

Medico-legal Evaluation of Asphyxial Deaths in Akola District of Western Vidarbha Region

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Abstract

Background: In forensic practice, violent asphyxial deaths are common incident and determination of manner of violent asphyxial deaths by Post Mortem examination is of utmost significance. This study is conducted to know the status of mode of violent asphyxial deaths in this region of India. **Materials & Method:** It is a retrospective study conducted at Department of Forensic Medicine and Toxicology, Government Medical College, Akola during the period of Jan 2011 to Dec. 2012. The information was collected from the police inquest, post mortem reports and hospital records. **Result:** Total 2602 autopsies were carried out during the study period and out of which 261 cases were of violent asphyxial deaths (10.03%). The males were outnumbered the females. Hanging was the commonest method of violent asphyxial deaths (72.41%) followed by drowning (23.37%). Only 2.68% of cases were of strangulation. Majority (63.21%) of victims of violent asphyxial deaths were belongs to rural areas. **Conclusion:** The majority was males (75.09%) from age group of 21-30 years (30.65%) and hanging was the most common mode of violent asphyxia death.

Keywords: Asphyxia; Hanging; Strangulation; Drowning; Suffocation; Akola; Maharashtra; Vidarbha.

Introduction

The term "Asphyxia" derived from Greek terminology that literally means without heart beat or stopping of pulse.[1] Asphyxia is a state in which body lacks oxygen because of mechanical interference with the process of breathing. In forensic practice, asphyxial deaths are common incidents. In modern India too increase in stress is being seen due to work, poverty, crime, debt ridden farmers due to monsoon dependant cultivation and irrigation in agricultural sector and also drought like situation in most of the part of the country and especially in Western Vidarbha region. The incidences of suicide and accident are increasing day by day not only in urban areas

but also in rural areas and this can be seen from increased incidences of such cases from those areas. According to WHO report in 2000 the 86000 people died due to drowning in India.[2] Hanging is one of the most commonly used methods for suicide worldwide and strangulation is one of the common method of homicide.[3] In this study an attempt has been made to gain further knowledge and to study various epidemiological aspects of asphyxial death in Western Vidarbha region with an aim to identify the methods, if any, to reduce the morbidity and mortality and also to help in the process of administration of justice more effectively.

Material and Methods

It is a retrospective study conducted at the Department of Forensic Medicine and Toxicology, Government Medical College, Akola. Material of present study comprises of all the cases of violent asphyxial deaths of two years autopsied in mortuary of Government Medical College, Akola during period from 1st

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Jan 2011 to 31st Dec 2012. The necessary information regarding study like incidence of asphyxial deaths, their manner, age and sex wise distribution and area (rural or urban) to which they belong were obtained from the police inquest, post mortem reports and hospital records of admitted cases from record section of hospital. Data collected was analyzed and results were drawn, discussed and compared with other similar studies.

Results

Total 2602 autopsies were carried out in two years i.e. from 1st January 2011 to 31st December 2012 in Department of Forensic Medicine and Toxicology, Government Medical College Akola, out of which 261 (10.03%) cases were due to violent asphyxial deaths.

Fig 1: Distribution of Total Cases (n=261) of Asphyxia, Sexwise

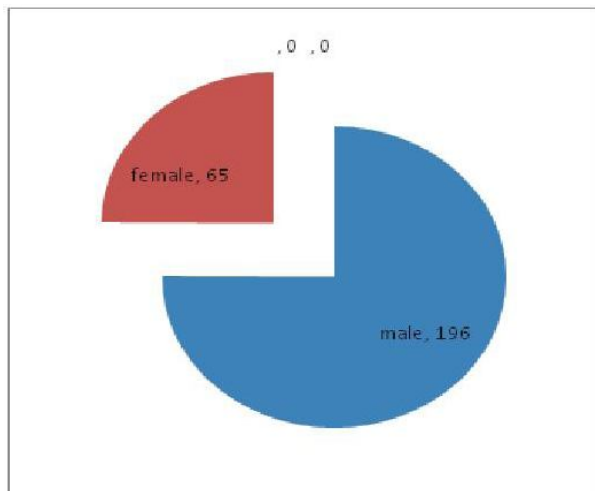


Table 1: Distribution of Cases in Different Age Groups

Age groups	No. of cases	Percentage
0-10	5	1.91%
11-20	23	8.81%
21-30	80	30.65%
31-40	60	22.98%
41-50	31	11.87%
51-60	20	7.66%
61 & above	42	16.09%

