Original Research Article

Study of socio-demographic profile of victims in cases of deaths due to homicide

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ABSTRACT

Aims and Objectives: Present prospective study was carried out with the aim to study socio-demographic profile of victims in cases of Deaths due to homicide in Nagpur.

Materials and Methods: Total 179 medico legal autopsy cases of homicidal deaths conducted at department of Forensic Medicine and Toxicology of Indira Gandhi Government Medical College, Nagpur over a period from January 2013 to October 2014 were studied. Study protocol was approved by the institutional ethical committee.

Observation and Results: Out of total number of autopsies (3412) conducted during study period 179 cases (5.24%) were of death due to homicide. Maximum number of cases 70 (39.11%) were recorded in the age group of 21-30 years followed by 47 (26.26%) cases in the age group of 31-40 years. Out of total reported cases, males outnumbered females. Out of the total 179 cases of homicide, 147 (82.12%) victims were males and 32 (17.88%) were females. Male to female ratio was 4.59:1. Maximum cases 62 (34.64%) of males were reported in the age group in 21-30 years age group followed by 40 (22.35%) cases in 31-40 years. Similarly amongst female's maximum victims were 8 (4.47%) in the age group 21-30 years followed by 7 (3.91%) cases in 31-40 years. Most of the victims were illiterate primary or secondary educated married, labourers or unemployed persons belonging to lower socio economic strata of the society.

Conclusions: Most of the victims of homicidal deaths were males. Most common age group was of bread and butter earning productive period. Uneducated, unemployed, married and persons with social dysharmony were commonly involved.

1. Introduction

Homicide is killing by one who plans the death of another with malice afore thought, one who looks the purpose to kill but means to inflict serious injury only and the one who acts in want of disregard of human life.[1]

As per the World report on violence and health, Geneva, WHO, 2004: Globally around 520,000 people die each year as a result of interpersonal violence, which equates to 1400 deaths every single day.[2]

The global average homicide rate stands at 6.2 per 1, 00, 000 population according to "Global study on homicide, United Nations Office on Drugs and Crime, 2014". The study of homicide is important because the impact of the intentional killing of one human being by another is the ultimate crime, whose effect goes far beyond the initial loss of human life and can create a climate of fear and uncertainty in the community.

As per National Crime Record Bureau (NCRB) report 2013, violent crimes reported in 2013 in India were 1.3% of the total Indian Penal Code crimes. Present study conducted in metropolitican city of Maharashtra in which total 179 homicidal deaths reported from January 2013 to October

2014.[3]

Violent crimes like murder, dacoity, kidnapping and riots, abduction are nowadays frequently encountered. This is probably due to rapidly increasing population; urbanization; poverty; unemployment; frustration; illiteracy; prevalent economic; social and political environment; insurgency; terrorism; drug addiction; easy availability of weapon; and the widening gap between the rich and the poor. Young offenders are becoming increasingly violent and this is a cause for concern, as they are tomorrow's generation. Among the violent crimes affecting life, homicide is the most heinous crime under law.

Homicide is the most readily measurable, clearly defined and most comparable indicator for measuring different types of violent deaths. It can be used as a proxy for violent crime as well as a potential indicator of levels of security within the society.[4]

Killing of an individual is the highest level of aggression found in all the cultures. Since ages the very reason or motive for these killings has remained the same v.i.z. lust for money, women and land, ego, pride and provocation.

In this modern world organized crimes are being executed in a professional manner, and such criminal activities follow a peculiar pattern in relation to socio-demographic profiles of victims and accused, motive, purpose and execution of the crime.

In view of the magnitude and frequency of such deaths and its impact on the society, the present study has been taken up with an aim to explore different aspects of homicide in relation to socio demographic profile of victims.

2. Aims and Objectives

1. To establish and compare the incidence of alleged cases of death due to homicide.
2. To evaluate age and gender wise distribution of cases of homicide.
3. To study socio-demographic profile (educational, occupational, socio-economic and marital status) of the victims.

3. Materials and Methods

The present prospective study was carried out at the post mortem centre in the department of Forensic Medicine and Toxicology, wherein 179 (5.24%) cases of homicidal deaths brought for medico legal autopsies were studied during the period from January 2013 to October 2014. Study protocol was approved by the institutional ethical committee.Data was collected from inquest papers and police documents, hospital records, and from information provided by the police and relatives of deceased. Cases were studied in details with respect to age and gender wise distribution and socio-demographic profile (educational, occupational, socio-economic and marital status) of the victims. Observations were noted in tabular form and results of statistical analysis were noted.

