

An Autopsy Study of Intentional Deaths among Adolescents in the Age Group of 10 to 19 Years in Bengaluru City

Praveen¹, Yogesh M², Dileep Kumar K. B³, Raghavendra R⁴

¹Assistant Professor, Department of Forensic Medicine and Toxicology, ESIC Medical College, Kalaburagi, Karnataka, India, ²Associate Professor, Department of Anatomy, Sri Madhusudan Sai Institute of Medical Sciences and Research, Muddenahalli, Chikkaballapura, Karnataka, India, ³Associate Professor, Department of Forensic Medicine and Toxicology, Atal Bihari Vajapayee Medical College, Bengaluru, Karnataka, India, ⁴Professor and HOD, Department of Forensic Medicine and Toxicology, Sri Madhusudan Sai Institute of Medical Sciences and Research, Muddenahalli, Chikkaballapura, Karnataka, India.

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Abstract

Introduction: Unnatural death means a death caused by external causes e.g., injury or poisoning which includes death due to intentional injury, such as homicide or suicide, and death caused by unintentional injury in an accidental manner. The tragedy of suicide in adolescents is a global phenomenon that deserves the attention of the world's pediatricians. An estimated 2 million people die each year as a result of suicide. In 2002, there were an estimated 877,000 suicides in the world, of which approximately 200,000 were adolescents and young adults.

Aims and Objectives: To know the type, incidence, and sexwise distribution of intentional deaths of adolescents in the age group of 10 to 19 years.

Material Methods: The present study is a descriptive study of intentional unnatural death cases of Adolescents (10 to 19 years) which were autopsied at BMC & RI, Bengaluru for a period of 18 months from December 2014 to May 2016

Results: In this study of 399 deaths among adolescents, 251 cases (62.90%) were due to intentional injuries and 148 cases (37.10%) were due to unintentional injuries. Among intentional deaths 4 cases (1.60%) were homicidal and 247 cases (98.40%) were suicidal in nature. In the case of homicide, all were male victims, while in suicide cases. Hanging was the most preferred method to commit suicide with 114 cases (46.15%), followed by burns in 79 cases (31.98%), poisoning in 45 cases (18.21%), drowning in 4 cases (1.61%), railway injury in 3 cases (1.21%) and 2 cases (0.80%) of fall from height.

Conclusion: Accurate information on the causes and circumstances of intentional adolescent deaths through a process of medico-legal investigations is essential in creating awareness among National policymakers and educators/caregivers, to prevent adolescent deaths.

Keywords: Unnatural deaths, Adolescent deaths, intentional injuries, Suicides.

Corresponding Author: Raghavendra R, Professor and HOD, Department of Forensic Medicine and Toxicology, Sri Madhusudan Sai Institute of Medical Sciences and Research, Muddenahalli, Chikkaballapura, Karnataka, India.

E-mail: drraghu86@gmail.com

Mobile: 9731156350

Introduction

Unnatural deaths are known to claim a substantial number of lives all over the world. Unnatural death means a death caused by external causes e.g., injury or poisoning which includes death due to intentional injury, such as homicide or suicide, and death caused by unintentional injury in an accidental manner.¹ Death is unnatural when caused prematurely against the order of nature due to injury, accident, poison, or other means of violence. Many cultural and socioeconomic factors in a country are usually related to the causation of unnatural deaths. Unnatural deaths are accidental, homicidal, and suicidal types. Intentional death means any death which occurs as the result of a willful act and with some motive. Schneidman (1976) defined it as, - the human act of self-inflicted, self-intentional cessation of life. It is an act committed out of constricted thinking, tunneled logic, and acute anguish². Suicide as a manner of death ranked as the third leading cause of death in 2001 between the ages of 10 and 34 years³. The tragedy of suicide in adolescents is a global phenomenon that deserves the attention of the world's pediatricians.⁴ An estimated 2 million people die each year as a result of suicide. In 2002, there were an estimated 877,000 suicides in the world, of which approximately 200,000 were adolescents and young adults. Even when controlling for global population growth, suicide is among the leading causes of death for adolescents in the world and rates are rising faster in teens than in other age groups. Of 4 million worldwide suicide attempts each year, at least 90,000 adolescents (up to age 19) successfully complete, with one successful suicide in every 5 minutes.

Aims and Objectives: 1. To know the type, incidence, and sex wise distribution of intentional deaths of adolescents in the age group of 10 to 19 years.

2. To know the methods employed to commit suicide and the cause for committing suicide

Materials and Methods

SOURCE OF DATA:

Department of Forensic Medicine, BMC & RI (Victoria & Bowring and Lady Curzon Hospitals) is a postgraduate institute that conducts autopsies

of all sudden, suspicious, unnatural deaths which occur in and around Bengaluru. The present study is a descriptive study of intentional unnatural death cases of Adolescents (10 to 19 years) which were autopsied at BMC & RI, Bengaluru for a period of 18 months from Dec 2015 to May 2016

ETHICAL CLEARANCE:

Ethical clearance for the present study was obtained from the institutions ethical committee, Bangalore Medical College & Research Institute, Bengaluru.

