

## ORIGINAL RESEARCH

# To study the unnatural deaths among female children and adolescents

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### ABSTRACT

**Aim:** To study the unnatural Deaths Among Female Children and Adolescents. **Material and Methods:** A retrospective investigation was carried out in the Department of Forensic Medicine. A total of 70 instances of non-natural deaths were examined in the current investigation. Only female participants between the ages of 6 and 18 were included in the current research. Prior to commencing the research, the institutional ethics committee granted permission. **Results:** The majority of the children fall within the age range of 6 to 10 years, accounting for 38 individuals or 54.29% of the total. This is followed by the age range of 10 to 14 years, which includes 20 children or 28.57% of the total. Lastly, the age range of 14 to 18 years comprises 12 children, accounting for 17.14% of the total. The most common cause of death was Accidental, accounting for 35 cases or 50% of the total. This was followed by Suicide, which accounted for 16 cases or 22.86%. Homicide accounted for 13 cases or 18.57%, while the cause of death could not be determined in 6 cases or 8.57%. The causes of death, which include Road Accidents (21 cases, accounting for 30% of the total), Burns (9 cases, 12.86%), Hangings (5 cases, 7.14%), Drownings (12 cases, 17.14%), Falls from Height (4 cases, 5.71%), Poisonings (8 cases, 11.43%), Stabbings (2 cases, 2.86%), Electric Hazards (5 cases, 7.14%), and Suffocations (4 cases, 5.71%). **Conclusion:** The majority of those who had 'unnatural deaths were from the lowest socioeconomic stratum. Proposals concerning traffic safety, reducing the strain of contemporary mechanized living, and educating the general public on many topics. The presence, use, and retention of toxic drugs have been emphasized, with a focus on the societal issue of the dowry system that is prevalent in India.

**Keywords:** unnatural Deaths, Children, Adolescents

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### INTRODUCTION

In 2021, the average lifespan in the United States saw a decline, particularly among persons of Black and Indigenous descent. From 2014 to 2021, the decrease in life expectancy may be attributed to a combination of drug overdoses, murder, suicide, and motor vehicle deaths, which together accounted for 31% of the fall. From 2001 to 2021, unintentional injury, suicide, and murder, which are together referred to as unnatural deaths, continued to be the three primary causes of mortality among individuals aged 15 to 34 years, despite the implementation of current prevention measures.<sup>1-3</sup>The fatalities incur significant psychological expenses for grieving family members. The aggregate expenses resulting from non-natural fatalities in the United States amounted to \$4.2 trillion

in 2019. Adopting a Life Course-Social Field approach, it is crucial to consider several elements from infancy, such as family, friends, and neighborhood, in order to identify early areas for prevention. The existing body of research on variables linked to accidental death is marked by methodological constraints, including a narrow emphasis on high-risk groups that restricts the applicability of findings, as well as the use of cross-sectional and retrospective studies that are susceptible to recollection bias.<sup>4,5</sup>While childhood is a critical stage for long-term health, a significant amount of study focuses on risk factors that are closer to the end of life. There have been few research that have looked at the variables in childhood that increase the risk of unnatural death among urban populations, particularly

among mostly Black persons. This group is more likely to experience unnatural causes of death, such as murder.<sup>6,7</sup> From 2018 to 2021, the suicide rate among Black persons aged 10 to 24 years had a 37% rise, surpassing that of all other racial or ethnic groups.<sup>8</sup> Research often concentrates on distinct categories of non-natural fatalities, disregarding the presence of common risk factors across murder, suicide, and overdose cases. Only a limited number of cohort studies have shown childhood characteristics linked to accidental death, and the majority of known research focus on risk factors at the individual or family level.<sup>9-11</sup> A research conducted in Finland examined a group of individuals from birth and showed that adolescent males who had divorced parents were at a higher risk of dying from accidental injuries or suicide. This relationship remained significant even after taking into account mental diagnosis and parental socioeconomic status. Nevertheless, the investigations reported a rather low mortality rate. One significant drawback of the existing research is its failure to adequately address the impact of neighborhood and contextual factors, as well as the exclusion of Black persons, despite the mounting data indicating that socioeconomic determinants of health play a crucial role in determining health outcomes. This research involves the longitudinal tracking of a group of youngsters residing in a city characterized by historical racial segregation and a lack of investment in Black areas. These factors have resulted in a high concentration of poverty and limited possibilities for Black people.<sup>12,13</sup> Burn injuries may occur as a result of accidents, suicide attempts, or acts of homicide. For further information, please see the section on Injury causes. The effect of burns may vary depending on the degree and severity of the burns, as well as the availability and accessibility of healthcare. This range can include surface burns and scalds, as well as damage to internal organs. The lack of amenities in district and peripheral hospitals, together with traditional unscientific home practices and the absence of safety measures, lead to a significant number of deaths and disabilities caused by burn injuries. Contractures, deformities, and deformity are very prevalent as secondary consequences of burns. Secondary infections have the potential to cause various problems that might result in a prolonged healing period and even death. In India, drowning incidents often occur in rivers, ponds, lakes, and wells. These incidents might be accidental, suicidal, or even homicidal in origin. India's whole coastline region is susceptible to risks. Due to the convenient proximity to water bodies, the profession of humans, frequent occurrence of natural disasters, and the vulnerability of young children and teenagers, drowning is prevalent in India. Drowning, when used as a form of suicide, accounts for a considerable number of fatalities and is addressed within the context of suicide.<sup>14</sup>

