

## Violent Asphyxial deaths in rural area of Maharashtra

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### ABSTRACT

**Background:** - The deaths due to asphyxia are so wide & varied that they are challenging the postmortem surgeon on many occasions, therefore careful study & a meticulous examination of every case is mandatory to bring the wide variety of observations in death by asphyxia. **Aim:** To evaluate the incidence and pattern of violent asphyxial deaths in a rural area where majority of the population are farmers and sugar factory workers. **Methodology:** The data on socioeconomic status, type of asphyxia, manner of death, etc were collected retrospectively from the department of forensic medicine of Rural Medical College, Loni, Tal- Rahata Dist Ahmednagar Maharashtra for a period of 5 yrs. The information recorded from hospital case records, P.M. reports, police inquest reports and history from relatives. **Results:** Total 917 autopsies were conducted during this period among 68 cases were of violent asphyxial deaths. The males were preponderant (73.53%). Majority of cases were of drowning (73.53%) followed by hanging (20.59%), strangulation (2.94%) & traumatic asphyxial (2.94 %). Majority of cases were suicidal in nature.

**Key words:** violent asphyxial deaths, hanging, strangulation, drowning, suffocation

### INTRODUCTION

The word Asphyxial in Greek Language: meaning "Pulse less ness".<sup>1</sup> In the forensic field it is restricted to mechanical interference with respiration. This is some times referred to as mechanical or violent asphyxia as violence is a common factor associated with these cases. The deaths due to asphyxia are so wide & varied that they are challenging the postmortem surgeon on many occasions, therefore careful study & a meticulous examination of every case is mandatory to bring the wide variety of observations in death by asphyxia<sup>2-3</sup>. The violent

asphyxial deaths occur in all age groups and the incidence differs from place to place due to various reasons. The present study shows the incidence, age, sex & manner wise distribution of various asphyxia deaths in rural area.

### MATERIALS & METHODS

A retrospective study was carried out in dept of forensic medicine at rural medical college Loni, Tal- Rahata, Dist Ahmednagar, Maharashtra for duration of 5 years from July 1997 to June 2002 to evaluate the violent asphyxial deaths. The data on information related to age, sex, type of deaths, manner & mode of deaths were recorded from the hospital case records, P.M. reports & police inquest reports. The cases history revealed from relatives, eyewitness police investigation officers.

The data is analyzed and presented in the form of figure and table.

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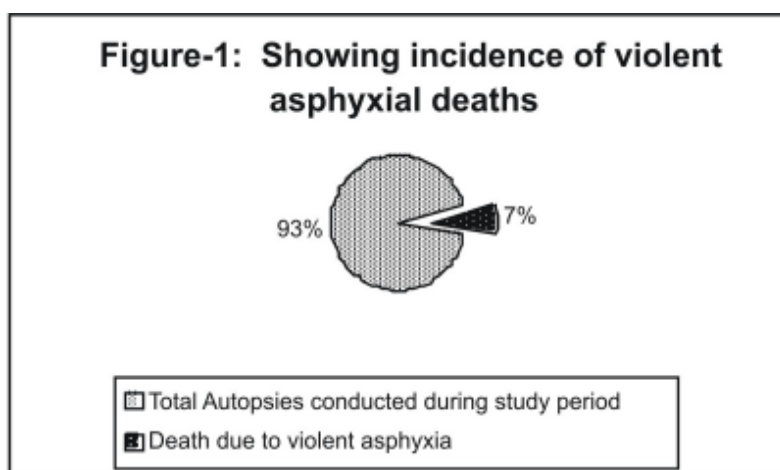
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## RESULT

During the study period a total of 917 autopsies were conducted in the mortuary out of which 68 (7.42%) cases were of violent asphyxial deaths (Fig.-1). The majority of victims were males (73.53%) than females (26.47%) (Table-1). The most vulnerable age group was 11-30 yrs (67.64%) followed by 31-40 yrs (16.101%) (Table -2). In the study 50 cases were of drowning (73.53%), 14

cases of hanging (20.59%) & only 2 case each of strangulation (2.94%) & traumatic asphyxial a type of suffocation (2.94 %) were observed (Table -3).

