

An Analytical Study of Teenage Deaths in and Around Guntur, Andhra Pradesh, South India

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ABSTRACT

Introduction: The golden days, the great memories, the childhood and teenage, never repeats in human life. Life span of an individual can be differentiated into Childhood, Adolescence, Adulthood and Old age. Teenage is the period between 13 years to 19 years of age. Guntur, Andhra Pradesh, South India, region is no exception for the above said facts. So, there is a need to study in depth the causative factors for the teenage deaths and show some remedies to prevent the teenage deaths. Current research aimed to study causes of death in teenagers. To study the various patterns of injuries, that was leading to death in teenagers. To analyze the incidences causing the various medico-legal aspects of morbidity and mortality of teenagers. To study the various problems related to teenage deaths.

Material and Methods: To proceed for the present cohort study, the victims, the teenagers who died with any unnatural cause and brought to the mortuary for Medico legal autopsy at Modern Mortuary, Guntur Medical College, Guntur, during the period of one year (1st January 2011 to 31st December 2011) was taken for evaluation and study to know the cause of death and nature of death.

Results: Out of 1352 postmortems 46 (3.40%) postmortems were teenage group deaths were very less, if compare other ages. Male teenage deaths 28(60.86%) were more than Female teenage deaths 18(39.13%). Deaths increased with increase of age. In total 46 cases, highest number of deaths occurred in 18 years 11(23.91%) and 19 years 11(23.91%) age group.

Conclusions: To prevent traffic accidents a check should be kept on professional drivers, to prevent rash and negligent driving. Build lines of communication that are so strong that children always look at parents as allies and not as enemies. Communicate positively and avoid commands and this will tackle the problem of the out of control teenager.

Keywords: Teenage Deaths, Accidental, Suicidal, Homicidal.

INTRODUCTION

The teenagers are very important subjects to know the causes of all types and all manner of the deaths. Socially teenage is marked by increasing independence from parents as the young person's prepare to leave to complete his or her education, to form sexual partners and to seek some vocation or employment. The period of gradual attaining of maturation and intelligence is teenage. The teenager is a uniquely human phenomenon. Teenagers are known to be moody, insecure, argumentative, angst-ridden, impulsive, impressionable, reckless and rebellious¹. In this age group in male individuals increasing levels of secretion of androgens like testosterone by four folds. If the testosterone is in higher levels, it causes physical and psychological aggressiveness

leading to initiating anti-social activities, exaggerative activities and adventures. Testosterone and estrogens create competitive nature, adventurous, creative nature, sexual excitement to opposite sex, at the same time also causes depression. Medico legally this age group occupies very important place. We can see all the medico legal aspects in this age group. These changes in turn resulted in increasing crime rate and death rate If we compare different regions in India we will find remarkable variations in teenage deaths in various regions. In a study which evaluated the cause of death among those aged 10-19 years, in a rural population of 108,000 in south India². Reports show that the teen deaths in southern India have world highest suicide rates. There is remarkable variation in cause of teenage deaths between urban and rural areas in India, because of prevailing of diversified culture, customs and traditions. Death may be due to accidental, suicidal or homicidal. Guntur, Andhra Pradesh, South India, region is no exception for the above said facts. So, there is a need to study in depth the causative factors for the teenage deaths and show some remedies to prevent teenage deaths

Current research aimed to study in depth different causes of death in teenagers, to study the various patterns of injuries, that is leading to death in teenagers, to analyze the incidences causing the various medico-legal aspects of morbidity and mortality of teenagers, to study the various problems related to social, behavioral, emotional, attitudinal, economical and stress related situations and to study the influence of the parentage and their childhood experiences in building up their career and personality, influence of friends or circumstances, influence of urbanization.

MATERIAL AND METHODS

To proceed for the present cohort study, the victims, the teenagers who died with any unnatural cause and brought to the mortuary for Medico legal autopsy at Modern Mortuary, Guntur Medical College, Guntur, and the details

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of the incidence given by the relatives of the deceased were taken through the various sources like hospital case sheets, postmortem reports, the inquest reports and the FIR reports during the period of one year (1st January 2011 to 31st December 2011) period was taken for evaluation and study to know the cause of death and nature of death.

