

Modes, Manner of deaths and types of injuries in Warangal Municipal Limits

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Abstract

Accident is an unexpected, unplanned occurrence which may involve injury or it may be defined as an unpremeditated event resulting in recognizable damage. Railway related injuries are not those uncommon occurrences in forensic practice. Among the varied presentation of injuries, superficial injuries along with fractures were commonly observed. Over the last 15 years many railway accidents have happened in Andhra Pradesh and in India. Following these train accidents, there has been a large amount of public debate about safety management on the Indian railways. These accidents have raised issues regarding the effectiveness of the safety management of the railway system. This paper presents a summary of the results of a preliminary systemic analysis of several rail accidents in and around Warangal City. The present study was conducted in the Department of Forensic Medicine, Warangal Medical College, Warangal from January 2013 to June 2014 i.e., 12 months, during which the total postmortem cases were 74 occurred in the jurisdiction of the Govt. Railway Police Station, Warangal. The factors taken to enumerate the study are cause of death, manner of death, relationship between scene of offense and cause of death, relation of intoxication status to the manner of death, age versus manner of death and period of survival.

Key words: analysis, damage, factors, management, superficial injuries, preliminary

Introduction

Evolution is never ending process. Mankind has evolved from primates' eras back. The same Human is trying to develop over the yesteryears by inventing things, which have mechanical advantages. One of them are the Locomotives. Every comfort has some impending dangers within them. Similarly, the moving trains are also proving fatal.¹

The structure and designing of the train is made so safe that it is not easily possible to sustain injuries by the train, unless there is gross negligence or willful act is made to have such injuries. The areas of the movement of train are also made safe by providing several protective measures but still deaths are occurring on the railway tracks. Several commissions are made by the Governments to look in to these factors which are unsafe for public use. In spite the people living near and around the tracks are so negligent and erratic in using the

track, it is always unsafe for these people.²

The injuries and deaths due to accidents are inescapable in the modern way of living. The accidental deaths are mostly due to the road traffic accidents but the deaths due to railway fatalities are also not negligible, especially in the areas where railway traffic is higher. A train accident is defined as a "collision, derailment, or any other event involving the operation of on-track equipments." Train accidents can cause devastating damages and personal injuries including the death of the person. Trains are frequently involved in accidents that critically injured passengers and innocent bystanders. These accidents are indeed disastrous and catastrophic due to the speed that trains travel.³

Materials and Methods

This study has been carried out from January 2013 to June 2014 from the ethical committee of Kakatiya

Medical College, Warangal, Andhra Pradesh. The present study was conducted in the Department of Forensic Medicine, Warangal Medical College, Warangal from January 2013 to June 2014 i.e., 18 months, during which the total postmortem cases were 74 occurred in the jurisdiction of the Govt. Railway Police Station, Warangal, Andhra Pradesh. The records maintained for each case in this department are post mortem requisition given by Investigating Officer in their inquests, treatment records from hospital if treated, history from blood relatives and friends, observation of the circumstances at the scene by visiting the scene of offence, photographs taken from the scene of offence and findings in the Post mortem Examination certificates. The materials used are inquest Reports, inpatient Case sheets, per usual of police papers, data from district crime records bureau (DCRB), Warangal. Records from Medical Record Section of Kakatiya Medical College, Warangal, Andhra Pradesh. Post mortem Reports of all cases, Information collected from the Investigation Officer, Relatives and friends of the deceased accompanying dead bodies.

Observations and Results

Warangal is one city which is well connected to all parts of the country by railway line. Kazipet is one of the biggest Railway Junctions. Govt. Railway Police Station is situated in Warangal Railway station and the outpost of this Police Station is located in Kazipet. The number of accidents in the jurisdiction of these stations is also increasing day by day. The same amount of load will be reflected on to the mortuary staff working in this jurisdiction. There are 74 deaths occurred in the jurisdiction of the Govt. Railway Police Station, Warangal. All of them are subjected to Post mortem examination in the mortuary of Kakatiya Medical College, Warangal from January 2013 to June 2014.