4. Observation and Results

Total 3412 autopsies were conducted during the study period, out of which 179 (5.24%) cases were of alleged homicide.

Table 1 shows that out of total 179 cases of alleged homicide in the present study, maximum number of cases were recorded in the age group of 21-30 years 70(39.11%) followed by 31-40 years 47 (26.26%) cases. Five (2.79%) cases were found in the age group 0-10 years out of which 4 cases were of infanticide. Three cases of female infanticide of age 1 day, 4-5 days and 10-15 days respectively and in one case it was male infant 2-3 days old. In two cases the age of the victims was above 70 years age

Out of the total 179 cases of homicide, 147 (82.12%) victims were males and 32 (17.88%) were females. Male to female ratio was 4.59:1. It was observed that male victims outnumbered females except in cases of infant deaths, indicating male predominance in victims of homicide. Maximum cases of males were reported in the age group in 21-30 years 62 (34.64%) age group followed by 31-40 years 40 (22.35%). Similarly amongst female's maximum victims were in the age group 21-30 years 8 (4.47%) cases followed by 31-40 years 7 (3.91%) cases. Females were common victims of strangulation 5 (15.62%) cases and homicidal burns 4 (12.5%) cases in this age group.

Table 2 shows that maximum number of victims of homicide belonged to lower socio-economic class 68 (37.99%) which included 56 (31.28%) males and 12 (6.70%) females followed by middle 27 (15.08%) and upper class 16 (8.94%). In 68 (37.99%) cases, the socioeconomic strata of the victim were unknown.

Maximum victims 50 (27.93%) had completed only primary school education or 46 (25.70%)secondary school education. 14 (7.82%) victims were illiterate. None of the females had completed even graduation. Literacy status was unknown in 43 (24.02%) cases of which were 38 (21.23%) males and 5 (2.79%) females.

Table 3 shows occupation and marital status of victims of homicide. Homicide victims maximally belonged to the worker group 37 (20.67%) which includes 33 (18.44%) males and 4 (2.23%) females. Male victims were worker, student, driver, chowkidar, farmer, etc doing outskirts activity where as females doing housework were common victims of homicide.

Maximum 73 (40.78%) cases occurred in married people which included 55 (30.73%) males and 18 (10.06%) females. Amongst male victims in 62 (34.64%) cases males were single or unmarried and the apparent motive behind homicide was quarrel or love affairs. In contrast marital and familial disputes contributed to deaths of 18 (10.06%) married females victims. In 6 (3.35%) widow females and

Table 1: Age and gender wise distributions of victims of homicide

Age (years)	Gender		Total (%)
	Males	**Females**	
0-10	2(1.12%)	3(1.68%)	5(2.79%)
11-20	15(8.38%)	3(1.68%)	18(10.06%)
21-30	62(34.64%)	8(4.47%)	70(39.11%)
31-40	40(22.35%)	7(3.91%)	47(26.26%)
41-50	10(5.59%)	4(2.23%)	14(7.82%)
51-60	11(6.15%)	4(2.23%)	15(8.38%)
61-70	5(2.79%)	3(1.68%)	8(4.47%)
>70	2(1.12%)	0(0%)	2(1.12%)
Total	147(82.12%)	32(17.88%)	179(100%)

Table 2: Socioeconomic (Modified Kuppuswamy's scale) status and Educational status of victims

Demographic Characteristics	Number of cases		Total (%)	$\aleph$ 2-Value
	Males	**Females**		
Socio economic status				
Upper	15(8.38%)	1(0.56%)	16(8.94%)	
Middle	19(10.61%)	8(4.47%)	27(15.08%)	3.88 P=0.27,NS
Lower	56(31.28%)	12(6.70%)	68(37.99%)	
Unknown	56(31.28%)	12(6.70%)	68(37.99%)	
Educational Status				
Illiterate	9(5.03%)	5(2.79%)	14(7.82%)	
Primary	38(21.23%)	12(6.70%)	50(27.93%)	
Secondary	35(19.55%)	11(6.15%)	46(25.70%)	11.92 P=0.036,S
Graduate	21(11.73%)	0(0%)	21(11.73%)	
Post graduate	5(2.79%)	0(0%)	5(2.79%)	
Unknown	38(21.23%)	5(2.79%)	43(24.02%)	

