

Suicide Among Adolescents: A Medico-legal Study at Tertiary Care Centre of Western Maharashtra, India

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Abstract

Globally, suicide is the second leading cause of mortality among young people and is an important public health problem. The main aim of the study is to identify the pattern of suicide among adolescent age group and to suggest preventive methods. This is a retrospective autopsy-based study from 01 June 2018 to 31 May 2019 conducted at the Department of Forensic Medicine, B. J. Government Medical College, Pune, Maharashtra, India. Total 84 cases of suicidal death among adolescent (11 to 19 years) were recorded during the study period. Maximum number of cases (52.38 %) was observed in late adolescent age group (18-19 years) with Female predominance (70.23 %) with F:M ratio was 2.45:1. Hanging (79.76 %) was the most common method used for committing suicide and maximum adolescent (73.80%) preferred their own residence for committing suicide. Love affair was observed as most common precipitating factor for committing suicide (42.85 %) and other precipitating factors were quarrel between parents, depression and addiction, school related problems, sex related problems, one sided love. The paper discussed different preventive methods, specific to adolescent age so as to help in identifying vulnerable adolescent.

Keywords: Adolescent, Suicide, Hanging, Manner of death.

Introduction

Suicide and attempted suicide are commonly encountered in medico-legal practice. Globally suicide is the most common problem and according WHO, suicide in youth and adolescent is the second most common cause of death⁽¹⁾. Suicide rates differ by age, sex, family problems, social problems, decess, addictions. Adolescents and young adult youth is a period of heightened risk of suicide⁽²⁾ and suicide is a leading cause of death among young people in India⁽³⁾.

Adolescence are individuals in the age group from "10 years to 19 years". Also, it can be categorized in three as early, middle and late. In India, adolescents (10 -19 years) constitute 21.4 percent of the population comprising one fifth of the total population⁽⁴⁾. They are the individual who are confused, immature and

unaware about how to cope up with unpleasant situations and therefore most vulnerable to addiction from peer group, depression, hormonal related problems.

According to census carried out in 2011, Maharashtra was the second most populated state in India⁽⁵⁾ and Pune is the second most populated city in Maharashtra after Mumbai. According to National Crime Record Bureau, Maharashtra had highest number of suicidal cases⁽⁶⁾. Pune has been an education hub of Maharashtra for more than a decade. As suicidal death among adolescents is on rise in Pune, this medico-legal study is carried out to find out the possible causes behind committing suicide among adolescent and also psycho-social issues associated with it.

Material and Methods

This is a retrospective autopsy-based study, conducted at the Department of Forensic Medicine, B. J. Government Medical College and Sassoon General Hospital, Pune from 1 June 2018 to 31 May 2019. All the deceased between 10 to 19 years who had committed suicide and were brought for medico-legal autopsy at our center were included for the present study. The information in relation to suicide was obtained from the inquest, detail autopsy report, telephonic talk to the Investigating police officer and relatives of the deceased. The data obtained was tabulated, compiled and assessed systematically.

Observations

During the study period of one year, total 6580 medico-legal autopsies were conducted at our center, out of which 84 cases (1.27%) of suicide were observed among adolescent age group (11-19 yrs).

Table 1 - Age wise and sex wise distribution of cases of suicide among adolescent

Sex	Early (10-14 yrs)	Middle (15-17 yrs)	Late (18-19 yrs)	Total
Male	04 (4.76%)	05 (5.95%)	15 (17.85%)	24 (28.57%)
Female	09 (10.71%)	22 (26.19%)	28 (33.33%)	59 (70.23%)
Transgender	00 (00%)	00 (00%)	01 (1.19%)	1 (1.19%)
Total	13 (15.47%)	27 (32.14%)	44 (52.38%)	84 (100%)

Table number 1 shows maximum number of cases (52.38 %) was observed in late adolescent age group (18 - 19 years) and least number of cases (15.47 %) was observed in early adolescent age group. Female predominance (70.23 %) was observed with F:M ratio was 2.45:1. One transgender case (1.19%) was also observed who committed suicide in late adolescent stage.

Table 2 - Methods used for committing suicide among adolescent

Sex	Hanging	Poison	Jump	Total
Male	20 (23.809)	0	4 (4.76)	24 (28.57%)
Female	46 (54.76)	13 (15.476)	0	59 (70.23 %)
Transgender	1 (1.19%)	00 (00%)	00 (00%)	1 (1.19%)
Total	68 (79.76%)	13 (15.47%)	04 (04.47%)	84 (100%)

Table 2 shows hanging (79.76 %) was the most common method used for committing suicide while poisoning (15.47 %) and jump from height (04.47 %) were other methods used for committing suicide.

