

ORIGINAL RESEARCH PAPER

Victimologic study of female suicide in Mumbai Region

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ABSTRACT

Introduction: Rising graph of suicides specially among females in India is a matter of deep concern. **Materials and methods:** Two-year, prospective study conducted at a tertiary care centre in Mumbai. **Results:** Suicidal deaths (37.93%) belongs to the age group of 21 to 30 years. 68.97% females committing suicides are housewives, 44.8% females are illiterate while 43.1% are of lower socio-economic class. 82.76% female victims are married and 41.67 % died within 1 year of her marriage. In 34 female victims (58.62 %), no previous attempt of suicide is seen, in 65.52% female victims, suicide note is not found and in 47 cases, females are menstruating (81.03%). Maximum females died due to asphyxia (46.55 %) followed by Burns injury. **Conclusion:** Financial dependency, illiteracy, familial disharmony and emotional turbulence during menstruation are the factors provoking young females to succumb to suicide. Promotion of education, economical independency and counselling are need of the hour.

Keywords: Menstruation; asphyxia; suicide note.

INTRODUCTION

Suicide is an evil enrooting in our society since ages. Government of India classifies a death as suicide if it meets the following three criteria- a) It is an unnatural death. b) The intent to die originated within the person. c) There is a reason for the person to end his or her life.

The reason may have been specified in a suicide note or unspecified.¹ In 2012, 34% each of all suicides with about 46,000 suicides occurred each in 15-29 and 30-44 age groups.² In 2016 the number of suicides in India had increased

to 230,314.³ A study conducted in Bangalore showed that domestic violence is a major contributory factor of female suicides.⁴ There is an increasing trend of suicides with each passing year.

This study is conducted with the aim of probing into the socio-demographic, medico-legal aspects and provocative factors of suicides among females.

MATERIAL AND METHODS

This is a study of observational, prospective study design with a study period of 2 years, i.e. from 1st October, 2016 to 30th September, 2018 conducted at the Department of Forensic Medicine and Toxicology, in a tertiary care centre in a metropolitan city. This study has been approved by the ethics committee (EC). Reference population included cases reported and referred to this study centre, while study population included deaths due to suicide among females. Total of 58 suicides were analysed. Various relevant socio-demographic and medico-legal aspects are stratified and analysed with the resource being post-mortem examination reports, documents of investigating agencies like police inquest Panchnama, Magistrate inquest Panchnama wherever

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applicable, accidental death report and statements of relatives taken by police during investigation, Spot Panchnama, suicide notes if applicable. All findings are explained and portrayed in tabular form and inference is extracted. After entry, data is analysed using frequency distribution and statistical test with the help of computer generated software (S.P.S.S.16.0).

RESULTS

Table 1 Distribution of age group among suicidal deaths

AGE GROUP	FREQUENCY	PERCENTAGE
11 to 20	10	17.24%
21 to 30	22	37.93%
31 to 40	19	32.76%
41 to 50	7	12.07%
TOTAL	58	100

This study shows that 37.93% of suicidal deaths occurred in the age group of 21 to 30 years followed by 31 to 40 years of age group and 11 to 20 years of age group. Minimum (12.07%) belonged to the age group of 41 to 50 years as shown in **Table 1**.

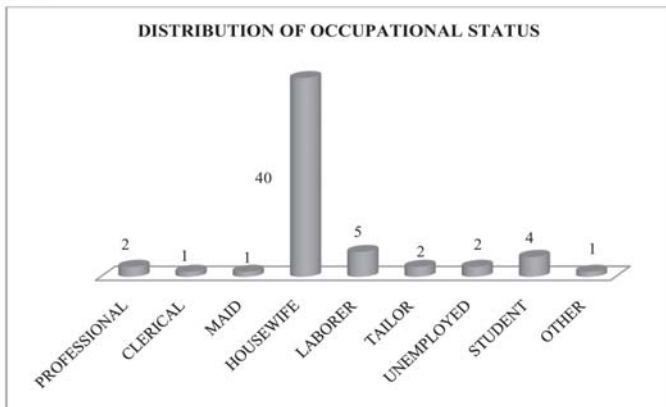


Figure 1 Distribution of occupational status among suicidal female deaths

Out of 58 suicidal deaths, 68.97% females are housewives, 8.62% work as labour, 6.89% females are students, 3.44% females are professionals, tailors and are unemployed. In 1.72% cases, females work as clerks, maids and in other professions as described in **Figure 1**.