Table 3: Occupation and marital status of victims

Demographic Characteristics	Number of cases		Total (%)	$\aleph$ 2-Value
	Males	**Females**		
Occupation				
Worker	33(18.44%)	4(2.23%)	37(20.67%)	
Farmer	4(2.23%)	3(1.68%)	7(3.91%)	
Driver	6(3.35%)	0(0%)	6(3.35%)	
Chowkidar	4(2.23%)	0(0%)	4(2.23%)	
Student	8(4.47%)	3(1.68%)	11(6.15%)	66.32 p=0.0003 S
Housework	1(0.56%)	13(7.26%)	14(7.82%)	
Business	5(2.79%)	0(0%)	5(2.79%)	
Technician	2(1.12%)	0(0%)	2(1.12%)	
Others	35(19.55%)	1(0.56%)	36(20.11%)	
Unknown	48(26.82%)	9(5.03%)	57(31.84%)	
Marital status				
Single	62(34.64%)	3(1.68%)	65(36.31%)	
Married	55(30.73%)	18(10.06%)	73(40.78%)	
Divorced	1(0.56%)	3(1.68%)	4(2.23%)	36.93 p=0.0005 S
Widow	2(1.12%)	6(3.35%)	8(4.47%)	
Unknown	26(14.53%)	3(1.68%)	29(16.20%)	

3 (1.68%) divorced females victims homicide after sexual assault was the main motive.
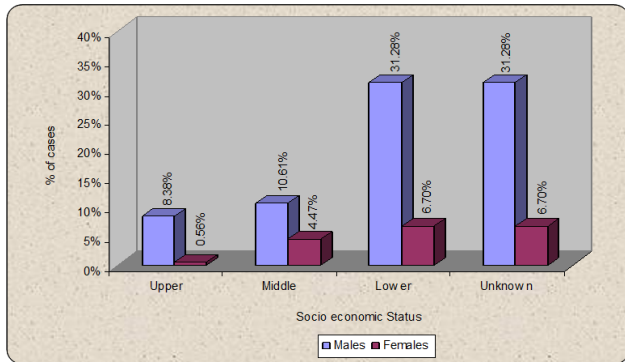

Fig. 1: Socio-economic status of victims of homicide
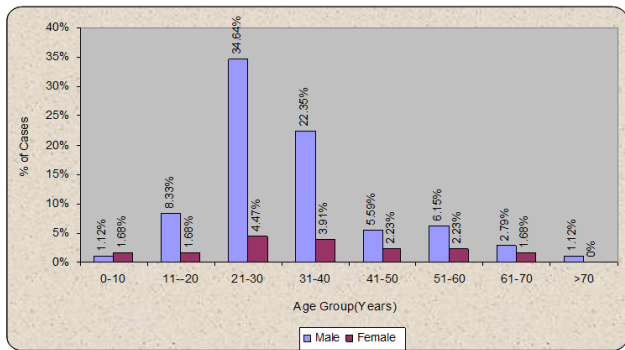

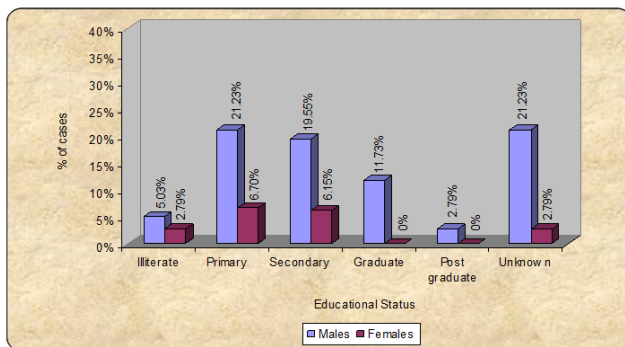**Fig. 2:** Age and gender wise distribution of victims of homicide