The total number of 1352 postmortem examinations were done for all age groups, but 46 postmortems were conducted in teenage group. The FIR and inquest reports are collected for all teenage deaths which have come to the mortuary for Postmortem Examination to know the complete case history which includes the nature of incidence, precipitating cause, the time of occurrence, accompanied persons and the time of death and the cause of death which are known during the investigation made by the concerned IO.

Photographs were taken at the scene and some photographs were also taken at the mortuary during autopsy. Scene of offences were visited in some important cases, perhaps enquiry was also made with the relatives of the victim, together with some important information. Graphs were prepared and other statistical diagrams are prepared to get information at a glance. In the last, incidence and prevalence of the problem was discussed, in comparison with the present status to the past and with other countries information. The preventive measures that are to be undertaken, to reduce the incidence are also highlighted.

STATISTICAL ANALYSIS

Descriptive statistics like mean and percentages were used for the analysis. Statistical analysis was done with the help of Microsoft office 2007.

RESULTS

Death is a compulsive phenomenon in any living objects, where there is life there is death. In the present study, we made an attempt to analyze the scenario of deaths in teenage group (13 years to 19 years) any type of death in and around Guntur during the period of January 2011 to December 2011. Total 1352 postmortem examinations were conducted during this period.

Out of 1352 (100%) postmortems 46 (3.40%) postmortems were teenage group deaths which were very less, if compare other ages. Male teenage deaths 28(60.86%) were more than Female teenage deaths 18(39.13%). Deaths increased with increase of age. In total 46 cases, highest number of deaths occurred in 18 years 11(23.91%) and 19 years 11(23.91%) age group. Least number of deaths occurred in 13 years age group 2(4.34%). The remaining deaths occurred from age groups 14 years 4(8.69%), 15 years 6(13.04%), 16 years 4(8.69%) and 17 years 8(17.39%). (Table-1)

Literates were died more 27(58.69%) than illiterates 7(15.21%). Literacy is more in males 18(39.13%) than females 9(19.56%). Student group lost their lives more 23(50%) than other groups, moreover male student deaths were more 16(34.78%) than female student deaths 7(15.21%). Agricultural workers deaths were less

5(10.86%) than other employees' deaths 10(21.73%). (Table-2)

Marital status in present teenage group (46 Cases), unmarried teenagers 40(86.95%), married teenagers 5(10.86%) and 1 (2.17%) of marital status or teenager's remained unknown. All male teenagers were remained unmarried. In married females 5(10.86%); 1(2.17%) females got divorced and 2(4.34%) females were pregnant, but having no children. Most of the teenagers in this study were living in rural areas 28(60.86%) followed by urban areas 16(34.78%), then thirdly semi urban areas 1(2.17%).

In case of manner of death, out of total 46 (100%) deaths, more deaths were recorded due to accidents 25(54.34%). Next highest deaths occurred from suicidal cases 17(36.95%), least number of deaths recorded from Homicidal/abatement of suicide cases 4(8.69%). Out of teenage accidental cases 22(47.82%) male teenagers were died a greater number 22(47.82%), and females were only 3 (6.52%). But more teenagers were choose suicides 11(23.91%), male teenagers choose suicide a less members 6(13.04%). In case of homicidal / abatement of suicide, no cases were reported from male teenagers. Manner of deaths according to age, very few accidental 1(2.17%) and suicidal 1(2.17%) cases were recorded in 13 years age group. In 14 years age group also very few teenagers involved (Accidental 4(8.69%), Suicidal 0%). In 15 years age group the percentage of involvement is increased (Accidental 3(6.52%), suicidal (0%) were recorded. In 18 years age group accidental cases 2(4.34%), suicidal cases more 8 (17.39%) but homicidal cases are reported 1(2.17%). Highest numbers of cases were reported in 19 years age group, accidental cases 8(17.39%), Suicidal Cases 1(2.17%) and homicidal cases 2(4.34%). The great number of deaths recorded in age group of 17 years, 18 years and 19 years age groups. (Table-3)

