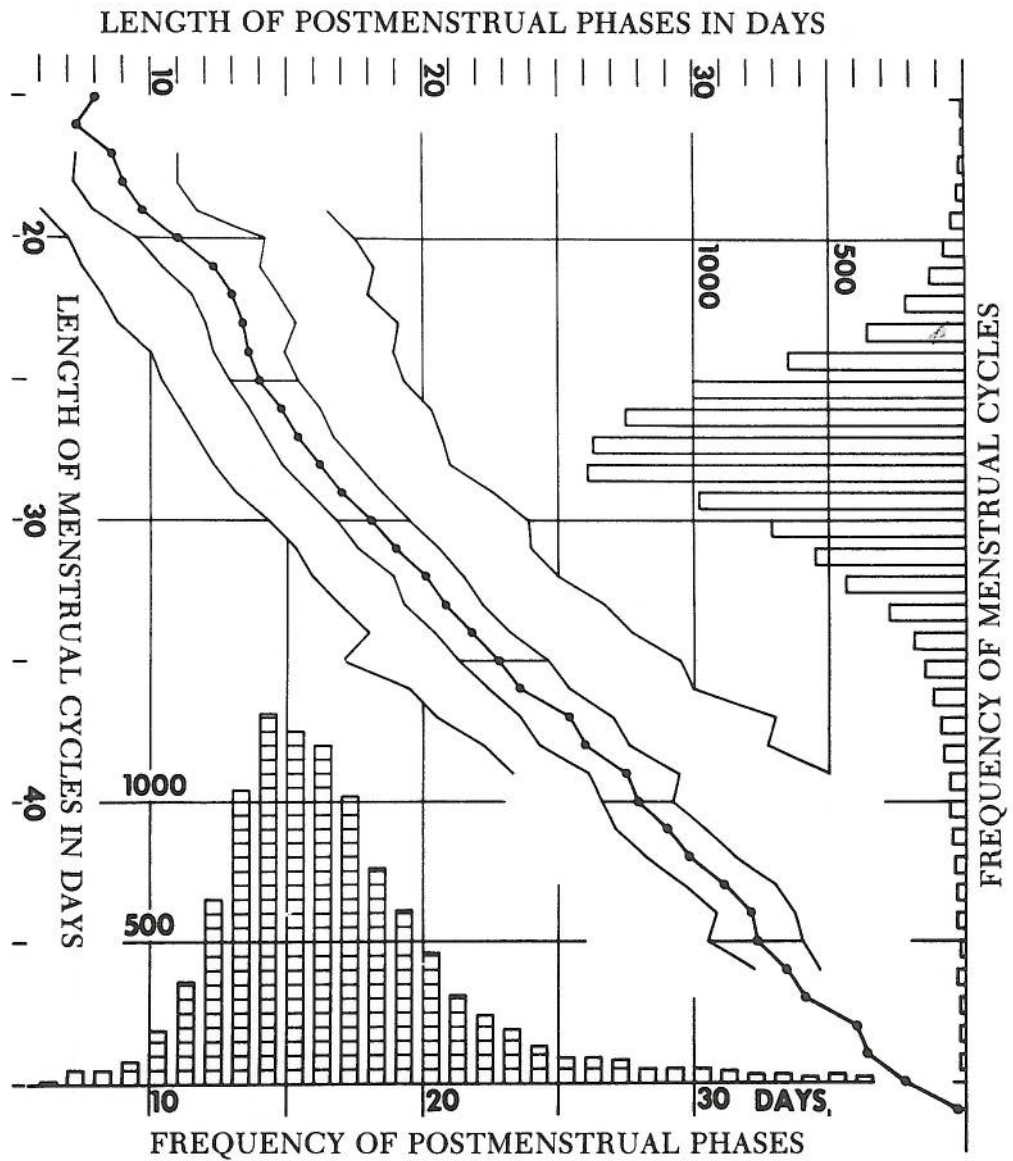


Fig. 2 The median length of the postmenstrual phase by basal body temperature in 13,871 menstrual cycles from 524 women. The curve of full circles represents median lengths of postmenstrual phases, the narrow band indicates the 25- and 75-percentile ranges, and the lower and the upper curves give the 5- to 95-percentile ranges of variability of the length of the postmenstrual phases. The bar graphs inserted represent the frequency distributions of the menstrual cycles and postmenstrual phases.

