ORIGINAL ARTICLE

PATTERN OF SUICIDAL DEATHS IN FEMALES OF SOUTH GUJARAT REGION

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ABSTRACT

Background: Pattern of suicidal deaths is a reflection of the prevailing social set up and mental health status of the region. Many cultural and socio-economic factors of a country are responsible for the causation of such deaths in females. Suicidal deaths happen almost everywhere in the world.
Objective: The current study was conducted with an objective to find out the causes of suicidal deaths in females and the various reasons associated with them.
Methodology: The present study is hospital based cross-sectional study in which 138 autopsy cases of suicidal deaths in females were taken out of total 1983 autopsies conducted in the mortuary of Government Medical College and New Civil Hospital, Surat (South Gujarat) during the period from May 2009 to April 2010.
Results: The most common cause of death in majority of the deaths was poisoning (35.51%) followed by hanging (31.16%) and burns (27.54%) while common motive behind them was mental stress due to unknown reasons (51.45%). **Conclusions**: Most of the causes are preventable The result of this study indicates that, by not only a strong legal support network but also opportunities for economic independency, essential education and awareness, alternative accommodation and a change in attitude and mindset of society, judiciary, legislature, executive, men and the most importantly woman herself can lower or prevents the such suicidal deaths.

Keywords: suicidal deaths, autopsy, mortuary

INTRODUCTION

Suicidal death is one type of violent death which is caused by a deliberate act of the decedent with the intent to kill himself.[1] Data on such suicidal deaths in a particular geographic area can give the reflection of social and mental status of females. Suicidal deaths of married women have been an increasing trend in Indian society during the recent past years.

The most obvious reason behind such deaths is unending demands of dowry (cash / kinds) by their husbands and / or in laws, for which they torture the bride in such a way that she commits suicide, either by burning, poisoning, hanging, jumping from terrace or by some other means. Besides this, family quarrels due to ill-treatment by in-laws, rash and negligent behaviour or extra-marital affairs of husband and mal-adjustment and infertility in wives are other reasons behind such deaths. Its increasing incidence is symbolic of continuing erosion and devaluation of women's status in independent India.

By this study, we can know the various causes of suicidal deaths in females and the various motives behind them.

MATERIALS AND METHODS:

The present study is hospital based cross-sectional study which was carried out during the period of May 2009 to April 2010 in the Department of Forensic Medicine and Toxicology at Government Medical College and New Civil Hospital, Surat.

The materials comprised 138 autopsy cases of suicidal deaths of females of all ages, out of total 1983 autopsies done in our mortuary. The cases included not only Surat city but also from surrounding areas of South Gujarat region. These 138 autopsy cases of suicidal deaths had taken as study population irrespective of race, religion and caste after taking detailed informed written consent from next to kin of the deceased. Information regarding the name, age,

address, occupation, education, socio-economic status, marital status, history of death, apparent motive and the circumstances leading to such deaths of deceased were collected from the relatives / friends of the deceased, hospital records and the concerned investigating agencies. Other information like cause of death from the autopsy reports and final cause of death formed from the reports of samples and viscera, subjected to chemical analysis, histopathological examination and other investigations.

Proforma for study was prepared and all collected data were put into the master-chart, which was prepared and then feed into the computer in Excel worksheet and then analyzed.

OBSERVATION

The present study comprised 138 (6.96%) autopsy cases of suicidal deaths of females out of total 1983 autopsies.

Maximum cases (36.23%) were seen in age group of 21 – 30 years followed by 26.81% and 20.29% cases in age group of 11 – 20 and 31 – 40 years respectively. Minimum cases (4.45%) were seen in fifth decade while no case recorded in child below 10 years. There were more cases seen in urban region (68.84%) than rural (31.16%).

Housewives constituted the largest single category amounting nearly 71.74% and after that students (20.29%) and labourer (5.80%) were involved. Only 1 and 2 cases were seen in employed women and old age respectively. Most of females were literate (89.13%) who become victims in such deaths in which 30.44 % studied up to secondary school, 25.36% up to higher secondary, 25.36% up to graduation and only 7.97% were primary education. Rest victims were illiterate (10.87%).