Many teenage deaths occurred from rural areas 28(60.86%) in all manner of deaths (Accidental, homicidal and suicidal), less deaths occurred from urban areas 16(34.78%). But in case of accidental deaths, the same number of cases occurred from rural and urban areas 12 cases 12(26.08%), only 1 case was recorded from semi urban area. The type of vehicle caused the teenage deaths, Bike caused more deaths 5 cases (31.25%), followed by Train 4 cases (25%), heavy vehicles 2 cases (12.5%) and light vehicles 1 case (6.25%). Females are vulnerable to commit suicides more 11(64.70%) than males 6(35.29%). No male teenage suicides were found in the age groups 13 years, 14 years and 15 years. Like that no female teenage suicides were found in the age groups of 14 years and 19 years groups. More suicidal deaths reported from 18 years age group 8(47.05%) and second highest suicidal deaths reported from 15 years age group 3(17.64%). More suicidal deaths were recorded from student group 9(52.94%). The influencing factors to commit suicides in teenagers gender wise, Love related factor 3(17.64%) and study related factors 3(17.64%) were play an important role on female teenagers than males 1(5.88% and 2(11.76%). In case of male teenage deaths parents related deaths 2 (11.76%) and Study related factors 2(11.76%). (Table-4)

Sex	Age in years							Total
	13Yrs	14Yrs	15Yrs	16Yrs	17Yrs	18Yrs	19Yrs	
Male	1(2.17%)	4(8.69)	2(4.34%)	1(2.17)	7(15.21%)	4(8.69%)	9(19.56%)	28(60.86)
Femae	1(2.17%)	0(0%)	4(8.69%)	3(6.52)	1(2.17%)	7(15.21%)	2(4.34%)	18(39%)
Total	2(4.34%)	4(8.69)	6(13.04)	4(8.69)	8(17.39%)	11(23.9%)	11(23.9%)	46(100%)

Table-1: Incidence of Age and Gender

Occupation						
Sex	Students	Unemployee/ House Wife	Workers		Not known	Total
			Agriculture	Others		
Male	16(34.78%)	1(2.17%)	3(6.52%)	7(15.21%)	1(2.17%)	28(60.86%)
Female	7(15.21%)	4(8.69%)	2(4.34%)	3(6.52%)	2(4.34%)	18(39.13%)
Total	23(50%)	5(10.86%)	5(10.86%)	10(21.73%)	3(6.52%)	46(100%)

Table-2: Occupational Status-Gender Wise

Manner of Death	Age in Years							Total
	13Y	14Y	15Y	16Y	17Y	18Y	19Y	
Accidents	1(2.17)	4(8.69)	3(6.52%)	1(2.17%)	6(13.04%)	2(4.34%)	8(17.39%)	25(54.34%)
Homicides/Abatement	0(0%)	0(0%)	0(0%)	1(2.17%)	0(0%)	1(2.17%)	2(4.34%)	4(8.69%)
Suicides	1(2.17%)	0(0%)	3(6.52%)	2(4.34%)	2(4.34%)	8(17.39%)	1(2.17%)	17(36.95%)

Table-3: Manner Of Teenage Deaths-According to Age

Motive Behind	Sex		Total
	Male	Female	
Parents Related	2(11.76%)	2(11.76%)	4(23.52%)
Love Related	1(5.88%)	3(17.64%)	4(23.52%)
Study Related	2(11.76%)	3(17.64%)	5(29.41%)
Threatening by Others	0(0%)	1(5.88%)	1(5.88%)
Own Illness	1(5.88%)	2(11.76%)	3(17.64%)
Depression	0(0%)	0(0%)	0(0%)
Total	6(35.29%)	11(64.70%)	17(100%)

