Original Research Article

An Autopsy Based Study of Suicidal Deaths in Gandhi Hospital, Secunderabad

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How to cite this article: Mukkera Tejaswini, Iqbal Banu Hussain, Khazi Mudabbir Ahmed et. al. An Autopsy Based Study of Suicidal Deaths in Gandhi Hospital, Secunderabad. Indian Journal of Forensic Medicine and Toxicology/Volume 18 No. 3, July - September 2024.

Abstract

Suicide is a serious global public health issue. Suicide refers to the act of intentionally causing one's own death. The aim of the study is to find the pattern of suicidal deaths and to identify the high-risk groups. The study was carried out in the Department of Forensic Medicine and Toxicology, Gandhi Medical College, Secunderabad, Telangana. This was based on the observation of 200 deaths due to suicides in 18 to 45 age group during the study period January 2020 to July 2021. It is observed that majority of victims were aged between 18-25 years (33.50%) and married (61.50%). Males (77.00%) are more victims as compared to females. The leading motive behind suicide was emotional factors (32.5%) and most commonly adopted method to commit suicide was hanging (41.50%). Health education, counselling, timely crisis intervention either by medical or social methods will reduce the number of suicide victims.

Keywords: Poisoning, Hanging, Suicide, Suicide note, Suicidal death.

Introduction

Suicide refers to the act of intentionally causing one's own death. According to World Health Organization (WHO)`s latest estimates published in"Suicide worldwide in 2019" states that Suicide remains one of the leading causes of death worldwide[1]. Southeast Asia aspires Sustainable Development Goal (SDG) of reducing the suicide death rate by one-third till 2030[2].

In the last three decades, the suicide rate has increased by 43% but the male to female ratio has been stable at 1.4: 1. Majority(71%) of suicide in India are

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Submission date: March 22, 2024 **Revision date:** April 16, 2024 **Published date: July 17, 2024**

by persons below the age of 44 years which imposes a huge social, emotional and economic burden[3]. As per WHO's approximation, there is one suicide every minute and an attempted suicide every third second. It implies that the number of killed due to suicide is greater than that of the ones killed due to the armed conflict[4].

Padubidri et. al.[5] did a study consisted a series of 328 consecutive autopsies on women in the reproductive age group, between 2009 and 2011 at the Government Wenlock District Hospital, Mangalore, India by qualified specialist forensic medicine experts. In this study, the preponderant method of suicide was by poisoning at 42.3% (63 cases), followed by hanging (34.9%), burns (11.4%) and drowning (9.4%). These four methods comprised 98% of the total suicidal deaths. Accidental deaths were predominantly caused by burns (62.2%) and road traffic accident (23.1%)[5].

There is a felt need to decrease the rate of suicidal deaths by creating awareness about factors leading to suicidal deaths, and the importance of keeping an eye on people who has previously attempted for suicide. Hence this study was conducted to analyze various factors that are leading to suicidal deaths so that we can do awareness interventions to improving this important public health issue.

Materials and Methods

Study setting: An autopsy-based study was conducted in Gandhi Hospital Secunderabad, Telangana, through the period of January 2020 to July 2021.

Source of data: Data was collected from Inquests, First Information Reports, statements made by the relatives and eye witnesses, hospital records, panchanama at the scene of offence through the police and post mortem examination reports.

Inclusion criteria: All cases of deaths due to suicides under the age group of 18 to 45 years brought to the mortuary of Gandhi hospital were included.

Exclusion criteria: The following cases were excluded from study:

- Isolated deaths where proper evidence was not procured.
- Poisoning cases where chemical analysis report of Forensic Science laboratory was negative.
- Properly documented homicidal and accidental deaths.
- Advanced decomposition cases where cause of death could not be determined.

Results and Discussion

In this study we collected the data of 200 suicidal death cases came to the mortuary of Gandhi Hospital Secunderabad during the study period. In the present study, the age group 18 to 25 years constituted majority of deaths (33.5%), similar to the study done by Karthik et. al.[5]. The peak age for committing suicides was 21 to 30 years with the percentage of 43.27%. The highest number of cases were recorded in the Hindu group i.e., 91.5% due to higher percentage of Hindus in general population followed by Muslim 05% and Christians 3.5%. Majority of the cases were from Lower Socio-Economic class (55.5%) followed by middle Socio-Economic class (42.5%) and least from Upper class (2%).

