

Pattern of asphyxial deaths in Kolhapur district of Maharashtra

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Abstract

Asphyxia is condition caused by interference of respiration due to obstruction of airways. Present study was carried out at CPR hospital of RCSM GMC Kolhapur during the period of January 2003 to December 2006. During this period 193 cases of deaths due to asphyxia were studied. All these cases were directly brought for postmortem examination. Study showed male predominance. Most of cases were reported from age group of 21-40 years. Common cause of asphyxia were hanging 113 (58.55%), and drowning 77(39.90%). Other causes were strangulation 2 (1.03%) and throttling 1 (0.5%). Most of deaths due to asphyxia were suicidal followed by accidental.

Keywords: asphyxia, hanging, suicide.

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INTRODUCTION

Asphyxia is one of the common mode of death since ancient time. In mass disaster like earthquake most of deaths occurs due to traumatic asphyxia. In floods and tsunamis deaths occurs due to drowning. According to WHO report in 2000 about 86000 people died in India due to drowning. India has highest rate of drowning (WHO report). According to National crime records burro of India suicide is among top ten causes of death in India. Asphyxia is mode of death without spillage of blood. Death occurs rapidly, without any expenses hence asphaxial mode of death is preferred. Due to population explosion, poverty, stress and cut throat competition in field of employment suicidal tendencies are developing in masses. Asphyxia is painless and inexpensive and sure method of committing suicide. Both male and females are

equally exposed to stress. Female are emotionally expressive, they express their emotions by crying, shouting and quarreling, hence incidence of suicide are less in females. On the other hand males suppress their stress by keeping quite and distract from stress by consuming alcohol, hence incidence of suicide is higher in males. With improvement of technology and modern medical facilities we have controlled death rate. Modernization had made life, stressful and hence incidence of suicide and accidents has increased. In this study attempt is made to study the incidence, and pattern of asphyxial death at Kolhapur district of Maharashtra.

MATERIAL AND METHOD

Present study was carried out in 193 cases of deaths due to asphyxia at mortuary CPR Hospital of RCSM GMC Kolhapur during the period January 2003 to December 2006. Detail analysis of police inquest was done. Detailed postmortem examination was done. Meticulous dissection of neck was done. Detailed examination of hyoid bone was done for presence of any fracture. Skin sample below ligature mark along with control sample was examined for hystopathological changes. All data regarding age, sex, religion, socioeconomic status, marital status, demographic area was collected. In drowning cases lungs were examined and weight, size, nature of froth, rib

imprints on surface of lung were noted. Lungs were examined for hydrostatic test.

OBSERVATION AND RESULTS

Total 193 cases of deaths due to asphyxia were studied at CPR Hospital of RCSM GMC Kolhapur during period of January 2003 to December 2006. Incidence of deaths due to asphyxia was more in males (61.3%) than in females (38.7%) Incidence of deaths due to asphyxia was maximum in age group of 21-30 years 33 (37.55%) followed by 31-40 year 28 (23.35%). Incidence of deaths due to asphyxia was minimum in extremes of age. At age group of 1 -10 years incidence was 3 (1.55%) and at age group of 61-70 years the incidence was 3 (1.55%). No case of deaths due to asphyxia reported after 70 years. Hanging was most common method of deaths due to asphyxia. It was reported in 113 (58.55%) cases. Ligature most commonly used was rope. Other ligatures used were dhoti, sari especially in female, wire and chain. Victims hanged themselves to ceiling fan, tree etc and selected lonely places for committing suicide. In all cases

elongation of neck, glove and stocking pattern of post mortem lividity, cyanosis and petechial hemorrhages was seen. The skin below ligature mark showed vital reaction, inflammatory change, infiltration of neutrophils and haemosiderin laden macrophages were seen. Fracture of hyoid bone was not observed in study. Drowning was reported in 77 (39.90%) cases. All cases were ant mortem drowning. Accidental drowning was reported in 10 cases. Accidental drowning was reported in floods, accidental fall in well and river while taking out water and washing cloths. Strangulation was reported in 2 (1.03%) cases. Both cases of strangulation were homicidal. Ligature used were rope and chain. In both case victims were females and reason for homicide was marital conflicts. The outward displacement fracture of hyoid bone was found in both cases. Throttling was reported in 1(0. 5%) cases. It was a homicidal case and victim was female. The cause for homicide was marital conflicts. Inward displacement fracture of hyoid bone was found. No case of mugging, garroting, smothering and choking was reported.