Suicide is the deliberate act of causing one's own death. As a result of intricate connections between medicine, law, and societal attitudes, suicide has historically been hidden in Indian culture, leading to significant underreporting and misclassification in official records.<sup>15</sup>

According to the WHO, violence is defined as the deliberate use of physical force or power, whether threatened or actual, against oneself, another individual, or a group or community. This use of force has the potential to cause injury, death, psychological harm, hindered development, or deprivation. Violence may be categorized into three main types: self-directed violence, which includes intentional self-harm or suicide; interpersonal violence, which encompasses violence within families, intimate partners, and communities; and collective violence, which refers to violence that occurs on a social, political, or economic level. Violent actions may include physical, sexual, psychological, and instances of deprivation or neglect.<sup>16</sup>

Several strategies that are likely to decrease the number of suicides in India include: implementing restrictions on the easy accessibility of organ phosphorus compounds and drugs; improving the proficiency of primary care and family physicians in identifying and treating mental health issues and individuals facing violence; promptly identifying and treating individuals with depression, alcoholism, and other mood and personality disorders; strengthening social support systems, particularly for individuals in distressing circumstances; educating media professionals to exercise greater responsibility when reporting on suicide; and expanding counseling services in hospitals, educational institutions, and workplaces. By empowering and assisting programmers in destigmatizing suicide, implementing measures to decriminalize suicide via legal modifications, and promoting community awareness programs focused on suicide prevention, the incidence of suicides may be reduced. Implementing more comprehensive strategies to ensure social and economic stability for vulnerable people may provide significant assistance.

This research seeks to elucidate the role of socioeconomic circumstances and violence against women in the primary factors leading to unnatural deaths among females. The primary goals of the research are to determine the different factors surrounding unnatural female fatalities, analyze the likely causes for these deaths, and assess the impact of socioeconomic circumstances and violence against women on the major causes of unnatural deaths.

## **MATERIALS AND METHODS**

A retrospective investigation was undertaken in the Department of Forensic Medicine, after the consent of the protocol review committee and institutional ethics committee. The current research analyzed a total of 70 instances of unnatural deaths that were submitted for

autopsy. Only female participants between the ages of 6 and 18 were included in the current research. Prior to commencing the research, the institutional ethics committee granted permission. This research includes a total of 70 instances of deaths that were not considered natural. The research eliminated remains that were in an advanced state of decomposition and had been exhumed.

## RESULTS

This research examines the factors contributing to death caused by injuries among teenagers, using post-mortem data. This research examines the factors contributing to the death of teenagers due to injuries, using post-mortem data. This research examines the factors contributing to death from injuries among teenagers using post-mortem data. Table 1 indicates that the majority of the children fall within the age

range of 6 to 10 years, accounting for 38 individuals or 54.29% of the total. This is followed by the age range of 10 to 14 years, which includes 20 children or 28.57% of the total. Lastly, the age range of 14 to 18 years comprises 12 children, accounting for 17.14% of the total. Table 2 indicates that the most common cause of death was Accidental, accounting for 35 cases or 50% of the total. This was followed by Suicide, which accounted for 16 cases or 22.86%. Homicide accounted for 13 cases or 18.57%, while the cause of death could not be determined in 6 cases or 8.57%. Table 3 displays the causes of death, which include Road Accidents (21 cases, accounting for 30% of the total), Burns (9 cases, 12.86%), Hangings (5 cases, 7.14%), Drownings (12 cases, 17.14%), Falls from Height (4 cases, 5.71%), Poisonings (8 cases, 11.43%), Stabbings (2 cases, 2.86%), Electric Hazards (5 cases, 7.14%), and Suffocations (4 cases, 5.71%).

