IJHRMLP
ISSN 2394–806X (Print), ISSN 2454-5139 (Online)

International Journal of Health Research and Medico-Legal Practice

RESEARCH PAPER

A prospective study of suicidal deaths and its risk factors at a tertiary carelevel hospital of Ahmedabad a post-mortem study

Article ID: 552
*Qureshi MA**
Address for correspondence:
**Third-year Postgraduate Trainee, Forensic Medicineand Toxicology SMT. NHL Municipal Medical College, Ahmedabad-380006*
Email: misbahqureshi776@gmail.com
Mobile.: +919726220487
Article received: 18-09-2022
Received (revised): 12-11-2022
Editorial approval: 19-11-2022
Checked for plagiarism: Yes
Peer-reviewedarticle: Yes
Peer review comments: Ten
Editor who approved:
Prof. (Dr.) O. Gambhir Singh

Background and aims: Suicide is one of the significant causes of death. Suicidal deaths have increased in recent years due to various factors. Physical and mental illnesses, financial struggles, and interpersonal and family disputes contribute to suicidal deaths. The present study aims to assess the pattern of suicidal deaths and identify the contributing factors associated with suicidal death cases in a developing city like Ahmedabad. Material and methods: 552 post-mortem examinations were carried out at the mortuary from August 2020 - July 2021. The autopsy cases are accompanied by a requisition letter, "maranottar" form, and a copy of the inquest report. Information on the socio-demographic profile of the cases, history of circumstances before the incident and details about the incident was noted in a pre-designed proforma. The data were analyzed and presented as frequency and percentages. Results: Out of a total of 552 cases autopsied, 116(31.78%) were in a suicidal manner. Maximum cases were observed in September-December 2020. Suicide rates were almost similar in both genders. Most of the suicidal deaths were among youths (52.5%). Family disputes and family factors contributed to 20.6% of suicidal deaths. The reason for suicide was unknown in most female suicide cases. Most of the cases were labourers (41.3%). Conclusion: Adolescents are a vulnerable group to suicidal deaths. Family issues and disputes are major contributing factors to suicidal deaths. While low socioeconomic status highly contributes towards suicides among males.
Keywords: Autopsy; suicidal manner; contributing factor.

Cite thisarticle: *Qureshi MA. A prospective study of suicidal deaths and its risk factors at a tertiary care level hospital of Ahmedabad a post-mortem study. Int J Health Res Medico Leg Prae 2022 July-Dec;8(2):16-21. Doi: 10.31741/ijhrmlp.v8.i2.2022.3*

INTRODUCTION

Suicide is a destructive act of self-harm with some indication of an intended death.[1] Suicide is the fourth chief cause of death among youths. Suicide rates vary substantially between regions. About 80% of all suicides occur in low and middle-income countries.[2] A significant fraction of people nowadays are affected by stress and worry; some might find solace in suicide. Due to its delicate nature and the stigma surrounding it, suicide is occasionally not acknowledged or recorded.[3]

An increase in awareness is required in the general population about the severe negative repercussions of adolescent suicide tendencies, which include not only the direct loss of many young lives but also upsetting psychosocial disruptions and detrimental socioeconomic implications on a significant scale. Studies suggest that the

most effective predictor of suicide attempts or death by suicide is a history of prior suicide attempts.[4,5] Identifying the contributing factors behind suicidal tendencies, particularly amongstthe young, is essential from the perspective of public mental health and its management through effective preventive measures. Therefore, it is essential to gain as much insight as possible into the different populations' risk factors contributing to suicidal behaviour.

The objective of the present study is to assess the pattern of suicidal deaths and to determine the factors for suicidal deaths amongst the population of Ahmedabad.

MATERIALSAND METHODS

The present study was a prospective descriptive study carried out at the VS General Hospital, Ahmedabad, Gujarat mortuary, including all the cases brought for autopsy from August 2020–July 2021. A total of 552 post-mortem examinations were included during the study period. The documents studied were the clinical case papers, requisition letter from police for conducting medico-legal post-mortem examination, "maranottar" (post-mortem) form, and copy of the inquest report. In all autopsy cases, a detailed case history was elicited from the police, close relatives cohabiting with the deceased and close friends. Prior informed consent was obtained from the next of kin to collect data.