Table 1: Pattern of death due to asphyxia according to type of asphyxia

Type of death due to asphyxia	Number of cases	Percentage
Hanging	113	58.55%
Drowning	77	30.90%
Strangulation	2	1.03%
Throttling	1	0.5%
Smothering	0	0
Traumatic asphyxia	0	0
Choking	0	0
Aspiration	0	0
Total	193	100%

Table 2: Pattern of death due to asphyxia according to age and sex

Age	Male	Female	Total	Male : Female Ratio
1—10years	2 (1.69%)	1 (1.33%)	3 (1.55%)	2:1
11—20years	25 (21.18%)	17 (22.66%)	42(21.76%)	1.45:1
21—30 years	37(31.35%)	18 (24%)	55(28.50%)	2.05:1
31—40 years	28 (23.72%)	19 (25.33%)	47 (24.35%)	1.41:1
41—50 years	19(16.10%)	16(21.33%)	35 (18.13%)	1.18:1
51—60years.	5 (4.24%)	3 (4%)	8 (4.14%)	1.6:1
61—70 years.	2 (1.69%)	1 (1.33%)	3 (1.55%)	2:1
More than 70 years	0	0	0	0
Total.	118 (61.13%)	75 (38.87%)	193 (100%)	

Table 3: Pattern of death due to asphyxia according to manner

Type of asphyxia	Suicidal	Accidental	Homicidal
Hanging,	113 (62.77%)	--	--
Drowning.	67 (37.23%)	10 (100%)	--
Strangulation.	--	--	2 (66.66%)
Throttling.	--	--	1 (33.34%)
Smothering.	--	--	--
Traumatic asphyxia.	--	--	---
Choking.	--	--	--
Aspiration.	--	--	--
Suffocation.	--	--	--
Total 193	180 (93.26)	10 (5.18%)	3 (1.55%)

DISCUSSION

Present study shows wide similarities and dissimilarities with other authors studies. In present study total 193 cases of deaths due to asphyxia were studied at mortuary of RCSM GMC Kolhapur during period of January 2003 to December 2006. In present study most common mode of death due to asphyxia was hanging (58.55%) followed by drowning (39.90%). Other mode of deaths due to asphyxia were strangulation (1.03%) and throttling (0.5%). Similar findings were reported by Chourasia *et al* showing hanging in 52.21%, drowning in 45.02%, strangulation in 2.21% and suffocation in 55% cases. Bhagora *et al* reported hanging in 75%, drowning in 22.79%, smothering in 1.48 and strangulation in 0.74% cases. In present study, there was no fracture of hyoid in hanging cases. Similar findings were found by Ashok Kumar Samanth *et al* studies. Roger W Byard study "Asphyxia death using plastic bag", showed that majority of victims searched suicidal techniques on internet. No such finding was observed in present study. Kachare *et al* reported hanging in 60.64%, drowning in 35.11%, strangulation in 3.19% and choking in 1.06%. Choking was not reported in present study. Asphyxia is preferred by victims as it give immediate painless death without any expenses. In western countries victims search information about suicide techniques on internet. This scenario is still not reported in India. In present study most victims were young from the age group of 20-40 years with male predominance. Males are earners of family. Responsibility of family is on the males. When they found unable themselves to fulfill responsibilities of family, gradually suicidal tendency develop in males hence any small reason act as suicidal impulse in male. The main reasons for suicide among the males were unemployment, destruction of crops due to famine and flood, love failure, marital conflicts, family dispute and extramarital affairs. Deaths due to asphyxia were less common in females. Females are more emotionally expressive than males. Hence mental stress and depression is less common in females. Main factors for suicide in females were marital conflicts, dowry, love failure and extramarital affairs.

CONCLUSION

Study of 193 cases of death due to asphyxia at mortuary of RCSM GMC Kolhapur during period January 2003 to December 2006 showed that hanging is most common mode of asphyxia followed by drowning. Death due to asphyxia were most common in age group of 20-49 year with male predominance. Manner of death due to asphyxia was suicidal followed by accidental. Accidental drowning can be prevented by using protective covering on well, protective fences around lake and using danger

signs at deep water in rivers. Homicidal deaths were due to strangulation and throttling. The cause for homicide was marital conflicts which can be prevented by proper marital counseling.

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