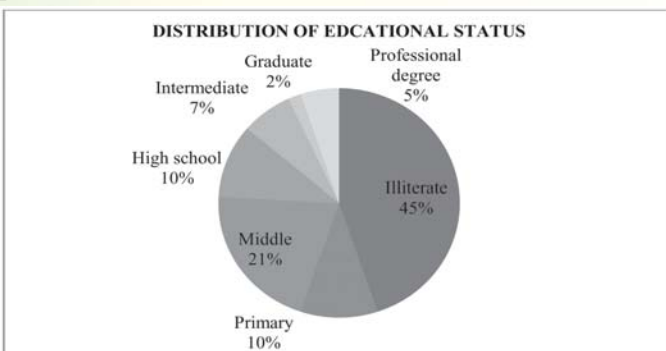


Figure 2 Educational status among suicidal deaths

Figure 3 describes that 45% females are found to be illiterate, 10% receives high school education and primary education, while 21% females learnt up to middle school. 5% females acquired professional degree and only 2% are graduates.

Table 2 Socio-economic status according to Kuppuswamy’s among suicidal deaths

Socio-economic staus	Frequency	Percentage
Upper	1	1.7
Middle	13	22.4
Upper lower	25	43.1
Lower	19	32.8
Total	58	100.0

Out of 58 female suicides, 43.1% belonged to upper lower class of Kuppuswamy’s classification of socio-economic status, around 32.8 % belonged to lower class, 22.4 % are of middle class and 1.7 % belonged to upper class as mentioned in **Table 2**.

Table 3 Distribution of provocative factors among suicidal deaths

Provocative factors	Frequency	Percentage
Love failure	5	8.62
Domestic abuse	16	27.58
Divorce	2	3.45
Dowry	23	39.66
Psychiatric disease	1	1.72
Exam failure	3	5.17
Infertility	4	6.9
Mental stress due to unknown reason	3	5.17
Not known	1	1.73
Total	58	100

Table 3 shows that in most of the suicidal deaths dowry was a provocative factor (39.66%), followed by domestic abuse (27.58%), love failure in 8.62% cases, infertility in 6.9%, in 5.17% cases mental stress due to unknown reason and exam failure is an important provocative factor. In one case, diagnosed psychiatric disease is the provocative factor, while the provocative factor is not known in 1 case.

Table 4 Duration of marriage among married female victims

Duration of marriage (years)	Frequency	Percentage
<1	20	41.67
1 TO 2	12	25.00
2 TO 3	4	8.33
3 TO 4	5	10.42
4 TO 5	4	8.33
5 TO 6	2	4.17
6 TO 7	1	2.08
TOTAL	48	100.00

In about 41.67% cases, suicide is committed within one year of marriage, in 25% cases, suicide is committed between 1 to 2 years, in 10.42% cases, suicide is committed between 3 to 4 years, in 8.33% cases, suicide is committed between 2 to 3 years and 4 to 5 years, while in 4.17 % cases, suicide is committed between 5 to 6 years and only in one case it is committed within 6 to 7 years of marriage as described in **Table 4**.

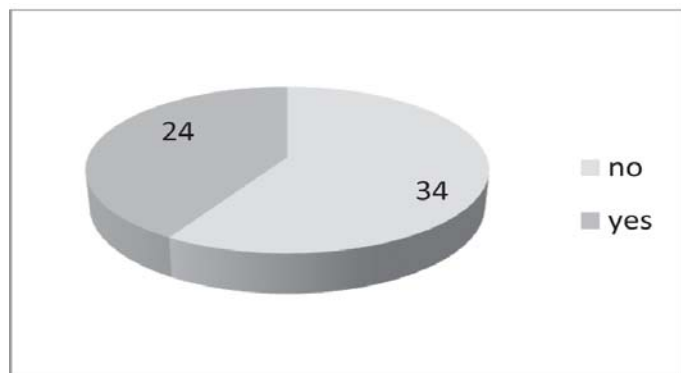


Figure 3 Previous attempts of suicide

In 58.62% cases, no previous attempts of suicide is noted, whereas in 41.37% cases, previous attempts are noted as depicted in **Figure 3**.

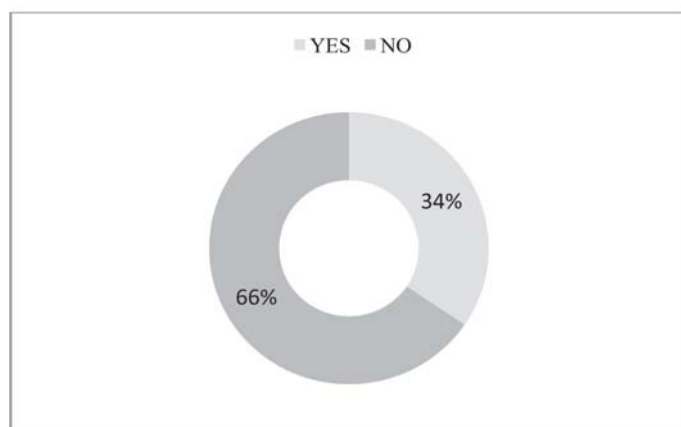


Figure 4 Suicide notes among suicidal deaths

Figure 4 shows that in 66% cases, suicide notes are not found, while in 34% suicide notes are found.