Preliminary information about the deceased, including age, sex, occupation, socioeconomic status, etc., and history of circumstances before the incident, and details about the incident were noted in a pre-designed proforma.The history of any organic or psychiatric illness or any previous suicide attempt was also inquired about from the previous treatment papers (if any were anywhere available) and the interview of the relatives and friends. Details about the day to day of the victim were also inquired from close relatives and friends. The manner of the suicide was decided based on the history & circumstances of the incident, circumstantial evidence mentioned in the police papers, clinical history and progress of the case after admission, findings of the inter views of the police, close relatives and friends, and medico-legal autopsy.

The data were analyzed using Statistical Package for the Social Sciences version 16 and presented as frequencies and percentages.

RESULTS

Out of a total of 552 cases autopsied during the study period, 116(31.78%) cases were of suicidal manner, among whom 54.3% were male and 45.6% were females. Month-wise distribution of cases showed that the suicidal rates varied from 5.1% to 11.1%. Maximum suicidal death cases were observed in September, October and December 2020, while the least was observed during April-July 2021 (**Table 1**).

Table 1 Month-wise distribution of the cases (n=116)

Month	Male(%)	Female(%)	Total (%)
August 2020	04(3.4%)	06(5.1%)	10(8.5%)
September 2020	07(6.0%)	06(5.1)	13(11.1%)
October 2020	09(7.7%)	04(3.4%)	13(11.1%)
November 2020	06(5.1%)	04(3.4%)	10(8.5%)
December 2020	06(5.1%)	06(5.1%)	12(10.3%)
January 2021	04(3.4%)	06(5.1%)	10(8.5%)
February 2021	05(4.3%)	06(5.1%)	11(9.4%)
March 2021	04(3.4%)	05(4.3%)	09(7.7%)
April 2021	04(3.4%)	03(2.6%)	07(6.0%)
May 2021	04(4.3%)	02(1.7%)	06(5.1%)
June 2021	05(4.3%)	02(1.7%)	07(6.0%)
July 2021	05(4.3%)	03(2.6%)	08(6.9%)
Total	**63(54.3%)**	**53(45.6%)**	**116**

As seen from **Table 2**, the age-wise distribution of the cases showed that most of the suicide cases belonged to adolescents and adults, the majority from the age group of 15-29 years (52.5%). Suicidal deaths were the least observed among children (5.4%) and older people (2.5%).

Table 2 Age-wise distribution of cases (n=116)

Age group (Years)	Male(%)	Female(%)	Total
0-14	01(2.0%)	04(3.4%)	05(5.4%)
15-29	33(28.4%)	28(24.1%)	61(52.5%)
30-44	13(11.2%)	12(10.3%)	25(21.5%)
45-59	12(10.3%)	10(8.5%)	22(18.8%)
60-74	00(0.0%)	03(2.5%)	03(2.5%)
75-89	00(0.0%)	00(0.0%)	00(0.0%)

In 43.1 % of cases, the reason for suicide could not be elicited by questioning relatives and close friends. Family disputes and family factors contributed to 20.6 % of suicidal deaths. At the same time,love affairs (8.5%) and failure in the examination (8.5%) were the other significant contributors to suicide, particularly in the 15-29 age group. Gender-wise distributions showed that family factors and disputes significantly contributed to male suicides, whereas drug abuse was surprisingly the most contributing factor in female suicidal deaths. Out of 53 female suicide cases, the reason for suicide was unknown in 30 cases (**Table 3**).

Table 3 Factors associated with the suicidal cases

Factors	Male(%)	Female(%)	Total
Family factors and family disputes	18(15.5%)	06(5.1%)	24(20.6%)
Love affairs	03(2.5%)	07(6.0%)	10(8.5%)
Failure inexamination	06(5.1%)	04(3.4%)	10(8.5%)
Illness	06(5.1%)	02(1.7%)	08(6.9%)
Psychological disturbances	01(8.6%)	04(3.4%)	05(4.3%)
Drug abuse	00(0.0%)	09(7.7%)	09(7.7%)
Unknown	20(17.2%)	30(25.8%)	50(43.1%)

The maximum suicide cases belonged to a low socioeconomic status as most were labourers (41.3%) by occupation, most of whom were male. People involved in household work or jobless (34.4%), specific females, were the second most sufferers. A similar number of suicidal deaths were observed among male and female students, contributing to almost 19% of suicides (**Table 4**).