MEDIAN LENGTH OF MENSTRUAL CYCLES AND POSTMENSTRUAL PHASES IN SCORES OF SUCCESSIVE CYCLES FROM MATURITY TO MENOPAUSE

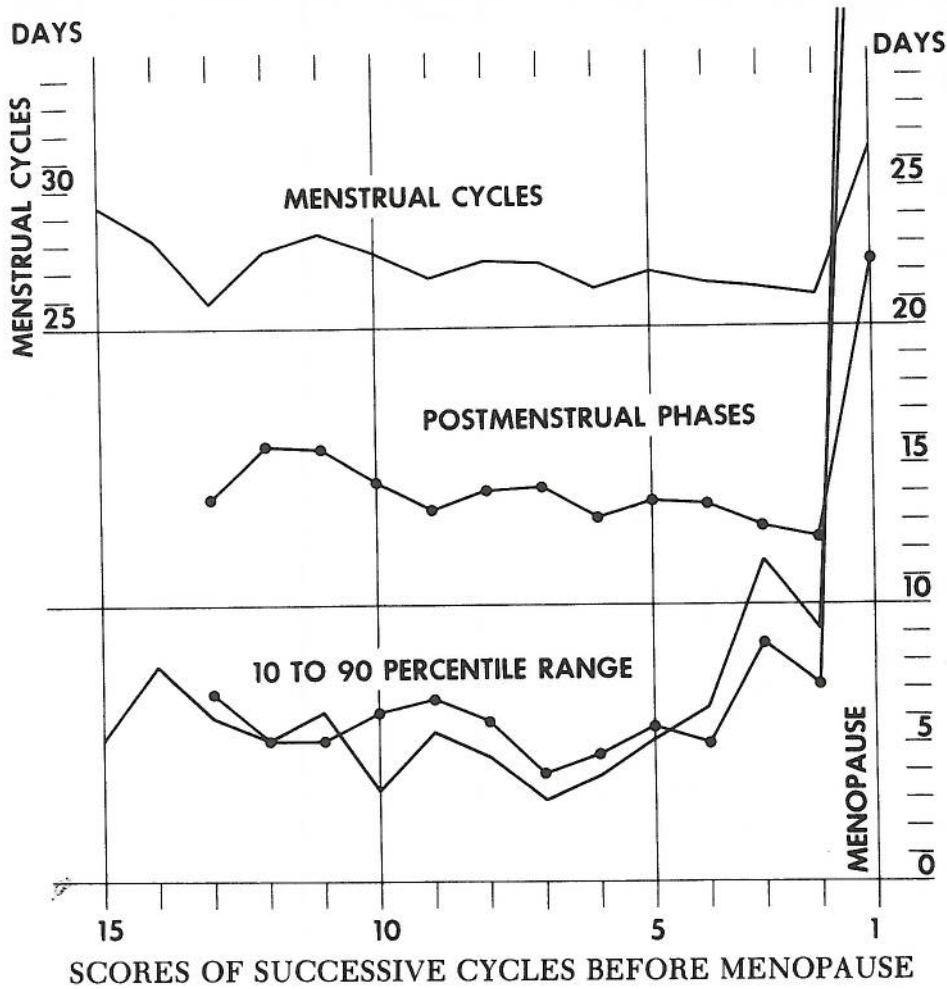


Fig. 3 The median length of the menstrual cycles and postmenstrual phases by BBT together with their respective 10-90 percentile ranges of variability in scores of 258 successive cycles from maturity to menopause. Plain line curves = menstrual cycles. Curves with full circles = postmenstrual phases. Case 562:1906:13. Modified from Vollman, *The Menstrual Cycle*, 1977, fig. 51. With the permission of the publisher, W. B. Saunders Company, Philadelphia.