Out of 50 cases of drowning 18 cases were of suicidal, 20 cases of accidental, 5 cases were homicidal in nature & in 7 cases the manner of death was not ascertained. Out of 14 cases of hanging, 13 cases were suicidal and only in one case investigating police were not sure about the manner of death. In strangulation both the cases were homicidal & in suffocation deaths both were accidental in nature (Table -3). In this study it



**Table 1: Sex wise distribution of Cases**

Sex	No. Of Cases	Percentage (%)
Male	50	73.53 %
Female	18	26.47 %
Total	68	100.00 %

**Table 2: Age wise distribution of violent asphyxial deaths**

Age in Year	No. Of Cases	Percentage (%)
1 - 10	02	2.94 %
11 - 20	20	29.41 %
21-30	26	38.23 %
31-40	11	16.18 %
41-50	04	5.88 %
51-60	04	5.88 %
61-70	01	1.48 %
Total	68	100.00 %

**Table 3: Manner and type wise distribution of Cases**

Type of Violent Asphyxial Deaths	Suicidal	Homicidal	Accidental	Unknown	Total
Drowning	18	05	20	07	50 (73.53%)
Hanging	13	00	00	01	14 (20.59%)
Strangulation	00	02	00	00	02 (2.94 %)
Suffocation	00	00	02	00	02 (2.94%)
Total	31 (45.59%)	07 (10.29%)	22 (32.35%)	08 (11.77%)	68 (100%)

was observed that maximum no of cases were suicidal 31 (45.59 %) followed by accidental 22 (32.35%) & homicidal 07 cases (10.29 %). In 8 cases the manner of death was unknown (Table - 3).

farmhouse & a good network of irrigation canals & rivers. So the preferred mode of committing suicide is drowning by simple jumping in the canal or wells or accidental fall in the river.

## DISCUSSION

The incidence of violent asphyxial death in the present study (7.42%) was similar to the findings of Momanchand et al<sup>4</sup> (7%) & varies with that of Salachin<sup>5</sup> (9.3%). This variation seems to be because of the fact that the present study was carried out in rural area while the other study carried by Salachin<sup>5</sup> in urban area.

In the present study males (73.53%) outnumbered females (26.47), which were consistent with Salachin<sup>5</sup> (75.6%) & Momanchand et al<sup>4</sup> (80.3%). The study noted maximum percentage of violent asphyxial deaths in the age group 11- 30 years (67.64%) as it is the most active period in one's life & there is great fluctuation of emotions in this age group. The findings are consistent with the others authors<sup>4,6</sup>. In our study showing the findings that the drowning was the commonest type (73.53 %) followed by hanging (20.59%), strangulation (2.94%) & suffocation (2.94%) of asphyxial deaths. While the findings of other studies carried out by Momanchand et al<sup>4</sup> & Gargi et al<sup>7</sup> reported the hanging was the commonest type followed by drowning. This variation could be due to the fact that this entire area where the present study is carried out is a very well irrigated area having a well at each

The findings of the present study also showed that the majority of the cases of hanging died due to suicidal hanging. There was not reported any case of accidental or homicidal hanging. These findings are similar to Patel et al<sup>8</sup> & Gargi et al<sup>7</sup>. In our study accidental drowning out numbered suicidal & only few case of homicidal drowning was noted. The accidental asphyxial deaths among children are more in our study it could be due to more number of wells & canals in this area & children playing near water source. The women are used to wash the utensils & clothes on the river bank; it could lead more accidental fall in river due to slippery area. The death due to suicide by drowning are more common it could be because of availability of water sources & loneliness near it. The findings of strangulation & traumatic asphyxia are similar to the findings of Gargi et al<sup>7</sup>.

The findings of our study showed that maximum numbers of cases of asphyxial deaths were suicidal (45.59%) in nature followed by accidental (32.35%) and homicidal (10.29%). These findings are similar to findings of Sahoo PC<sup>9</sup> & Fimate<sup>10</sup>. A majority peoples are follow this mode for intentional death it could be in believe of that the asphyxia causes painless and instantaneous death.

### CONCLUSION

The incidence of violent asphyxial deaths among all unnatural deaths is 7.42% in rural area. The majority of victims were male & in age group of 11 -30 yrs. Accidental drowning is the most common type of violent asphyxial deaths followed by suicidal drowning. Hangings are more common mode of suicidal deaths while strangulation commonest among homicidal deaths. All the cases of traumatic asphyxia were accidental. The maximum no of cases of violent asphyxial deaths were suicidal followed by accidental in nature.

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### Erratum

It's very sorry to say that the name of **Dr. Chavan S.K.** has been not been printed alongwith article entitled "**Stature and percutaneous tibial length: A correlation study in Maharashtraian population**" on content page in volume 2, number 3 July-September 2009 issue of the journal.

On print line of the said issue July-Sept 2010; Vol. 2 No. 3 has been printed instead of **July-Sept 2009; Vol. 2 No. 3** by oversight . We have corrected in PDF version of the issue. Mistakes are regretted.

**Editor-in-Chief**