Table 4 Occupation-wise distribution of cases

Occupation	Male(%)	Female(%)	Total
Student	10(8.5%)	12(10.3%)	22(18.9)
Labourer	45(38.7%)	03(2.5%)	48(41.3%)
House hold work/jobless	06(5.1%)	34(29.3%)	40(34.4%)
unknown	02(1.7%)	04(3.4%)	06(5.1%)

DISCUSSION

Suicide is a serious public health issue that affects the entire world. Suicidal behaviour varies between genders, age groups, geographical locations, and socio-political contexts, and it also varies in its associations with various contributing factors.[1] The present prospective study was undertaken to evaluate the pattern of suicidal deaths and the contributing factors amongst the population of Ahmedabad.

Out of the 552 autopsies carried out during the study, 116 were due to suicide. The rate of suicidal death was almost similar in both sexes. Also, it was observed that the history of an attempt at previous suicide is more common in femalesthan males. Many studies find a strong link between previous suicide attempts or a history of self-harm and suicide.[6] Research has shown that men who have attempted suicide in the past are more likely to attempt it again than men who have never done so. Also,females with previous suicide attempts are at three times increased risk of suicide.[6]

The age-specific distribution of the data showed that most of the suicide cases belonged to the 15-29 age group. Those under 30 years commit the majority of suicides (37.8%) in India. The fact that people under the age of 44 accounts for more than 70% of suicides in India places a tremendous social, emotional and financial strain on society.[7]Suicide is associated with impulsivity.[8] Although the suicidal process might take weeks, months, or even years, the tragic leap from suicidal ideation and suicide attempts to a completed suicide often occurs suddenly, unexpectedly, and impulsively, especially among adolescents. These young people are vulnerable to mental health transition, especially during adolescence.[9]This period in life is characterized by movement, changes, and transitions from one state to another in several domains simultaneously. Young people have to make decisions about critical concrete directions in life. They must also address new challenges about building their identity, developing self-esteem, acquiring increasing independence and responsibility, building new intimate relationships, etc. In the meantime, they are subject to ongoing, changing psychological and physical processes. And besides, they are often confronted with high expectations, sometimes too high, from significant relatives and peers. Such situations inevitably provoke helplessness, insecurity, stress, and a sense of losing control.[10]

Several population-based psychological autopsy types of research on suicides have been carried out recently, involving key informant interviews, records review, as well as follow-up studies of individuals who have attempted suicide, providing crucial information regarding the risk factors for adolescent suicide.A multitude of circumstances can cause suicides, but ultimately each one is caused by a very unique, dynamic, and challenging confluence of genetic, biological, psychological, and social factors.[11,12]Although this is particularly significant in preventing such instances, it is also crucial to identify the various indicators linked to an elevated risk of youth suicide.

In the present study, in 43.1 % of cases, the reason for suicide could not be elicited by questioning the relatives and close friends in almost 43% of cases. Most importantly, out of 53 female suicide cases, the reason for suicide was unknown in 30 cases.There might be some defamation or underlying stigma that the respondents did not want to make public. In those situations, the facts were lost with the deceased.

For almost 20.6% of suicidal deaths, family factors and disputes were the key factors.The home environment in which young people live or have grown up is one of the most crucial sources of assistance for overcoming the numerous problems confronted by adolescents.Family structure and processes have been linked to suicidal behaviourin numerous studies.[13] Poor communication within the family is also found in many cases of suicide, not only with the child or about the child's problems, but in general between family members. Direct conflicts with parents have a significant impact, but so do the absence of communication and neglect of communication needs.[14,15] Furthermore, violence at home often seems to be found in the background history of young suicide cases, specifically against the child, but more as a way of dealing with problems between family members. The suicide of the affected children is only sporadically correlated with parental divorce as a whole. This correlation is likely intricated by the socioeconomic, financial, and practical implications of living in a single-parent household or by relational background factors connected to the divorce.[16]

To reduce the factors contributing towards suicidality,integrated and multi-sector prevention initiatives,

including population-based prevention strategies targeting high-risk subgroups or even focusing on individuals identified as suicidal, is essential.[17]

CONCLUSION

Youth suicide constitutes a significant public health problem. Young people and especially adolescents, are vulnerable to suicidal deaths. Suicide is relatively rare in children, but its prevalence increases significantly throughout adolescence. Suicidal rates were similar in both males and females. Family factors, disputes, and low socioeconomic status contribute to suicidal deaths. To prevent suicidal behaviour in India, mental health and social and public health interventions are equally important.