**Table 1: Age of the participants**

Age	Number of Cases	Percentage of Cases
6 – 10 years	38	54.29
10 – 14 years	20	28.57
14 – 18 years	12	17.14
Total	70	100%

**Table 2: Modus of Death**

Modus	Number of Cases	Percentage of Cases
Accidental	35	50
Homicide	13	18.57
Suicide	16	22.86
Not Determined	6	8.57
Total	70	100%

**Table 3: Leading Causes**

Causes	Number of Cases	Percentage of Cases
Road Accident	21	30
Burn	9	12.86
Hanging	5	7.14
Drowning	12	17.14
Fall from Height	4	5.71
Poisoning	8	11.43
Stabbing	2	2.86
Electric Hazard	5	7.14
Suffocation	4	5.71
Total	70	100%

## DISCUSSION

This research examines the factors contributing to fatal injuries in teenagers by analyzing post-mortem data obtained from a hospital. The research delineates the factors contributing to the untimely demise of children and adolescents. Mortality is an inherent and inevitable occurrence in all living organisms; wherever there is life, there is also death. In this research, we aimed to analyze the occurrence of non-natural deaths among female children and adolescents. When comparing the overall number of post-mortems performed at the modern morgue at the Hospital, it is

evident that there were very few instances of post-mortems done for teenagers. This indicates that the medico-legal adolescent mortality rate was much lower compared to other age groups. Compared to other age groups, they have few hassles and conflicts. If we compare the data on adolescent fatalities in this research with the data on teenage deaths obtained by the Information Centre of the United States of America.<sup>17</sup> There is a significant amount of variance seen in the method in which fatalities occur in both nations. These two investigations showed a close resemblance in the event of unintentional fatalities.

The rate of accidental deaths among teenagers in this research group was somewhat higher (54.29%) compared to the rate of accidental deaths among teenagers in the USA (51.67%). In the USA, there are more preventative and preventive measures used at work places and on trips.

A research performed by Gonnade U et.al in Maharashtra revealed that around 73 percent of burn victims were female. Among the victims who were married, 88.75 percent were females, which is equivalent to three fourths (75%).<sup>18</sup>The current research revealed that all burn sufferers in the sample were female, and half of them were married. According to a research conducted by Kitulwatte I D et.al in a teaching hospital in Sri Lanka, it was found that suicide deaths were more prevalent among older individuals.<sup>19</sup>Meel B L conducted a study from 1996 to 2004 at Umtata General Hospital (UGH), examining medico-legal autopsies of individuals aged 18 years or younger. The study found that 70.9% of deaths were caused by trauma, while 29.1% were attributed to other causes such as hanging, burns, lightning strikes, drowning, gas suffocation, falls from a height, and poisoning.<sup>20</sup>

According to teenage accidents, in latter teenage phase gradual increase of exposure to outer world, journeys to different places, employment opportunities, all these factors leads to adverse effects on teenagers, so that accidental deaths were more. Both well. P.W., Aberd. M.B described the incidence of fractures to the lower limbs in motor-cycle accidents was higher than in other types of accidents.<sup>21</sup>Preliminary training and monitoring may greatly reduce accidents. At a particular company, all male applicants for jobs were meticulously chosen, and these individuals were then enrolled in a specialized training program. During this program, their primary emphasis was on maintaining cleanliness, wearing appropriate attire, understanding the operation of machinery and the associated risks, as well as learning about the proper use of safety guards and the potential hazards of shafting.

One important lesson learned from this research is that when estimating infant mortality due to non-natural causes, it is crucial to additionally take into account the incidence of illness or disease. Comprehending the occurrence of child mortality is important, but even more vital is acknowledging that when these deaths are caused by harm or aggression, the consequences extend beyond the individual, family, and society as a whole. Hence, it is crucial to examine the underlying factors contributing to these atypical fatalities in order to develop region-specific prevention measures.

## CONCLUSION

The majority of those who had 'unnatural deaths were from the lowest socioeconomic stratum. Proposals concerning traffic safety, reducing the strain of contemporary mechanized living, and educating the

general public on many topics. The presence, use, and retention of toxic drugs have been emphasized, with a focus on the societal issue of the dowry system that is prevalent in India.

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