Table-4: Motive Behind Teenage Suicidal Deaths-Gender Wise

DISCUSSION

In comparison with total number of postmortems conducted in modern mortuary at Government General Hospital/ Guntur Medical College, Guntur only 46 cases (3.40%) of postmortems done for teenage group, it shows medico legal teenage death rate was very less in comparison with other age group. They have only few problems and few tensions, if compare with other age groups. If compare the data of teenage deaths in this study with teenage deaths data collected by Information Centre United States of America³. So much variation is noted in manner of deaths in both countries. In case of accidental deaths, an approximate similarity was observed between these two studies. Teenage accidental deaths in this present study group were little high (54.34%) than USA teen accidental deaths (51.67%). There at USA precautionary and preventive measures are more in their work sites or in journeys.

In case of teenage homicidal deaths: little high (13.70%) was recorded in USA, but in present study group a little lower percentage (8.69%) was recorded. Teenage homicidal deaths were more in western countries. Here in India some parental restrictions are there to control the teenagers and it is very difficult to get dangerous weapons, so the homicidal deaths were a slightly less. According to survey done in USA the

teenage suicidal deaths were very less (10.95%), but in present study group the suicidal deaths were very high (36.95%). Lowest suicidal teenage deaths recorded in USA, because of different culture prevails in that county, that is a advanced type of culture and the motivating factors behind to commit suicide (parents related, love related and study related) are less effective, but in the same time influence of these factors are more in India. According to Beautrais AL⁴ Suicide among less than 15 years-olds is very rare but increasing Suicide risk increases with ago: the majority of those who die are aged 14 years (57.4% of the total) or 13 years (26.2%), Boys (72.1%) and Maori (57.4%) predominate. Most suicides occurred in children not living in intact biological families (67.2%). According to Larsson B., Ivarsson T⁵ the Clinical characteristics of 191 adolescent inpatients were examined. Overall, more than 50% of the adolescent inpatients had attempted suicide during their lifetime, and of these more than half (58%) had made more than one attempt. Dr. According to Anne L. Glowinsk, Kothleen K. Bucholz⁶ Major depressive disorder, alcohol dependence, childhood physical abuse, social phobia, conduct disorder, and African-American ethnicity were the factors most associated with a suicide attempt history. Suicide attempt liability was familial, with genetic and shared environmental influences together

accounting for 35% to 75% of the variance in risk. The twin/co twin suicide attempt odds ratio was 5.6 (95% confidence interval [CI]). And not like restricted sexual activities in India, there at USA they are practicing free sexual activities; they can get a clear understanding between male teenagers and female teenagers, before participating in sexual activities, leads to fewer chances for love failures, unwanted marriages and unwanted pregnancies. These circumstances lessen the suicidal tendencies. According to 'Kevin Caruso' (Published in British Medical Journal), the percentage variation in teenage suicidal deaths are not only different in between countries, but also differ in between Indian states. He found that the suicidal death rates were very high in South Indian teenagers than all other states. From the present observations the teenagers, who were staying in rural areas lost their lives more in number, than teenagers living in other areas like semi urban and urban areas. So the children behaves with certain limitations with parents support but in case of low socio-economic group due to financial problems and lack of knowledge in how to guide their children, leads to loss of parents influence and guidance. Present study shows that, more teenage deaths occurred who came from nuclear families.

According to present study, students were most vulnerable group; half of the teenagers were students group, particularly male student's moves very nearer to death than females with their activities. Theirs adventurous and creative mind itself becomes harmful to them, they won't tolerate the circumstances, more sensitive against the incidences, and they don't have money earning, in this country the people gives respect to earning persons only, finally they are incapacitate to find solutions, but they think that death is the only solution for their problems.

Female teenagers have been facing so many problems from ancient times itself, like sexual assaults, lover failures, unwanted marriages, marriages without their will, disturbed marriage life, dowry deaths, harassments from husband or relatives of the husband, and recent study related factors also added to them. According to this study, the incidence of teenage deaths was increased with increase of age. Most of the teenage deaths (nearly 75% if cases) occurred in older teens, 17 years, 18 years and 19 years. Less number of teenage deaths occurred in younger teenage group 14 years, 15 years and 16 years.