REFERENCES

1. Turecki G, Brent DA. Suicide and suicidal behaviour. Lancet 2016 Mar 19;387(10024):1227-39. doi: 10.1016/S0140-6736(15)00234-2.
2. World Health Organization Geneva.WHO Mental Health [Online].2018 [cited 2022 Sep 15]; Available from:URL:http://www.who.int/mental_health/en/
3. De Leo D. Can we rely on suicide mortality data? Crisis 2015;36(1):1-3. doi: 10.1027/0227-5910/a000315.
4. Artieda-Urrutia P, Parra Uribe I, Garcia-Pares G, Palao D, de Leon J, Blasco-Fontecilla H. Management of suicidal behaviour: is the world upside down? Aust N Z J Psychiatry 2014 May;48(5):399-401. doi: 10.1177/0004867414525847.
5. Finkelstein Y, Macdonald EM, Hollands S, Sivilotti ML, Hutson JR, Mamdani MM, et al. risk of suicide following deliberate self-poisoning. JAMA Psychiatry 2015 Jun;72(6):570-5. Doi: 10.1001/jamapsychiatry.2014.3188.
6. Cooper J, Kapur N, Webb R, Lawlor M, Guthrie E, Mackway-Jones K, et al. suicide afterdeliberate self-harm: a 4-year cohort study. Am J Psychiatry 2005 Feb;162(2):297-303. Doi: 10.1176/appi.ajp.162.2.297.
7. Vijayakumar L. Indian research on suicide. Indian J Psychiatry 2010 Jan;52(Suppl 1):S291-6. Doi: 10.4103/0019-5545.69255.
8. Apter A,Wasserman D. Adolescent attempted suicide. In: King R, Apter A, editors. Suicide in children and adolescents. Cambridge: Cambridge University Press; 2006. p. 63–85.
9. Orbach I. Suicide prevention for adolescents. In: King R, Apter A, editors.Suicide in children and adolescents. Cambridge: Cambridge University Press; 2006, p.1–40.
10. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, et al. Our future: a Lancet commission on adolescent health and wellbeing. Lancet 2016 Jun 11;387(10036):2423-78. doi: 10.1016/S0140-6736(16)00579-1.
11. Hawton K, Appleby L, Platt S, Foster T, Cooper J, Malmberg A, et al. The psychological autopsy approach to studying suicide: a review of methodological issues. J Affect Disord 1998 Sep;50(2-3):269-76. doi: 10.1016/s0165-0327(98)00033-0.
12. Van Heeringen K. The suicidal process and related concepts. In: van Heeringen K. editor. Understanding suicidal behaviour. Chichester: JohnWiley& Sons Ltd; 2001.p. 136–59.
13. Brent D, Mann J. Familial factors in adolescent suicidal behaviour. In: King R, Apter A, editors. Suicide in children and adolescents. Cambridge: Cambridge University Press;2006. p. 86–117.
14. Portzky G, Audenaert K, van Heeringen K. Suicide among adolescents. A psychological autopsy

study of psychiatric, psychosocial and personality-related risk factors. Soc Psychiatry Psychiatr Epidemiol 2005 Nov;40(11):922-30. doi: 10.1007/s00127-005-0977-x.

15. Gould MS, Fisher P, Parides M, Flory M, Shaffer D. Psychosocial risk factors of child and adolescent completed suicide. Arch Gen Psychiatry 1996 Dec;53(12):1155-62. doi: 10.1001/archpsyc.1996.01830120095016.
16. Im Y, Oh WO, Suk M. Risk factors for suicide ideation among adolescents: Five-year national data analysis. Arch PsychiatrNurs 2017 Jun;31(3):282-286. doi: 10.1016/j.apnu.2017.01.001.
17. Calear AL, Christensen H, Freeman A, Fenton K, Busby Grant J, van Spijker B, Donker T. A systematic review of psychosocial suicide prevention interventions for youth. Eur Child Adolesc Psychiatry 2016 May;25(5):467-82. doi: 10.1007/s00787-015-0783-4.

***