The present study revealed married people are predominant amounting to 61.5%, followed by unmarried (36.5%), divorced (01%), widow (01%). Majority of the cases were labourers by occupation (40%), Home Makers were 13%, Agricultural labourers were 06%, Private Employees 14% and unemployed 03%. Similarly results were also found in the study conducted by Sandeep Krishna Murthy Kosaraju et. al.[7] were females in age group of 20-30 years, uneducated, married and daily laborers by occupation had higher incidence of suicidal attempts. (table 1)

In this study group, 37% of suicidal deaths were seen in those who were admitted in hospital and died during the treatment, remaining 63% deaths were those which occurred at the scene. Hanging is the most commonly adopted method to commit suicide i.e., 41.5% of deaths. The other means adopted

for committing suicide in the decreasing order of percentage of deaths are as follows, poisoning 26.5% (Organophosphorus poisoning 20.5%, Herbicide poisoning 3%, Acid poisoning 2%, Phenytoin poisoning 1%). This result is consistent with a study done by Kanchan et. al.[8] in which most favored method of suicide amongst males and females was hanging (36.9%) followed by poisoning (34.7%).

According to the present study, leading motive behind suicide was emotional factors 32.5%, followed by marriage related issues 23.5%, due to illness (mental health and physical heath) 20.5%, due to financial problems 20%, due to love failure 2.5% and not known is1% of deaths. (table 2). Total of 97 deaths out of 200 cases were preceded by fight or argument, in which 72 were male and 25 were female.

Similarly, in the study by Thomas Simon et. al.[9] highest number of deaths occurred in the cases preceded by fight or argument the 153 case-subjects, 24% attempted impulsively. Impulsive attempts were more likely among those who had been in a physical fight and less likely among those who were depressed. In the present study highest number of deaths recorded during morning time from 06:00AM to 12:00PM, 31.5% and least from early mornings 12:00AM to 06:00AM, most of the cases (64.5%) were of those who died immediately after suicide, followed by those who were admitted in the hospital and survived 48 hours to one week i.e., 11.5% followed by 24 to 48 hours i.e., 8%, 12 to 24 hours is 7.5%, less than 12 hours is 6%, more than a week is 1.5% and the least is percentage was seen in the group who survived more than a month, more deaths occurred in winter 35.5%, followed by rainy 32.5% and summer 32%. (table 3)

In this study the male gender is predominant amounting to 77% and females 23% (figure 1), resembling with study of Sachil Kumar et. al.[10]. There were 5204 cases of males (56.61%) and 2258 female (43.38%) victims . Our study shows urban preponderance 60%, followed by rural cases 40%(figure 2). In contrast to the above results, study conducted by Suchita Rawat et. al.[11] the resulted cases were majorly reported from rural regions (1217 cases, 92.8%) than compared to urban regions (95 cases, 7.2%). In this study most of the deaths were noted in their houses 77%, outside 12%, on railway track 10%, and Work place 1%. (figure 3).

Table 1: Distribution of study population according to person (n=200)

Variable	Category	Total no. of deaths	Percentage
Age distribution	18-25 years	67	33.5
	26-30 years	40	20
	31-35 years	43	21.5
	36-40 years	40	20
	41-45 years	10	5
Religion	Hindu	183	91.5
	Muslim	10	5
	Christian	7	3.5
Socio-economic status	Lower class	111	55.5
	Middle class	85	42.5
	Upper class	4	2
Marital status	Unmarried	73	36.5
	Married	123	61.5
	Divorced	2	1
	Widowed	2	1

Continue.....

Occupation	Unemployed	6	3
	Labourer	80	40
	Agricultural labourer	12	6
	Homemaker	26	13
	Driver	13	6.5
	Student	17	8
	Private employee	28	14
	Doctor	1	0.5
	Cricket coach	1	0.5
	Business	4	2
	Others	6	3
	Not known	6	3
Education	Illiterate	64	32
	Schooling	38	19
	Intermediate	19	9.5
	Degree	40	20
	B. Tech	5	2.5
	Graduate	2	1
	Post graduate	4	2
	Not known	28	14

Table 2: Distribution of study population according to cause & motive of death

Hospital admission	Yes	74	37
	No	126	63
Cause of death	Hanging	83	41.5
	Poisoning	53	26.5
	Burns	17	8.5
	Drowning	17	8.5
	Multiple injuries	29	14.5
	Stab injury	1	0.5
Motive behind suicide	Emotional factors	65	32.5
	Marriage related issues	47	23.5
	Financial problems	40	20
	Illness	41	20.5
	Love failure	5	2.5
	Not known	2	1

Table 3: Distribution of study population according to time period

Variable	Category	Total no. of deaths	Percentage
Time of incidence	06:00 am - 12:00 pm	63	31.5
	12:00 pm - 6:00 pm	60	30
	06:00 pm -12:00 am	60	30
	12:00 am - 06:00 am	17	8.5

Continue.....