Fig. 3: Educational status of victims of homicide

5. Discussion

According to National Crime Records Bureau statistics 2013 (NCRB)[3] total number of cases of murder (S.300.IPC) recorded were 33201 which accounted for 1.3% cases of total IPC crimes in India. Incidence rate of homicide was 2.7% of total IPC crimes recorded in 2013.
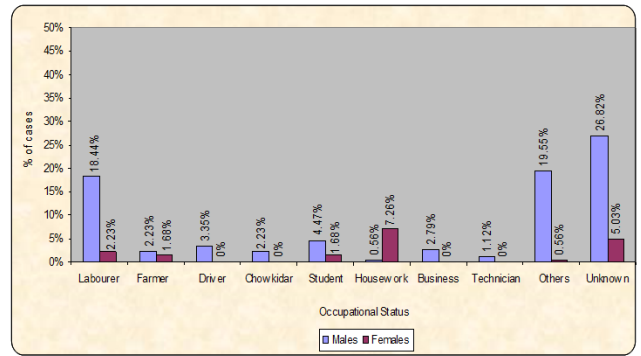

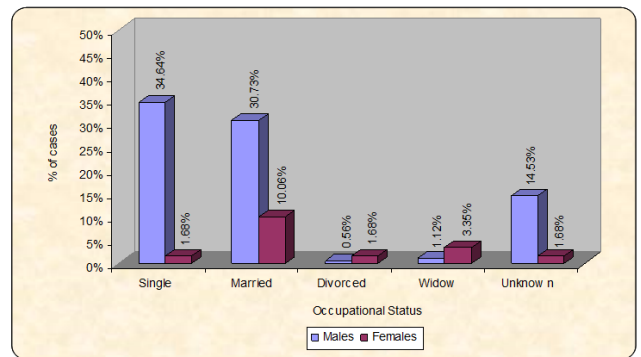**Fig. 4:** Occupational status of victims of homicide

Fig. 5: Marital status of victims of homicide

As per "Global study on homicide, United Nations Office on Drugs and Crime, 2014" the global average homicide rate stands at 6.2 per 1, 00, 000 population.[4]

In our present study we observed that homicide cases accounted for 5.24% of all cases brought for Medico legal autopsies in this institute.

In a study done in Bangalore by Hugar BS et al[5] from October 2005 to September 2007 total 1319 autopsies were conducted of which 57 (4.32%) cases were of homicide. Similarly Ambade VN et al[6] in orange city of India studied wound patterns in 241 (4.2%) cases of homicides retrospectively for a period of 5 years. Rastogi AK et al[7] conducted prospective study on 82 (4.24%) cases of homicide out of total 1931 autopsies in Indore. Shivkumar BC et al.[8] studied 40 cases of alleged homicide from October 2004 to September 2006 out of 840 medico-legal cases autopsies conducted. Mohanty S et al.[9] retrospectively analysed data of 590 homicide cases over 5 years out of 8504 autopsies in which cases of homicide were 6.94% of total number of autopsies.

Homicide rates were relatively lower in studies done by Bhupinder S et al.[10] (0.01 to 0.09%), Reza A et al. ([11] (1%) and Soumah MM et al.[12] (1.9%). Two years study by Shah JP et al. in[13] Rajkot region reported that homicide deaths account for 2.70% of all autopsies. In Surat district,

Zankuriya K et al[14] studied 119 (2.79%) cases of homicide out of 4264 autopsies over 2 years from 2011-2012.

In Nigeria Eze UO et al[15] studied 153 (3.1%) cases of homicide out of the 4928 coroner's autposies. Mada P et al.[16] studied 300 alleged homicide autopsies at Osmania medical institute from July 2007 to July 2009. Study done in North Eastern part of India by Mishra PK et al.[17] on 70 cases which accounted for 3.82% of total autopsies from 2009-2010.

Findings observed obtained in studies are in accordance with findings in our study.

In a study done on South Australians over a period of forty years from 1969- 2008 by Tamlett J et al[18] higher incidence rates of homicide observed was from 73.5 to 223.97 per 100,000 population.

Patel DJ et al.[19] in a study of two years from 1/1/2009 to 31/12/2010 the percentage of homicidal death was 9.13% of total autopsies. Mittal S et al[20] studied 200 alleged cases of homicides out of 1662 cases brought for post mortem examination at government medical college Amritsar from February 2003 to September 2004 out of which 13.03% cases were of homicide.

Findings of above studies depicts that, incidence of homicide is increasing globally. Probable reason for this increasing rate of homicide is rapidly increasing population; urbanization; poverty; unemployment; frustration; illiteracy; prevalent economic; social and political environment; insurgency; anti social activities; alcohol or drug addiction; easy availability of weapon; and the widening gap between the rich and the poor as cited in above studies.