METHOD OF COLLECTION OF DATA:

All intentional unnatural death cases of the age group 10 to 19 years autopsied at Bangalore Medical College and Research Institute, Bengaluru were included in the study. Relevant autopsy findings related to each of these cases were taken for analysis. Further, the details of clinical data of the victim including the investigations and procedure, survival period, time, and cause of death were ascertained from hospital records. Information pertaining to the time and manner of death was sought from the police personnel investigating the case. Some of the particulars like reasons for the death were also obtained from direct interrogation with relatives, friends, and others along with the police. The various epidemiological factors involved such as age sex, socioeconomic status, and others were noted down. These were then correlated with the post-mortem findings to conclude the analysis of each case. All the findings thus obtained were noted down in a separate Performa for each.

INCLUSION CRITERIA:

1. All cases of intentional unnatural deaths in the age group of 10 to 19 years
2. Both males and females

EXCLUSION CRITERIA:

1. Decomposed dead bodies of the age group 10 to 19 years.
2. Unknown dead bodies where the exact age is not clearly established.
3. Mass disasters.

Results

Department of Forensic Medicine, Bangalore Medical College and Research Institute, Bengaluru is a postgraduate Institute that conducts autopsies of sudden, suspicious, unnatural deaths which occur in and around Bengaluru. The present study is a descriptive study of intentional unnatural death cases which was autopsied at Victoria and Bowring & Lady Curzon hospitals, Bengaluru for a period of 18 months from December 2014 to May 2016 which form the material of the study.

During this period 7219 cases were brought for postmortem examination out of which 5522 deaths (76.5%) were due to unnatural causes. Out of 5522 cases of unnatural deaths 399 deaths (7.22%) were of adolescents of the age group 10 to 19 years.

Table 2. Age Incidence of Victims.

Age(Yrs)	Male	Percent	Female	Percent	Total	Percent
10-14 years (Early Adolescence)	36	18.5	37	18	73	18.3
15-19 years (Late Adolescence)	158	81.5	168	82	326	81.7

In the present study among intentional deaths 4 cases (1.60%) were homicidal and 247 cases (98.40%) were suicidal in nature. In the case of homicidal deaths, all were male victims, while in the case of suicidal deaths, 81 victims were males and 166 were females. (Table No.03)

Table 3. Type of Intentional Death with Sexwise Distribution

Intentional Death	Male	Female	Total
Homicide	4	0	4
Suicide	81	166	247
Total	85	166	251

In the present study, Hanging is the most preferred method used to commit suicide with 114 cases (46.15%) out of 399 cases, followed by 79 cases (31.98%) of burns, 45 cases (18.21%) of poisoning, 4 cases (1.61%) of drowning, 3 cases (1.21%) of railway and 2 cases (0.80%) of fall from height. (Table No.04)

In this study 399 Unnatural deaths among adolescents in the age group of 10-19 years. 251 (62.90%) cases were intentional deaths and 148 (37.10%) cases were unintentional deaths (Table No. 01)

Table 1: Type Of Unnatural Death

Type of unnatural deaths	No of cases	Percent
Intentional Death	251	62.9
Unintentional Death	148	37.1
Total	399	100

Out of 399 cases of Unnatural deaths among adolescents in the age group of 10-19 years 73 cases (18.3%) were in the early adolescent age group (10-14 years) [M; F ratio was 36:37] and 326 cases were of late adolescent (15-19 years) age group [M: F ratio was 158:168]. (Table No. 02)

Table 4. Methods Employed to Commit Suicide With Sex Distribution

Method	Male	Female	Total	Percent
Hanging	49	65	114	46.1
Burns	14	68	79	32
Poisoning	11	31	45	18.2
Fall From Height	2	0	2	0.8
Railway	2	1	3	1.3
Drowning	3	1	4	1.6
Total	81	166	247	100

The cause for committing suicide with 103 cases (41%) was due to depression, 37 cases (15%) due to family problems, 35 cases (14%) due to failure in examination, 34 cases (13.8) due to love failure/ affair, 14 cases (5.6%) were dowry related, 13 cases (5.2%) were due to unknown reasons and 11 cases (4.4%) were due to illness/ disease. (Table No.05)

Table 5. Cause for Committing Suicide

Cause for suicide	No of cases	Percent
Depression	103	41
Family Problem	37	15
Failure in examination	35	14
Love affair / Failure	34	13.8
Dowry Related	14	5.6
Unknown Reason	13	5.2
Illness/ Disease	11	4.4
Total	247	100

Discussion

Out of 5522 cases of unnatural deaths, 399 cases (7.22%) were of adolescents belonging to the age group 10 to 19 years, the incidence correlates with most of the previous studies.⁵

In this study among 399 deaths 251(62.90%) cases were intentional and 148 (37.10%) cases were unintentional. Intentional deaths include Homicide (intentional injury death of another) and Suicide (intentional injury death of self). Suicide is the top cause of mortality among adolescents and therefore intentional deaths are more compared to unintentional deaths.