Table 1: Distribution according to apparent motive

Apparent Motive	cases	Percentage
Mental stress due to unknown reasons	71	51.45
Family quarrel	15	10.87
Mental illness	14	10.15
Chronic illness	11	07.97
Failure in love	10	07.25
Maladjustment in marriage life	9	06.52
Failure in Exam	5	03.62
Financial problem	3	02.17
Cruelty by husband & in-law	3	02.17
Dowry	2	01.45
Others	6	04.35

Highest numbers of cases (40.58%) were seen in class II (upper - middle) followed by 36.96% and 13.04 % cases in class III (middle) and class IV (lower-middle) respectively. Only 3 cases were present in class V (lower) while class I (upper) was also involved in 12

cases. Hindus (89.86%) comprised the single largest category followed by Muslims (9.42%). Only 1 case was belonging to the Christian.Out of total number of cases, more than half of victims were married (69.57%) while 25.36% were unmarried and 5.07% were widow.

In the total 138 suicidal cases, most common motive for suicidal deaths was mental stress due to unknown reasons (51.45%) followed by family quarrel (10.87%), mental illness (10.15%), chronic illness (7.97%), failure in love (7.25%), mal-adjustment in marriage life (6.52%). In some cases there was more than one motive for suicide.

Table 2: According to Cause of death

Cause of death	No. of cases	Percentage
Poisoning	49	35.51
Hanging	43	31.16
Burns	38	27.54
Drowning	5	03.62
Multiple injuries	2	01.45
Abdominal injury	1	00.73
Head injury	1	00.73

Poisoning (35.51%) was most common cause of death in the total deaths. After that hanging and burns which caused the death in 31.16% and 27.54% cases respectively. Drowning comprised only 5 cases (3.62%) while in remaining cases multiple injuries (1.45%), head injury (0.73%) and abdominal injury (0.73%) were present. In one case there were two causes of death present.

DISCUSSION

Age wise distribution: In the present study, maximum cases (36.23%) were seen in age group of 21 – 30 years. followed by 26.81% and 20.29% cases in age group of 11 – 20 and 31 – 40 years respectively. Minimum cases (4.45%) were seen in fifth decade. This finding was consistent with the findings of Bhullar DS et al (1996)[2], Rahim M et al (1996)[3], Kulshrestha P et al (2001)[4], Singh D et al (2003)[5], Mohanty MK et al (2004)[6], Sharma BR et al (2004)[7], Mohan Kumar T et al (2006)[8], Sharma BR et al (2007)[9], Srivastava AK et al (2007)[10], Geeta S et al (2008)[11], Singh AK et al (2009)[12] and Kailash UZ et al (2009)[13].

With the belief that age of marriage in most of the urban, metropolitan and sub-urban societies had certainly gone up to somewhere near twenty, the married female if falling prey to this social devil would in all probability lie in age group of 21 - 30 years if the incidence occurs in initial few years of her married life. The cases were less after 30 years, probably as the age advances, the girls become mature and handle the situation in much efficient manners in life. Bhattacharjee J et al (1996)[14] in their study had however showed that age group most vulnerable was 30 – 39, which was slightly in disagreement with those of, present study.

Region wise distribution: There were more cases seen in urban region (68.84%) than rural (31.16%). This finding was consistent with the findings of Sharma BR et al (2004)[7]. In the study of authors[6,11,13], most cases were from rural region, which was totally in disagreement with those of, present study.

Occupation wise distribution: Housewives constituted the largest single category amounting nearly 71.74%. This finding was consistent with the findings of others[2,4,10,11,13] and Statistics of NCBI 2008[15]. Majority of victims were housewives that were dependant on their husbands or in-laws.

Education wise distribution: Most of females were literate (89.13%) who become victims in such deaths in which 30.44 % studied up to secondary school, 25.36% up to higher secondary, 25.36% up to graduation and only 7.97% were primary education. Rest victims were illiterate (10.87%). This finding was consistent with the findings of Kailash UZ et al (2009)[13] in which 72.35% of cases were educated less than metric and 12% were illiterates.

This finding was inconsistent with the Statistics of NCBI 2008[15] in which the maximum number of suicide victims was educated up to Primary level (25.3%). Illiterate and Middle educated persons accounted for 20.7% suicide victims and 23.7% respectively. Only 2.6% suicide victims were graduates and post-graduates.

This change may be because of change in life style, socio-economic conditions and population affected in the region of South Gujarat. For the fact, that the mostly affected were immigrants from neighbouring states and belonged to lower socioeconomic strata and were from major constituent of labourer class, low literacy rate could have been evident. Authors[4,6,10,11], in their study had however showed that illiterate women were most vulnerable, which was totally disagreement with those of, present study.

According to Kulshrestha P et al (2001)[4] about half of victims were found to be illiterate and among those who literate, non-matriculates formed more than half of the graduate and technical/professional combined constituted merely 9.39% of total.