Maximum numbers of victims were in the age group of 21-30 years 70(39.11%) cases followed by 31-40 years 47(26.26%) cases in our present study.

More than 50% victims of homicide were 20-40 years old in study done by Meel BL et al[21] in South Africa. Study done in Surat by Zankuriya K et al[14] reported that 30.25% victims were in the age group of 21 to 30 years followed by 22.69% cases of 31 to 40 yrs. Bhupinder S et al[10] study done in Malaysia reported that 37% of victims were in the 20-39 years age. Singh OG et al[22] reported that maximum number of victims 19 (31.15%) in homicidal deaths were in the age range of 21 to 30 yrs.

Ambade VN et al[6] reported male predominance and most common age group of victims of homicide as 30-40 years. Overall age range was 4-83 years in study of Eze UO et al.[15] In another study Kominato Y et al[23] in Japan observed the peak age group of victims between 35 to 45 years.

Karn A et al[24] in their study in Nepal observed earlier age peak of victims i.e. between 15-25 years. This might be due to higher incidence of drug addiction in juveniles in this region. Similarly in Dakar city (U.S.A) highest numbers of homicide victims were between age group of 21 to 25 years in the study done by Soumah MM et al.[25]

The findings about involvement of common age group of victims in our study are not in accordance with the findings of above studies.

In present study, highest incidence was seen in the age group of 20-40 years. Factors contributing predominantly in this age group for interpersonal violence were quarrel in 43% cases, love affairs in 31% cases, alcohol and drug abuse in 18% cases. Similarly 20-40 years is the most productive age group and being commonly involved in violent activities.

Out of total 179 victims of homicide observed in this study 82.12% victims were males and 17.88% victims were females. Male as to female ratio was 4.59:1.

Reza A et al[11] in their study on epidemiology of violent deaths reported that overall sex ratio was 3.4:1 in all age groups except in cases of infanticide where females outnumbered males.

Singh OG et al[22] studied 92 male and 27 female victims (male as to female ratio was 3.2:1). Bhupinder S et al[10] reported male as to female ratio of 3:1 in their study.

Karn A et al[24] out of the total 50 cases, the ratio of male as to female victims was 4:1 and Meel BL et al[22] observed sex ratio was of 5:1.

Sex ratios were lower in studies done by Hugar BS et al[5] (2.53:1), Zankuriya K et al[14] (2.6:1), Singh OG et al[22] (2.85:1) and Mishra PK et al[17] (2.9:1).

Male as to female ratios was higher in studies done in western world by Eze UO et al[15] (8.56:1) In study of Ambade VM et al[6] on homicide by sharp weapon homicides males out numbered females by a ratio of 12:1 as sharp weapons possession and use was more by males.

Sex ratio was almost equal in studies done by Kominato Y et al. (1: 1) in Japan. Reason behind this being females are equally advanced and involved in all activities in comparison with males in these developed country areas.

Preponderance of the male victims in this study could be due to the inherent nature of the males who are more aggressive and more inclined towards violent behavior, presence of aggravating factors like use of alcohol and drugs and the fact that they are outdoors and are at more risk in this part of world.

Maximum victims of homicide were illiterates, workers and belonging to lower socio-economic strata.

Similar findings were noted in studies done by Huggar BS et al[5] Mohanty S et al[9] Patel DJ et al[19] Singh OG et al[22] Shaw JP et al[13] Shivkumar BC et al[8] and Ambade VN et al.[6]

This may be attributed to high mobility in search of work, frustration in life, marital disharmony, lack of understanding and poverty in the lower socio-economic group to prompt a criminal behaviour.

In India males are bread winners for the family and are hence more active outdoors while most of the females being housewives are subjected to domestic violence either by

spouse or in-laws.

6. Summary and Conclusion

Results of our study can be summarized as follows

1. The total number of autopsies conducted during study period was 3412 out of which 179 cases (5.24%) were of death due to homicide.
2. Male as to female ratio was 4.59: 1.0 except in cases of infanticide (age group less than one year) where it was 1:3.
3. Most common age group of victims involved was 21-30 years followed by 31-40 years. Thus we can conclude that the bread earning productive population group is most frequent. However no age is bar to be a victim of homicide.
4. Most of the victims were illiterate, primary or secondary educated, labourers or unemployed persons belonging to lower socio economic strata of the society.

7. Source of Funding

None.

8. Conflict of Interest

None.

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