In the present study among intentional deaths 4 cases (1.60%) were homicidal and 247 cases (98.40%) were suicidal in nature. In the case of homicidal deaths, all were male victims, while in the case of suicidal deaths, 81 victims were males and 166 were females. In Colorado, there were 269 adolescent suicide deaths between 2008 and 2012. Age specific suicide rate for adolescents (10-19 years) is 7.9 per 100,000 which is considerably higher than the national average of 4.6 per 100,000. During this period suicide was the second leading cause of death in adolescents behind unintentional injuries⁶, similar to our studies.

Homicidal deaths are more among males due to their Behavior traits that are associated with increased injury risk including hyperactivity, aggression, and antisocial behavior. Psychological disorders like depression and anxiety occur more often in girls than boys with gender disparity becoming evident in early adolescence with the onset of puberty. Social factors like the subordinate role of females in society may generate feelings of helplessness and frustration which contribute to psychiatric illness; the findings

suggest that in the Indian context, psychosocial factors could be affecting more girls than boys.

According to NCRB males outnumbered females in committing suicides, but in our study suicide among females is more than among males. This is because the data is collected all over India and it varies from region to region. Our study is mainly focused on the urban area and here in this region females are more emotional and due to other personal causes driven them to end their lives. Comparatively, women became vulnerable to suicide at a younger age. Dysfunctional social networks played a predominant role in suicides. Family and marital conflicts need closer social attention and timely counseling. Patients with chronic medical conditions and frequent alcohol use need effective exploration concerning suicidal ideation to avert self-annihilation. A policy to control prescriptions of toxic drugs including pesticides is overdue. In the present study, Hanging is the most preferred method used to commit suicide with 114 cases ((46.15%) out of 399 cases, followed by 79 cases (31.98%) of burns, 45 cases (18.21%) of poisoning, 4 cases (1.61%) of drowning, 3 cases (1.21%) of railway and 2 cases (0.80%) of fall from height. No death by firearm is reported in this study. Suicide as a manner of death ranked as the third leading cause of death in 2001 between the ages of 10 and 34 years.

In teenagers, a substantial proportion of poisonings are suicidal. The relatively high ratio of teenage poisoning deaths to hospital admissions and the recent increases in teenage death rates from suicide underscores the importance of identifying causal factors and developing preventive measures that will reduce not only the morbidity from poisoning but the fatal outcomes for several hundred teenagers each year⁷

The choice of method used to commit suicide depends on the availability of means, knowledge about the effectiveness, and the victim's motivation and intent. Methods of suicide employed generally reflect the availability of methods in the community. The pattern of suicide in a region depends upon a variety of factors, ranging from availability and access to the method to the socio-economic status of the individual, and also not to forget the prevailing cultural and religious influences. In the western counterpart also hanging predominates. In Australia,

Japan, New Zealand, Pakistan, and Thailand, hanging dominates as the most common method of suicide. In China, Hong Kong, and Singapore, jumping from buildings is the most frequent method used. The U.S.A. has the highest rate of firearm ownership of any country in the world and also the highest rate of firearm related suicides. In India, suicide by firearms and jumping from buildings are less due to the very less amount of tall buildings and strict legislation for keeping firearms. The studies conducted in rural areas of India poisoning are the first preferred method to commit suicide because of the easy availability of poisons. Drowning is more in studies conducted in coastal regions. Drowning as a method of suicide is known to occur, but has primarily been described in environments with readily available access to water, such as coastal regions. Drowning remains a significant public health concern, as it is a major cause of disability and death, particularly in children⁸

Cluster suicides occur in the young and are often initiated by direct communication. As it is possible that Internet-based social sites may facilitate this phenomenon, investigations should include an evaluation of the victim's Internet access given the potential risk of similar actions by peers.⁹

The cause for committing suicide 103 cases (41.07%) were due to depression/mental illness, 37 cases (14.97%) were due to family problems, 35 cases (14.17%) were due to love affairs/failure, 34 cases (13.76%) were due to failure in examination, 14 cases (5.66%) due to dowry related, 13 cases (5.26%) due to unknown reasons and 11 cases (4.45%) due to disease or illness. For proper assessment of the cause and manner of death in such fatalities, it is important to have an awareness of trends, risk factors, methods as well as pitfalls.

Conclusion

Adolescent age is an important stage in development. Death in adolescent age is a potential life loss to family and society to some extent and reflects socioeconomic and Medical Health Care status at the National and Regional level. Accurate information on the causes and circumstances of such deaths through a process of medico-legal investigations is essential in creating awareness among National policymakers and educators/caregivers, to prevent adolescent

deaths. It is very important that suicide prevention programs be rigorously evaluated to determine their effectiveness in targeting the personal, family, and/or social factors that lead to suicide.

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