Fig 2: Percentage of Cases in Different Causes of Death

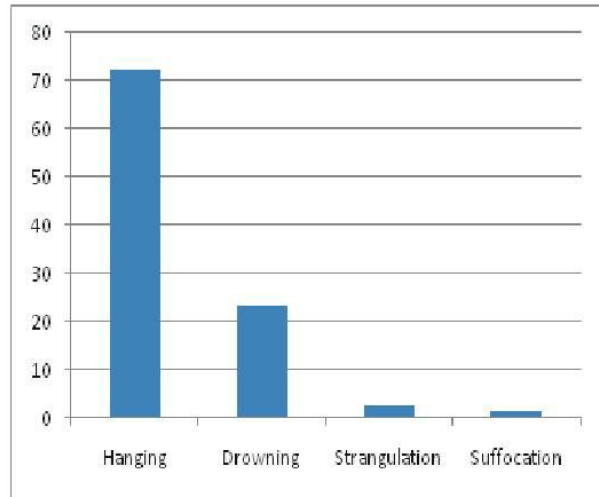


Fig 3: Percentage of Cases in Different Localities

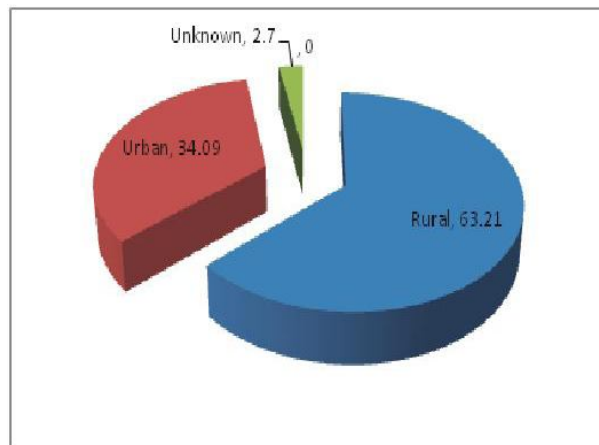
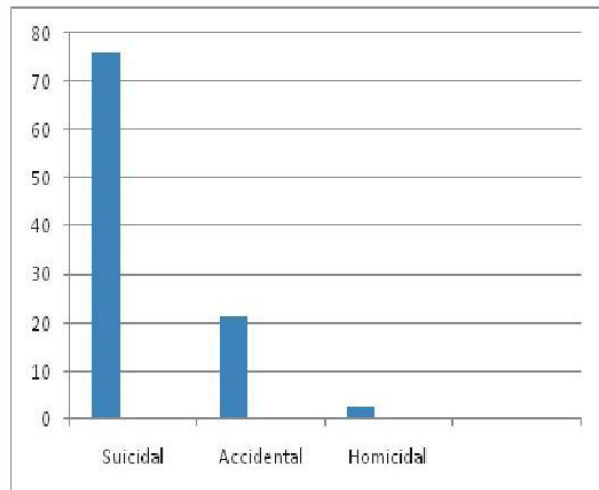


Fig 4: Percentage of Cases in Different Manner of Death



The present study shows that maximum numbers of victims were males 196 (75.09%) followed by females 65 (24.93%). Among the age groups majority of victims were from age group 21-30 years comprising of (30.65%) followed by age group 31-40 years (22.98%)

Among incidence of violent asphyxial deaths, Hanging was found to be commonest (72.41%) followed by Drowning (23.37%) and Strangulation accounts for 2.68% of the total cases.

Study also reveals that majority of the victim's belonged to rural area, comprising 63.21% of the total asphyxial cases followed by urban population, 34.09%

Study also reveals that suicide is the manner of death in majority of the cases (75.86%) followed by accidents (21.45%) and only 2.68% cases were Homicidal.

Discussion

The incidence of death due to violent asphyxia in this study is 10.03% of total autopsies conducted during the study period. Chaurasia Neha *et al*[2] reported incidence of violent asphyxial deaths 6.95% and Amandeep *et al* reported 5.26%. The higher incidence in the present study may be due to fact that Akola is a Tertiary Care Centre for 3 district of Western Vidarbha Region catering the demand of patients from these areas and main occupation of people of this region is farming and agricultural labour who work in farm and as Vidarbha region is drought affected because of which number of suicide in this region is more by farmers.

Among the types of violent asphyxial deaths, Hanging was the commonest, accounts for (72.41%) of the cases followed by Drowning (23.37%), Strangulation (2.68%) and Suffocation (1.53%). The finding of our study is consistent with findings of Chaurasia Neha *et al*[2] and David Gunnell *et al*. [3] But Singh Amandeep *et al* reported in their study

that the commonest violent asphyxial death was drowning, this discrepancy might be due to fact that study was conducted in Punjab which is highly irrigated, have more water resources than this part of country which leads to increase number of incidences drowning.[1]

Our study showed maximum numbers of victims were males (75.09%) as compared to females (24.93%). Similar findings reported by Amandeep *et al*[1], Gargi *et al*. [4] Those studies cited the reason that males are earning members in most of the families so this makes them more vulnerable to stress, also exposes them to risk of accidents. the present study also consents with that observation.

In our study maximum number of victims were in the age group of 21-30 years (30.65%) followed by 31-40 years (22.98%) means about 53% of victims were of age group 21-40 years. Similar findings were reported by Amandeep *et al*[1], and Sharma *et al*. [5] It is proposed that this is because persons in this age group are working and because of work they are exposed to accidents, suicide and sometimes to homicide also.

Present study revealed that a large number of victims (63.21%) were from rural areas compared to urban population (34.09%). This may be due to fact that Akola is surrounded by rural area of three district of western Vidarbha region and drought like situation existed in last few years further worsening the situation because debt ridden farmers and agricultural workers are more prone to commit suicides in this region.

Present study showed that among manner of violent asphyxial deaths suicide (75.86%) was commonest manner followed by accident (21.45%) and homicide accounts for only 2.68% of the cases, similar findings were reported by David Gunnell *et al*[3], Chaurasia Neha *et al*[2] this may be due to fact that hanging is mostly suicidal in nature and present study consist of maximum number of cases of hanging.

Conclusion

Violent asphyxial deaths are one of the most important causes of deaths among violence deaths. Observations made by us in present study suggest that violent asphyxia deaths accounts for (10.03%) of total autopsies conducted, males out of numbering (75.09%) the females, 21-30 years of age group is commonly affected (30.65%) & Hanging was the commonest type of violent asphyxia death. The mortality due to violent asphyxiation can be reduce by understanding the predisposing factors ,increasing awareness among the rural & Urban Population and more studies should be carried out in different region and states to formulate preventive strategies to reduce morbidity and mortality. Improving the irrigation status, assisting the farmers during crop season and providing them better crop price are few measures, which if taken in the area of present study, can help to reduce the mortality and morbidity due to violent

asphyxia deaths by suicide by hanging.

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