Survival period	less than 12 hours	12	6
	12 to 24 hours	15	7.5
	24 to 48 hours	16	8
	48 hours to one week	23	11.5
	more than one week to one month	3	1.5
	more than one month	2	1
	Nil	129	64.5
Season	Winter	71	35.5
	Summer	64	32
	Rainy	65	32.5

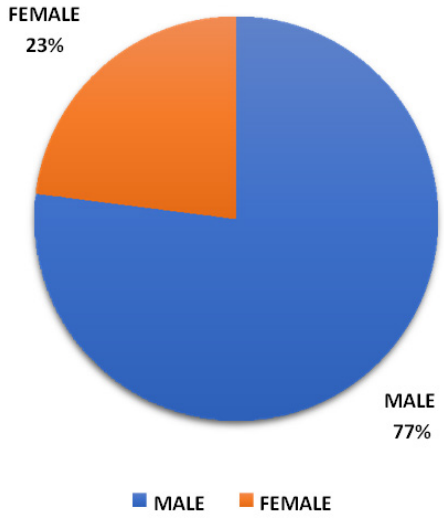

Figure 1: Distribution of study population according to gender

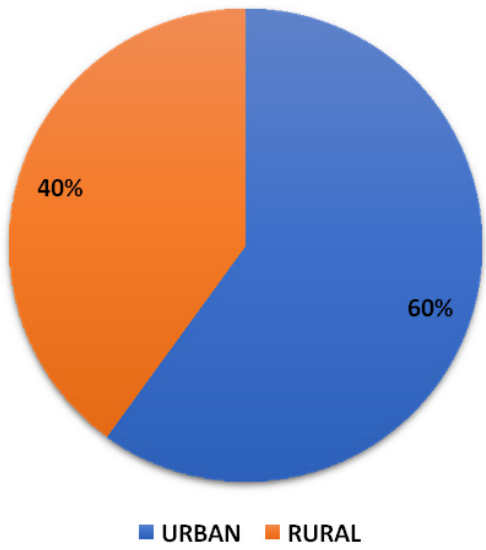

Figure 2: Distribution of study population according to geographical area

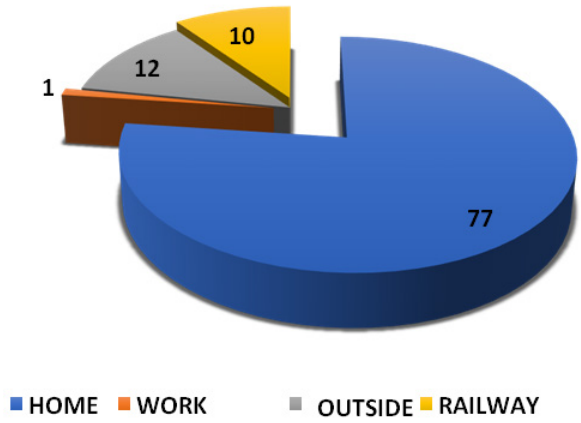

Figure 3: Distribution of study population according to place

Conclusions

Introduction, review of literature and studies conducted by various researchers earlier were reviewed and correlated with the present study. The study highlights various factors associated with deaths by suicides and interventions in preventing such deaths. Results from the study are tabulated and graphically represented to draw conclusions and give suggestions. The following conclusions were drawn after the study of 200 cases of deaths due to suicide in age group 18-45yrs at Gandhi Hospital Mortuary, Secunderabad. Majority of victims were aged between 18-25yrs (33.50%), males comprised the majority victims as compared to females (77.00%), maximum cases recorded during morning hours (31.50%), majority of victims were married. (61.50%), most commonly adopted method to commit suicide is hanging (41.50%).

Early identify access, manage and follow up anyone who is affected by suicidal behaviors. Psychological counselling should be provided to all people in order to tackle any kind of stress in education, unemployment, financial problems, physical illness, emotional problems, marriage related issues. Training of general practitioners is effective in the prevention of suicide. It improves treatment of depression and anxiety, quality of the provided care and attitudes towards suicide.

Conflict of interest: Nil

Funding: Nil

Ethical clearance: Obtained from Gandhi Medical College Ethical Committee

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