Socioeconomic Status wise distribution: Highest numbers of cases (40.58%) were seen in class II (upper - middle) followed by 36.96% and 13.04 % cases in class III (middle) and class IV (lower-middle) respectively. Only 3 cases were present in class V (lower) while class I (upper) was also involved in 12 cases.This finding was not consistent with the findings of Srivastava AK et al (2007)[10] which shown majority of the victims were belonging to class III (middle) or class IV (lower-middle) socio-economic groups.

Kulshrestha P et al (2001)[4] and Kailash UZ et al (2009)[13] in their study had however showed that class IV (lower – middle) socioeconomic class was most vulnerable while in the study of Mohanty MK et al (2004)[6], Sharma BR et al (2007)[7] and Geeta S et al

(2008)[11], class V (lower) socio-economic class were mostly involved, which was in disagreement with those of, present study. The reason for the above said findings may be due to economic instability leading to violence against women in the form of dowry deaths.

Religion wise distribution: Hindus (89.86%) comprised the single largest category followed by Muslims (9.42%). Only 1 case was belonging to the Christian. This finding was consistent with the findings of authors[2,4,6,10,11,13]. We believed that marital / family discards and dowry problems were less in Muslim due to simple rituals and practice of "Mahr" / "dower" instead of evil practice of "dowry". Very low population and higher and professional qualification and cultural differences may be responsible for only 1 case having been reported from Christian religion. Rahim M et al (1996)[3] in their study had however showed that 95.47% of the unnatural deaths were the Muslims, 4.25% were Hindu and 0.14% was Christians, which was slightly in disagreement with those of, present study. Reason behind such finding, Bangladesh was Islamic country.

Marital Status wise distribution: Out of total number of cases, more than half of victims were married (69.57%) while 25.36% were unmarried and 5.07% were widow. This finding was consistent with the findings of authors[6,11,13,15].

Distribution according to apparent motive: In the total 138 suicidal cases, most common motive for suicidal deaths was mental stress due to unknown reasons (51.45%) followed by family quarrel (10.87%), mental illness (10.15%), chronic illness (7.97%), failure in love (7.25%), mal-adjustment in marriage life (6.52%). Srivastava AK et al (2007)[10] in their study had however showed that Ill-treatment by the in-laws, excessive pressure for dowry and negligent behaviour of husband were the main reasons behind suicidal deaths, which was slightly in disagreement with those of, present study.

According to Geeta S et al (2008)[11], marital disharmony was the principal reason behind suicide. According to Singh AK et al (2009)[12], depression, insecurity and excess work load responsible for the high incidence of suicidal deaths.

According to Kailash UZ et al (2009)[13], dowry was the most common motive for suicidal deaths. According to Statistics of NCBI 2008[15], Family Problems and Illness, accounted for 23.8% and 21.9% respectively, were the major causes of suicides among the specified causes. Love Affairs (3.0%), Bankruptcy, Dowry Dispute and Poverty (2.4% each) were the other causes driving people towards suicides.

According to Cause of death: Poisoning (35.51%) was most common cause of death in the total 138 suicidal deaths. After that hanging and burns which cause the death in 31.16% and 27.54% cases respectively. Drowning comprised only 5 cases (3.62%) while in remaining cases multiple injuries (1.45%), head

injury (0.73%) and abdominal injury (0.73%) present. In one case, there were two cause of death present.

This finding was consistent with the statistics of NCBI 2008[15], suicide by consuming poison (34.8%), hanging (32.2%), burns (8.8%) and drowning (6.7%) were the prominent means of committing suicides. Due to easy availability of poison materials, poisoning was preferred method for suicide. Hanging as we think was not accepted as a method of choice compare to poisoning, or due to awareness of the people. Kerosene oil, match sticks, and other cooking material, being easily available in houses so burns was also preferred by Indian women to commit suicide.

Authors[3,7,10,11,12], in their study had however showed that hanging was most common cause of death, which was slightly in disagreement with those of, present study. According to Sharma BR et al (2004)[7], females preferred self-immolation (burns) to end their own lives. According to Eilertsen HH et al (2007)[16], drowning and drug intoxication was the most common cause of death in elderly people while in my study there was poisoning. According to statistics of NCBI 2008[15], the pattern of suicides reported from 35 cities included Surat showed that Hanging (45.7%), Poisoning (21.3%) and burns (13.2%) were the prominent means adopted by the suicide victims in the cities.

CONCLUSION

The cause of death profile is an important set of public health information and forms the cornerstone of the health information system. At provincial level it is needed for health planning and deciding on intervention strategies. A low incidence of suicidal deaths in female should be described in favor of peace, harmony and happiness in society, state as well as in country. In present study, most of the victims were literate hindu-married females of 21 - 30 years of age belonging to upper-middle socio-economic class and majority of women were died due to poisoning.