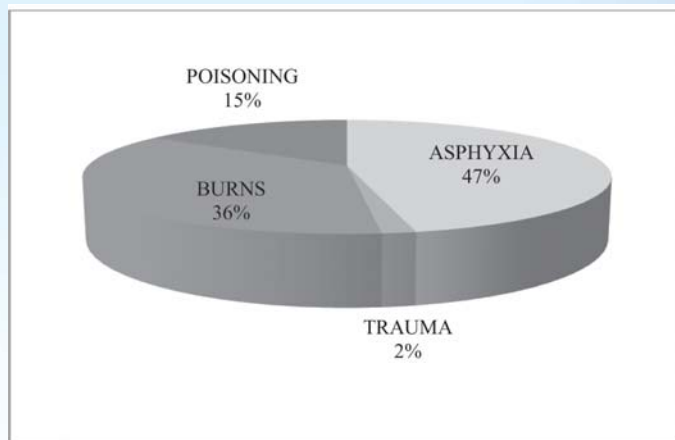


Figure 5 Cause of death among suicidal deaths

Figure 5 depicts that in 47% cases, suicides are committed by hanging (asphyxia) followed by burns injury (36%), poisoning in 15% deaths and trauma (fall from height) in 2% cases.

Table 5 Menstruating and non-menstruating cases among suicidal deaths

Uterus	Suicidal deaths
Menstruating	47 (81.03%)
Non-menstruating	11 (18.97%)
Total	58

As stated in **Table 5**, 81.03% females are found to be in the menstruation phase of menstrual cycle and 18.97% females are found to be non-menstruating.

DISCUSSION

As described in **Table 1**, maximum female victims among suicidal deaths (37.93%) belongs to the age group of 21 to 30 years and minimum belong to the age group of 41 to 50 years.

These findings are similar to Singh Harnam et al, Pradip Kumar et al, Chavan KD et al, Behera et al, Sharma BR et al, Ambade VN et al.⁵⁻¹⁰ In this younger and vulnerable age group, suicidal tendencies are more frequent, may be due to frustration and depression secondary to exam failure, unsuccessful love affair, marital disharmony, unemployment etc.

As per **Figure 1**, out of 58 suicidal deaths, 2 (3.45 %) are professionals, 1 (1.72%) female victim of clerical job and 1 (1.72%) is maid , 40 (68.97%)female victims are housewives, 5 (8.62%) female victims are laborers, 2 (3.45%) and 2 (3.45%) are tailors, 4 (6.9 %) are students and 1 (1.72 %) are involved in other occupation. Maximum females, who committed suicide are housewives (68.97 %) and minimum (1.72 %) are involved in clerical job, maid and in other occupation. Similar findings are noted in PN Suresh Kumar

et al, wherein housewives are most commonly involved in suicide.¹¹ This may be due to the fact that, housewives are economically and emotionally dependant on their husbands , which makes them more vulnerable to suicide.

As described in **Figure 2**, out of 58 females, 26 (44.8%) are illiterate. Out of 58 females, 6 (10.3%) received primary school education. Out of 58 females, 12 (20.7%) received middle school education. Out of 58 females, 6 (10.3%) received high school education. Out of 58 females, 4 (6.9%) received intermediate education. Out of 58 females, 1 (1.7%) received graduate education.

In the present study, educational status is analysed from the inquest papers, statement of relatives and interview of friends and relatives. Maximum female victims who committed suicide are (44.8 %) are illiterate and minimum female victims (1.7 %) is graduate. It has also been observed that, illiterate females are victims of dowry than other provocative factors, which showed a significant p value <0.00001, significance at p<0.05. This highlights the importance of education which will enable these females to become financially independent and protect themselves from dowry harassment and domestic abuse. Similar findings are noted in Vijayamahantesh SN et al and Kadu Sandeep et al.^{12,13}

In this study, the population is categorised according to Kuppuswamy's socio-economic status.

As mentioned in **Table 2**, out of 58 females, (1.7%) belongs to upper socio-economic class. Out of 58 females, 13 (22.4%) belongs to socio-economic middle class. Out of 58 females, 25 (43.1%) belongs to socio-economic upper lower class. Out of 58 females, 19 (32.8%) belongs to socio-economic lower class. Maximum female victims who committed suicide are from upper lower class (43.1 %) and lower class (32.8%). These findings are similar to Vijayamahantesh SN et al and Kadu Sandeep et al.^{12,13} This may be due to the fact that lower and upper lower class female victims are exposed to continuous financial and daily stress of life.