In this study from Figure No. 1 it can be cleared that Suicides are common in younger age groups and accidents are common in elderly people. More suicides occurred in the age group of 21 to 50 years and more accidents occurred in 51 to 90 years of age groups. "Multiple Injuries" is the leading Cause of Death including in "suicides". This is in contrast to the decapitation observed as a method of suicide in the western countries. Isolated Head injury is the next leading Cause of Death in suicides. Surprisingly there

is one "Accidental Decapitation" found in the present study. As many as 51 "suicides" occurred during the study period because of railway injuries. Among them "Multiple Injuries" are leading over "Head Injury" and "Decapitation" and Traumatic amputation of Trunk". Among the 23 "Accidental" deaths 14 are because of "Multiple Injuries" and 7 are due to "Head Injury" and one decapitation. There is no homicidal death seen in the present study occurring on railway track.

In this study from Figure No. 2, out of 74 cases, 26 persons of the total 44 identified deceased are from rural areas. This needs a special concern that, the track needs fencing in the rural areas

62 persons died in deserted areas, and 36 persons died in the night, which shows that, the railway track needs a vigilance to reduce these deaths.

As many as 71 dead bodies are first seen by the railway employees. This is because the deaths are witnessed by the drivers, are the gang-men or key-men making rounds on the track.

In figure 3, out of 74 cases, intoxication status could not be made properly, however it is "Zero" in the present study. This may be because of subjecting the dead bodies for Post mortem Examination after 3 days of death, as they are kept for identification during this period. As many as 51 suicides occurred during the study period because of railway injuries. Among the 23 accidental deaths 14 are because of multiple Injuries and 7 are due to head Injury and one decapitation. There is no homicidal death seen in the present study occurring on railway track.

In Table 1, age versus manner of death is showed. Out of 74, suicides are common in younger age groups and accidents are common in elderly people. More suicides occurred in the age group of 21 to 50 years and more accidents occurred in 51 to 90 years of age groups. More number of deaths is occurring in young aged persons i.e. from 21 to 40 years of age, with the mean age 34.5 year. This is less than the age group observed in America which is 39 years. This shows the economic loss to the nation because of the person losing their lives in their productive age group.

In Table 2, the period of survival is discussed. Except for one person, who survived of accidental fall and sustained multiple Injuries, and died after 12 hours of admission. All other died on the spot on the track. Many of them are unattended. This indicates the severity of the railway injuries.