Table 3 - Place used for committing suicide among adolescent

Sex	Residence	Non-Residential Area	In Yard Near home	Total
Male	16 (19.04%)	6 (7.14%)	2 (2.38%)	24 (28.57%)
Female	45 (53.57%)	10 (11.90%)	4 (4.76%)	59 (70.23 %)
Transgender	1 (1.19%)	00 (00%)	00 (00%)	1 (1.19%)
Total	62 (73.80%)	16 (19.04%)	6 (7.14%)	84 (100%)

Table number 3 shows maximum adolescent (73.80%) preferred their own residence for committing suicide rather than non-residential area (19.04%).

Table 4 - Time of incidence of committing suicide among adolescent

Time of Injury	6 am to 12 pm	12 pm to 6 pm	6 pm to 12 am	12 am to 6 am	Total
Male	1 (1.19%)	10 (11.90%)	8 (9.52%)	5 (5.95%)	24 (28.57%)
Female	2 (2.38%)	39 (46.42%)	14 (16.66%)	4 (4.761%)	59 (70.23%)
Transgender	00 (00%)	1 (1.19%)	00 (00%)	00 (00%)	1 (1.19%)
Total	3 (3.57%)	50 (59.52%)	22 (26.19%)	9 (10.71%)	84 (100%)

Table number 4 shows maximum number of cases (59.52 %) who committed suicide was observed between 12:00 pm to 06:00 pm and least number of cases was recorded in time period between 06:00 am to 12:00 pm (03.57 %).

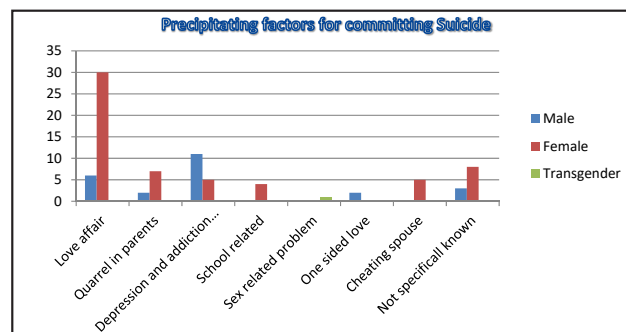


Figure 1- Precipitating factors for committing suicide among adolescent

Figure 1 shows Love affair was observed as most common precipitating factor for committing suicide (42.85 %) and other precipitating factors were quarrel between parents (10.71 %), depression and addiction (19.047 %), school related problems (04.76 %), sex related problems (01.19 %), one sided love (05.95 %). However, in 13.09% cases precipitating factors for committing suicide were not revealed by the relatives of the deceased.

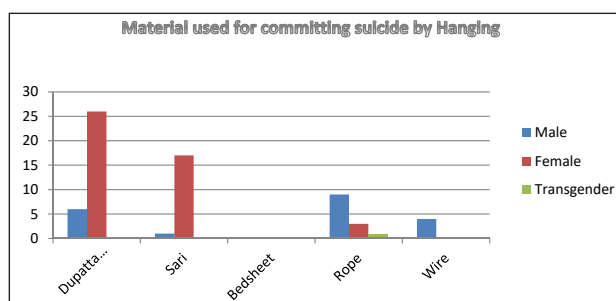


Figure 2 - Material used for committing suicide by Hanging among adolescent

Figure 2 shows Duppatta (53.57%) was the most common material used committing suicide by hanging, followed by sari (30.95%), Rope (15.47%) and least preferred material used for hanging was wire (04.76 %).

Discussion

The trend of suicide among adolescent differs from place to place and it depend upon socio-cultural practices and religious beliefs. Age-wise distribution showed maximum number of cases was observed in late adolescents (52.38 %), while study carried out by Steck N. et al ⁽⁷⁾ on suicides in adolescents from 10-18 years of age group observed maximum number of suicides (87.33 %) was in 15-18 years of age. Sheftall AH et al ⁽⁸⁾ in their study of suicides in children and early adolescents showed maximum number of cases (87.44 %) was observed in 12-14 years of age. The epidemiological study of suicide among adolescents in Austria by Laido Z. et al ⁽⁹⁾ showed that maximum number of suicide (92.3 %) was observed in 15-19 years of age. The autopsy-based study carried out by Bhosle et al ⁽¹⁰⁾ on deaths due to hanging among adolescent observed the majority (80.39%) of cases were among the older adolescent (15-19 years) age group. Findings of the present study are in consistent with other study as late adolescent phase is critical phase in life of individual were hormonal changes takes place in the body and in this phase if some

external forces and some adverse situations happens and there is no proper support system then these adolescents usually commit suicide.

