

Study of Violent Asphyxial Deaths in Raichur District of Karnataka

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Abstract

On taking the consent from Head of the Department of Forensic Medicine, a retrospective study was conducted by analysing post mortem reports maintained in record section. Reports of post mortem examination done from 1st Jan 2017 to 31st Dec 2018 were analysed. Out of 520 cases done during this period, 105 (20.19%) were death due to asphyxia. In the same time data was also analysed with age of deceased, sex of deceased, season and manner of death. Among 105 cases of asphyxial deaths, males were more, accounting for 61 % (64) of study cases and females were 41 (39%) cases. In the present study, commonest method of asphyxial deaths was by hanging (75.1%), followed by ligature strangulation (12.3%) and 1 case each of postural and sexual asphyxia was the cause of death, accounting as a least method of asphyxia deaths. When age wise assessment done, asphyxial deaths were most common in second and third decade of life, constituting most of the suicidal cases. Asphyxial deaths were almost equally distributed among all seasons.

Key Words: *Asphyxia, Hanging, Strangulation, Drowning, Ligature.*

Introduction

Asphyxia is a condition in which body tissues suffers lack of oxygen supply by some interference in breathing process¹. Among all asphyxia deaths, hanging produces painless death for the victim and involves only a ligature material to be put around the neck and suspend the body, which produces unconsciousness within 15 seconds². Suicidal asphyxia deaths are more common than homicidal. Hanging and drowning are commonest methods adopted in suicidal asphyxia were as ligature or manual strangulation are commonest methods in homicidal mechanical asphyxia³. In addition to these accidental mechanical asphyxia by traumatic compression of the chest and sexual erotic asphyxia

deaths, also accounts for very minimum cases⁴.

Suicides and homicides by mechanical asphyxia are commonly seen, because if its painless, easiest and cost effective method of ending life. So many parameters play a role in increase of suicides and homicides like poverty, failures, marital conflicts, professional conflicts and population explosion. The aim of this study is to analyse some of the parameters those determine suicides and homicides by mechanical asphyxia.

Methodology

After obtaining permission from Head of the Department Forensic Medicine and Toxicology, a retrospective analysis of post mortem reports, maintained in Forensic Medicine Department of RIMS, Raichure, was done from 1st Jan 2017 to 31st Dec 2018 for a period of 3 years. During this period, a total of 520 cases of autopsies were done. Data analysis was restricted only to asphyxia deaths. Among 520 cases, 105 cases were death due to asphyxia. Hanging, Drowning, Strangulation, Postural and sexual asphyxia were included. Relationship of asphyxial deaths with the age, sex of the deceased, season, timing and marital

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status was analyzed.

Results

Total number of post mortem examination done during the study period were 520, of which 105 cases were of asphyxia deaths. The incidence of asphyxia deaths was more in males, i.e, 64 (61%) cases and females were 41 (39%) cases. The asphyxia deaths were more in third and fourth decades of life accounting 64 cases in these age groups followed by 12 (11.4%) in

the age group of 41 to 50 years. Surprisingly asphyxia deaths were more in Hindu religion (62.8%). Marital conflicts may be the important reason for ending their life by mechanical asphyxia, since asphyxia deaths were more in married individuals (63.8). Asphyxial deaths were almost equally distributed in all seasons with mere increase in the summer. Most of the suicides and homicides by mechanical asphyxia were in the afternoon between 12 pm to 6 pm (57.1%)

Table No. 01: Profile of Asphyxial Deaths

| Type of Asphyxia | | Female | | Male | | Total | |
|--------------------|----------|--------|------|------|------|-------|------|
| | | No | % | No | % | No | % |
| Drowning | | 02 | 1.3 | 03 | 2.8 | 05 | 4.7 |
| Hanging | Complete | 23 | 21.9 | 49 | 46.6 | 72 | 68.5 |
| | Partial | 05 | 4.7 | 02 | 1.3 | 07 | 6.6 |
| Traumatic asphyxia | | 00 | 00 | 03 | 2.8 | 03 | 2.8 |
| Postural asphyxia | | 00 | 00 | 01 | 0.9 | 01 | 0.9 |
| Sexual asphyxia | | 00 | 00 | 01 | 0.9 | 01 | 0.9 |
| Strangulation | Ligature | 09 | 8.5 | 04 | 3.8 | 13 | 12.3 |
| | Manual | 02 | 1.3 | 01 | 0.9 | 03 | 2.8 |
| Total | | 41 | 39 | 64 | 61 | 105 | 100 |

Table No.0 2: Age and Sex Wise Distribution of Asphyxial Deaths

| Age in years | Female | | Male | | Total | |
|--------------|--------|------|------|------|-------|------|
| | No | % | No | % | No | % |
| 0 – 10 | 02 | 1.3 | 01 | 0.9 | 03 | 2.8 |
| 11 – 20 | 05 | 4.7 | 03 | 2.8 | 08 | 7.6 |
| 21 – 30 | 17 | 16.1 | 15 | 14.2 | 32 | 30.4 |
| 31 – 40 | 08 | 7.6 | 24 | 22.8 | 32 | 30.4 |
| 41 – 50 | 03 | 2.8 | 09 | 8.5 | 12 | 11.4 |
| 51 – 60 | 00 | 00 | 04 | 3.8 | 04 | 3.8 |
| 61 – 70 | 04 | 3.8 | 04 | 3.8 | 08 | 7.6 |
| 71 – 80 | 02 | 1.3 | 03 | 2.8 | 05 | 4.7 |
| 81 – 90 | 00 | 00 | 01 | 0.9 | 01 | 0.9 |
| 91 - 100 | 00 | 00 | 00 | 00 | 00 | 00 |
| Total | 41 | 39 | 64 | 61 | 105 | 100 |