The result of this study indicates that, by not only a strong legal support network but also opportunities for economic independency, essential education and awareness, alternative accommodation and a change in attitude and mindset of society, judiciary, legislature, executive, men and the most importantly woman herself can lower or prevents the such suicidal deaths.

REFERENCES

1. Pillay VV. Textbook of Forensic Medicine and Toxicology, 15th edition, 2010, Paras Medical Publishers, *Medico-legal aspects of injuries and death*, p. 263 – 264

2. Bhullar DS, Oberoi SS, Aggrawal OP, Tuli H. *Profile of unnatural female deaths (between 18-30 years of age)* in Government Medical College / Rajundra Hospital, Patiala. Journal of Forensic Medicine and Toxicology, Volume 8, Issue3, 1996, p. 5 – 8

3. Rahim M, Das TC, *Mortuary Profile for Unnatural Deaths Dhaka* (1996), Bangladesh Medical Journal, Volume 38, Issue 2, July 2009, p. 44 – 47

4. Kulshrestha P, Sharma RK, Dogra TD. *The Study of Sociological and Demographical Variables of Unnatural Deaths among Young Women in South Delhi within Seven Years of Marriage.* Journal of Punjab Academy of Forensic Medicine and Toxicology, Volume 2, 2002 and Medico - Legal Update, Volume 4, Issue 1, 2004, p. 5 - 14

5. Singh D, Dewan I, Pandey AN, Tyagi S. *Spectrum of unnatural fatalities in the Chandigarh zone of north-west India - a 25 year autopsy study from a tertiary care hospital,* Journal of Clinical Forensic Medicine, Volume 10, Issue3, September 2003, p. 145 - 152

6. Mohanty MK, Panigrahi MK, Mohanty S, Das SK. *Victimiologic study of female homicide*, Journal of Legal Medicine, Volume 6, Issue 3, July 2004, p. 151-156

7. Sharma BR, Singh VP, Sharma R, Sumedha. *Unnatural Deaths in Northern India - A Profile*, Journal of Indian Academy of Forensic Medicine, Volume 26, Issue 4, 2004, p. 140 – 146

8. Mohan Kumar T, Kanchan T, Yoganarasimha K, Pradeep Kumar G. *Profile of unnatural deaths in Manipal, Southern India 1994–2004*, Journal of Clinical Forensic Medicine, Volume 13, Issue 3, July 2006, p. 117 – 120

9. Sharma BR, Harish D, Sharma A, Sharma S, *Accidental burns in Indian kitchens: Are they really accidental?* Journal of Indian Academy of Forensic Medicine, Volume 29, Issue 1, 2007

10. Srivastava AK, Arora P. *Suspicious Deaths in Newly Married Females – A Medicolegal Analysis*, Journal of Indian Academy of Forensic Medicine Volume 29, Issue 4, 2007, p. 62 – 66

11. Geeta S, Sachidananda M, Sekhar TC, Manju P. *Victimiologic Study of Female Suicide,* Medico-Legal Update - An International Journal, Volume 8, Issue 1, 2008

12. Singh AK, Verma AK, Singh K, Singh M, Kumar S. *Pattern of Un-natural Deaths in Lucknow, Capital of Uttar Pradesh.* Paper presented in Scientific Session of Forensic Medicon 2010, XXX Annual conference of Indian Academy of Forensic Medicine (IAFM) on January 2010 at Nagpur.

13. Kailash UZ, Mugadlimath A, Gadge SJ, Kalokhe VS, Bhusale RG. *Study of some socio-etiological aspects of unnatural female deaths at Government Medical College, Aurangabad.* Journal of Indian Academy of Forensic Medicine, Volume 31, Issue3, 2009, p. 210 – 217

14. Bhattacharjee J, Bora D, Sharma RS, Varghese T. *Unnatural deaths in Delhi during 1991.* Journal of Medicine, Science and the Law, Volume 36, Issue 3, July 1996, p. 194 – 198

15. Accidental and Suicidal deaths in India 2008. National Crime Bureau of India. Available from: URL: http://ncrb.nic.in/ADSI2008/accidental-deaths-08.pdf and Suicidal-deaths-08.pdf

16. Eilertsen HH, Lilleng PK, Maehle BO, Morild I, *Un-natural Death in the Elderly: A Forensic Study from Western Norway,* Forensic Science, Medicine, and Pathology, Volume 3, Issue 1, 2007, p. 23 – 31