In the present study, female predominance (70.23%) was observed in suicidal deaths among adolescent. Similar finding was reported by Bhosle SH et al ⁽¹⁰⁾ with female predominance (53%) among adolescent suicidal deaths due to hanging, while the study carried out by Laido Z. et al ⁽⁹⁾ showed male predominance (78%). The study Steck N. et al ⁽⁷⁾ also showed male predominance (71.45%). Shaffi M. et al ⁽¹¹⁾ in their psychological autopsy study, in the age group of 12 to19 years, observed that boy's prevalence was 90% while only 10% of those girls. Findings of the present study doesn't corroborate with other studies as it might be due to difference in study population and place of research. Also, in India there is a social stigma which is attached with suicides and attempted suicides and therefore even though individuals might have committed suicide, but it's been projected as accidental deaths, and therefore in present study, chances of missing of few suicidal cases from police record might be possible.

As far as different modes used for committing suicide, the present study observed hanging (79.76 %) was the most common method used to commit suicide followed by poisoning (15.48 %) and then Jump from height (4.76 %). Similar findings were observed by Sheftaal AH. et al ⁽⁸⁾ (64.10 %), Steck N. et al ⁽⁷⁾ (26.9 %), NCRB ⁽⁶⁾ (45.60 %) and Radhakrishnan R. and Andrade C. ⁽¹²⁾ (31.50 %). Hanging is usually preferred over other methods for committing suicide as ligature material is easily available at home and chances of death after hanging is also high as compared to other methods.

The place preferred for committing suicide by adolescent was studied and it was observed that maximum adolescent (73.80 %) preferred their own residence for committing suicide rather than non-residential area (19.04%). The study carried out by González-Castro TB et al ⁽¹³⁾ observed that most of the suicides were performed at the child/adolescent's home (78.6%). The study by Bhosle SH. et al ⁽¹⁰⁾ observed that most of the suicidal deaths due to hanging (83.67%) among adolescents were observed at the victims' home. Usually as the person prefers secluded and safe place to commit suicide without any outside interference and their own home is preferred for committing suicide.

The present study observed soft material like dupatta (53.57 %) was the most preferred material used for committing suicide by hanging and least common material used was wire (4.76 %). Similar findings were observed by Ahmed M and Hossain MZ⁽¹⁴⁾ which showed dupatta (35.17 %) was commonly used material for Hanging and least commonly used material was wire (0.06 %). The findings by Bhosle SH. et al⁽¹⁰⁾ differ from our study which showed rope (53.06 %) was more common material used for hanging than the soft material like dupatta (20.40 %). The ligature material easily available is usually preferred for committing suicide and soft material is easily available at home.

The present study tried to evaluate different precipitating factors responsible for committing suicide among adolescent. The investigating police officers, parents and friends of deceased were contacted telephonically and inquired reason behind suicide. The study observed Love affair was the most common precipitating factor for committing suicide (42.85 %) and other precipitating factors were quarrel between parents (10.71 %), depression and addiction (19.047 %), school related problems (04.76 %), sex related problems (01.19 %), one sided love (05.95 %). While few participants refused to disclose specific reason. The study by Sahoo M. et al⁽¹⁵⁾ also discussed precipitating factors for attempted suicide among adolescent as increased family conflicts, peer-interpersonal problems, perceived humiliations and personality traits. The study by Bhosle S.H. et al⁽¹⁰⁾ about deaths due to hanging among adolescent observed that the predisposing and precipitating factors were domestic strife, examination-related stress, and physical and psychological illness.

Conclusions

Adolescents are different from adults at many aspects, they lack experience to handle things and mostly prone to peer pressure. There should be free conversation between adolescent and parents. The early signs of loneliness, aggressive behavior and change in behavior should be carefully observed and if required counselling session can be done to avoid suicide among adolescent.

Ethical Clearance – Not Applicable.

Source of Funding – Self.

Conflict of Interest – Nil.

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