Table No. 03: Religion Wise Distribution of Asphyxial Deaths

| Religion | Female | | Male | | Total | |
|-----------|--------|------|------|------|-------|------|
| | No | % | No | % | No | % |
| Hindu | 23 | 21.9 | 43 | 40.9 | 66 | 62.8 |
| Muslim | 15 | 14.2 | 19 | 18 | 34 | 32.3 |
| Christian | 03 | 2.8 | 02 | 1.9 | 05 | 4.7 |
| Total | 41 | 39 | 64 | 61 | 105 | 100 |

Table No 04: Distribution of Asphyxial Death Cases according to marital status

| Marital status | Female | | Male | | Total | |
|----------------|--------|------|------|------|-------|------|
| | No | % | No | % | No | % |
| Married | 29 | 27.6 | 38 | 36.1 | 67 | 63.8 |
| Unmarried | 12 | 11.4 | 26 | 24.7 | 38 | 36.1 |
| Total | 41 | 39 | 64 | 61 | 105 | 100 |

Table No. 05: Season Wise Distribution of Asphyxial Deaths

| Season | Female | | Male | | Total | |
|--------|--------|------|------|------|-------|------|
| | No | % | No | % | No | % |
| Rainy | 11 | 10.4 | 23 | 21.9 | 34 | 32.3 |
| Summer | 18 | 17.1 | 31 | 29.5 | 49 | 46.6 |
| Winter | 12 | 11.4 | 10 | 9.5 | 22 | 20.9 |
| Total | 41 | 39 | 64 | 61 | 105 | 100 |

Table No. 07: Distribution of asphyxial deaths on different timings

| Timings | Female | | Male | | Total | |
|---------------------------|--------|-----|------|------|-------|------|
| | No | % | No | % | No | % |
| Morning (6 am To 12 Pm) | 04 | 3.8 | 07 | 6.6 | 11 | 10.4 |
| Afternoon (12 pm To 6 pm) | 21 | 20 | 39 | 37.1 | 60 | 57.1 |
| Evening (6 pm To 12 am) | 10 | 9.5 | 14 | 13.3 | 24 | 22.8 |
| Night (12 am To 6 am) | 06 | 5.7 | 04 | 3.8 | 10 | 9.5 |
| Total | 41 | 39 | 64 | 61 | 105 | 100 |

Discussion

The incidence of mechanical asphyxia was 20.19% was more when compared to other studies.^{5,6} and in few studies^{7,8} the incidence was lower. The incidence difference may be because of different geographical area of population.

In the present study, the commonest type of asphyxia deaths are due to hanging, followed by strangulation, were as drowning was second commonest method in some of the studies^{5,6,7} but in one of the study⁶ drowning was most common method (59.40%) which could be due to the presence of water reserves in the region of the study. Postural and sexual asphyxia are very rare accounting only 1 (0.9%) case each respectively.

Asphyxial deaths were more in second (30.4%) and third (30.4%) decade of life, which is similarly observed in some of other studies^{6,9,10}. On analysing sex wise, it was noticed that males were more in number who ended their life by means of mechanical asphyxia (61%) which is similar to observations reported by other studies^{7,9}. This high incidence in this age group and in males clearly suggests that adult males are one who are exposed to more stress and strain and are more sensitive for bad incidences occurring in their life.

High incidence of suicide by mechanical asphyxia is more common in Hindus (62.8%) which is consistent with other study reports⁶. This could be because of religious belief in Muslim and Christian community, that life is a gift of god and should be taken back by him and not to end it by our self.

Incidence of asphyxia deaths were more (63.8%) in married persons when compared to unmarried (36.1%). On season wise analysis, asphyxia deaths occurred at the higher rates in summer (46.6%) which is similar to other studies¹¹. All hanging cases were suicidal in nature, which is similar to observations of other studies¹² and is the most commonest method to commit suicide.

Conclusion

Among 520 cases of autopsies done during study period 105 (20.19%) cases were deaths due to mechanical asphyxia. Most frequent method of asphyxia is by hanging (75.1%) followed by strangulation (15.1%). All hanging cases were suicidal in nature and

strangulation cases were homicidal in nature, suggesting, that commonest method to end life either by suicide or homicide is, cost effective mechanical asphyxia. Sexual asphyxia and postural asphyxia were least accounting only 1 case of each. Adult male victims were more in number, who died because of committing suicide by hanging, hence a special counselling should be given to adults to tackle problems in their life.

Conflict of Interest: Nil.

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Ethical Clearance: Institutional Ethical Committee clearance obtained.

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