As per table no 3, that in most of the suicidal deaths dowry was a provocative factor (39.66%), followed by domestic abuse (27.58%), love failure in 8.62% cases, infertility in 6.9% and in 5.17% cases mental stress due to unknown reason and exam failure is an important provocative factor. In one case, diagnosed psychiatric disease is the provocative factor, while the provocative factor is not known in 1 case. It has also been observed in the present study that dowry is a significant provoking factor in suicides within first year of marriage with a significant p-value <0.00001, when compared.

Similar observations are noted in Santosh CS et al, who stated that dowry was a provoking factor in most cases of suicides in females (27.27%).¹⁴ Anjanamma et al found that domestic abuse was a more significant cause in 44% cases of suicide in females.¹⁵ Similar observations were also noted by Harnam

Singh et al.¹⁶

According to table no 4, out of 48 females, 20 (41.67%) died within 1yr of marriage. Out of 48 females, 12 (25.00%) died between 1 to 2 yrs of marriage. Out of 48 females, 4 (8.33%) died between 2 to 3 yrs of marriage. Out of 48 females, 5 (10.42%) died between 3 to 4 yrs of marriage. Out of 48 females, 4 (8.33%) died between 4 to 5 yrs of marriage. Out of 48 females, 2 (4.17%) died between 5 to 6 yrs of marriage. Out of 48 females, 1 (2.08%) died between 6 to 7 yrs of marriage.

Maximum female victims died within 1 year of her marriage (41.67 %) and minimum died between 6 to 7 years of age (2.08 %). This may be due to inability of married females to adjust with the environment of in-laws in the early marriage years and hence, susceptible to marital disharmony and familial disharmony. These findings are similar to Vijayamahantesh SN et al, Behera et al , Kadu Sandeep et al.^{12,17,13}. These findings are dissimilar to Panarat Sritus et al.¹⁸

Figure 3 states that, out of 58 suicidal deaths, in 24 female victims (41.38%) victims previous attempts of suicide are noted. In 34 female victims (58.62 %), No previous attempt of suicide is seen.

This is noted by multiple hesitation marks, previous scars and detailed history by relatives. In maximum female victims, 41.38 % committed previous attempts of suicide, which increases the tendency of committing suicide and dying. Similar findings are noted in Bagadiya et al.¹⁹

Figure 4 states that out of 58 suicidal female deaths, 20 female victims (34.45%) left a suicide note and in 65.52% female victims, suicide note is not found. Suicide notes are written in their own language. Similar findings are noted Benett and Collins et al, wherein suicide notes are found in 22 % cases.²⁰

Figure 5 states that, out of 58 females, 27 (46.55%) died due to asphyxia. Out of 58 females, 1 (1.72%) died due to trauma. Out of 58 females, 21 (36.21%) died due to burns. Out of 58 females, 9 (15.52%) died due to poisoning. Maximum females died due to asphyxia (46.55 %) followed by Burns injury and minimum females died due to trauma (1.72 %), i.e by jumping from height. Similar observations are noted Paranut Sritus et al (42.3%), Singh Kh (52.03%), Suresh Kumar (51.9%).^{15,21,11}

It has also been observed in the present study that dowry is a significant provoking factor than other provoking factors for suicides in case of burns injury with a significant p-value <0.00001, when compared. This justifies the term bride burning, which is a social evil growing in our society. Similar to the findings of Guntheti et al, where in dowry and Harassment from in-laws are important provocative factors.²² Similar findings are noted in Dere Rajesh et al and Meera T et al.^{23,24}

Table 5 states that , out of 58 suicidal deaths, 47 females are

menstruating (81.03%) and in 18.97 % cases, 11 cases are non-menstruating. Similar findings are stated by Baca – Garcia²⁵ et al according to which the first (or menstrual) and fourth (or premenstrual) week of the menstrual cycle may be associated with many suicide attempts in women.

CONCLUSION

Maximum female victims among suicidal deaths (37.93%) belongs to the age group of 21 to 30 years. Suicides among housewives is common. 44.8% females are illiterate belonging to lower socio-economic class which is suggestive of the fact that illiterate, poor females are economically dependent, making them susceptible to commit suicide which imposes the need of propagation of education and economical independency. Maximum females died within 1 year of her marriage (41.67 %). This may be due to inability of married females to adjust with the environment of in-laws in the early marriage years and hence, susceptible to marital disharmony and familial disharmony. Dowry (39.66%) and Domestic abuse (27.58%) are important provocative factors for suicide. In 34 female victims (58.62 %), no previous attempt of suicide is seen, in 65.52% female victims, suicide note is not found and in 47 cases, females are menstruating (81.03%) suggestive of the fact that these may not be planned suicides but happened in moments of emotional turbulence. Maximum females died due to asphyxia (46.55 %) followed by Burns injury.

Author's contribution: We declare that this work was done by the Author named in this article and all liabilities pertaining to claims relating to the content of this article will be born by the authors. The Author no 1 mentioned is involved in conducting the study and Author no 2 is involved in preparation of manuscript.

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