The leading causes of death in the United States -The top three causes, Unintentional injury (accidents), Assault (homicides) and Self-inflicted injury (suicides), accounted for more than three quarter (76.32%) of all deaths among older teens (ages 15 through 19) in 2002. Note that automobile accident is the number one cause of death, considerably standing out in this age group, accounting for about 40%. According to Johnson J.G⁷ Suicide is the third-leading cause of death for adolescents 15 to 19 years old. Pediatricians can take steps to help reduce the incidence of adolescent suicide by screening for depression and suicidal ideation and behavior.

Minino A⁸ data from the National Vital Statistics System-Mortality, an average of 16,375 teenagers 12 -19 years died

in the United States every year from 1999 to 2006. This is less than 1 percent of all deaths that occur every year in the US. Suicide is one of the ten leading causes of death in the world, accounting for more than 400,000 deaths annually. According to Benjamin N.S. Shain⁹ Suicide is the third-leading cause of death for adolescents 15 to 19 years old. 1487 (11% of deaths) were among those 15 to 19 years old. Serious mood disorders, such as major depressive disorder or bipolar disorder, may present in adolescents in several ways.

Harington R¹⁰ there were no recorded suicides in children under 10 years between 1960 and 1990. However, the rate increases markedly during middle adolescence: in 1990, the suicide rate for males aged 15-19 years was 57 per million, 4 times higher than that for females, at 14 per million. This increase is also reflected in the rates of 'accidental' and 'undetermined' deaths and is associated with an increase in more lethal methods such as hanging. The children of depressed parents have greater than expected rates of depression. Evans Rhiannon¹¹ reported on 2448 incidents of suicidal ideation, 3456 attempted suicides and 250 suicides. The estimated prevalence of suicidal ideation was 24.7% in children and young people in care compared to 11.4% in non-care.

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. Bothwell. P.W., Aberd. M.B¹² described the incidence of fractures to the lower limbs in motor-cycle accidents was higher than in other types of accidents. A great reduction of accidents can be effected by preliminary training and supervision. At one firm, for instance, all boys applying for employment were carefully selected, and the boys were passed through the works school where their attention was focused on tidiness, suitable clothing, machines and their dangers, adjustment of guards, shafting and its dangers, etc. Vinayaka, Prasanna K.; Vanaja, D.; Raghavendra, Bellara¹³ reported mean age of the victims 35.12 ± 15.7 years, male to female ratio of 3.9:1, motorized two wheeler (38%), three wheeler (16%) and truck/lorry (22%) were common vehicles involved in RTAs. Excess speeding (66.8%) of the vehicle and under the influence of alcohol (22.8%) was the predominant predisposing factors for the occurrence of the RTAs. Yadukul. S, Devadass P.K., Guru Raj G¹⁴ reported that India, and its cities and towns are experiencing an unprecedented and unparalleled motorization in recent times. Helmets form an important protective gear in protecting the head among two wheeler riders/ pillion riders in fatal road traffic injuries. The present study was performed to study the effectiveness of Helmet as a protective gear in preventing fatal Head Injury among Two Wheeler Riders/ Pillion Riders in Road Traffic Injuries. According to Dr. Dhaval J. Patel, Gopinath Agnihotram¹⁵ this age group mainly consists of working people and students, who usually travelled by own vehicles or other public transportation. This leads to involvement of this age group more commonly in RTA. It is due to careless driving mainly by younger age group.

CONCLUSION

To prevent traffic accidents: a check should be kept on professional drivers, to prevent rash and negligent driving. Prevent overloading of the vehicles. Should follow the norms when construct new roads. In railways, foot board travelling, getting in or down of running trains must be discouraged by education. Build lines of communication that are so strong that children always look at parents as allies and not as enemies. Communicate positively and avoid commands and this will tackle the problem of the out of control teenager. It should be possible to prevent teenagers form all type of deaths if these preventing steps implement perfectly. But nobody can prevent every teenager death but may prevent to some extent.

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