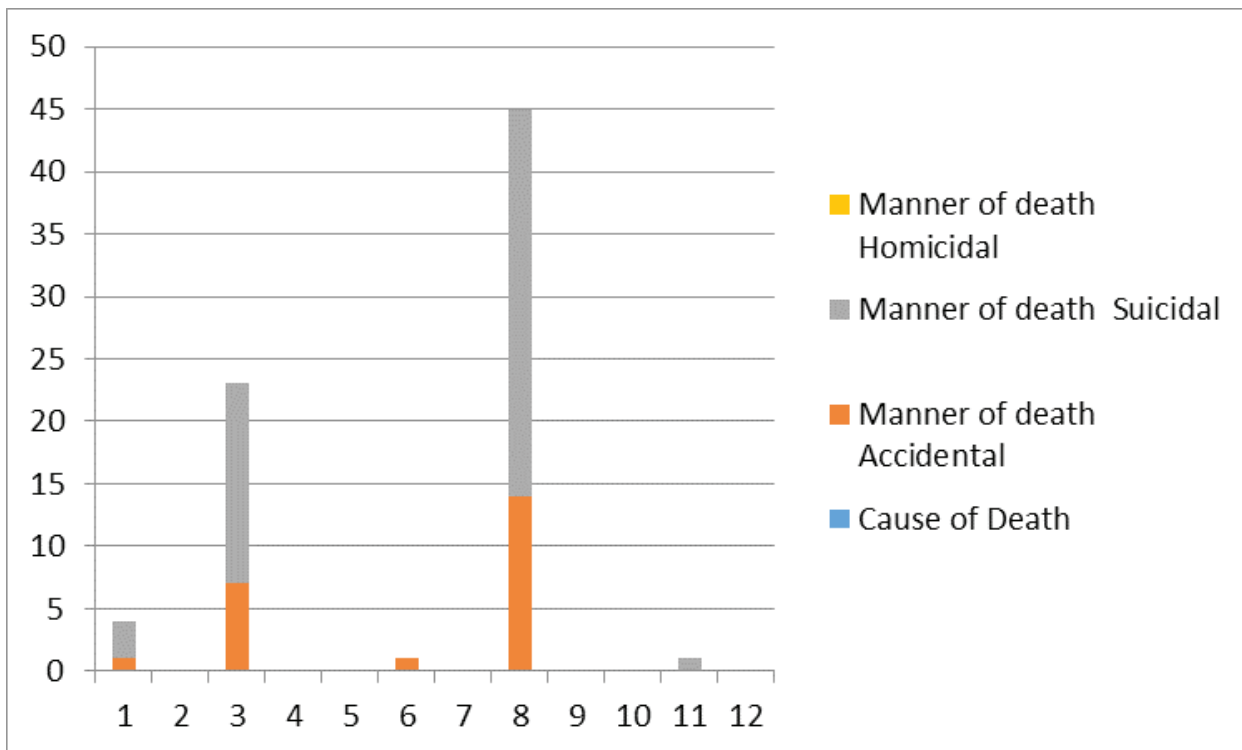


Figure 1: Causes of death and manner of death

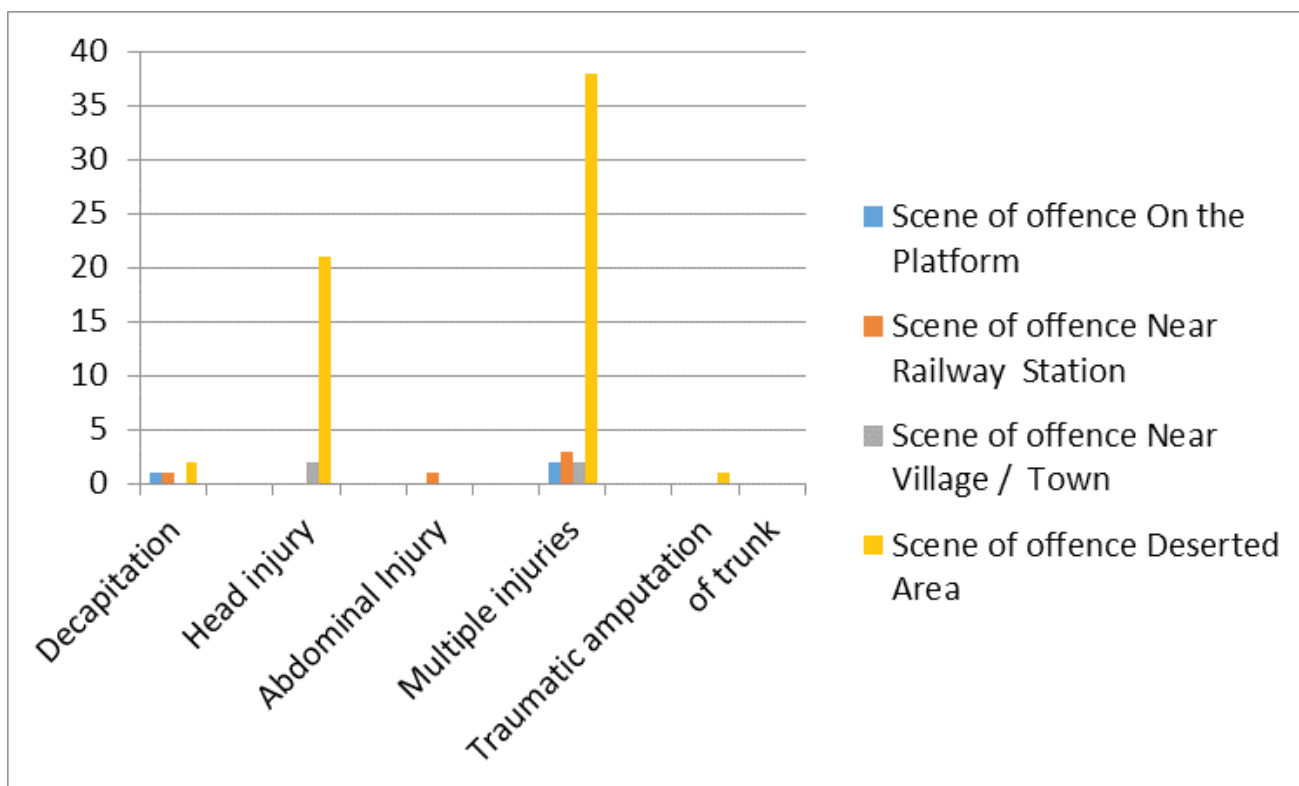


Figure 2: Relation between scene of offense and cause of death

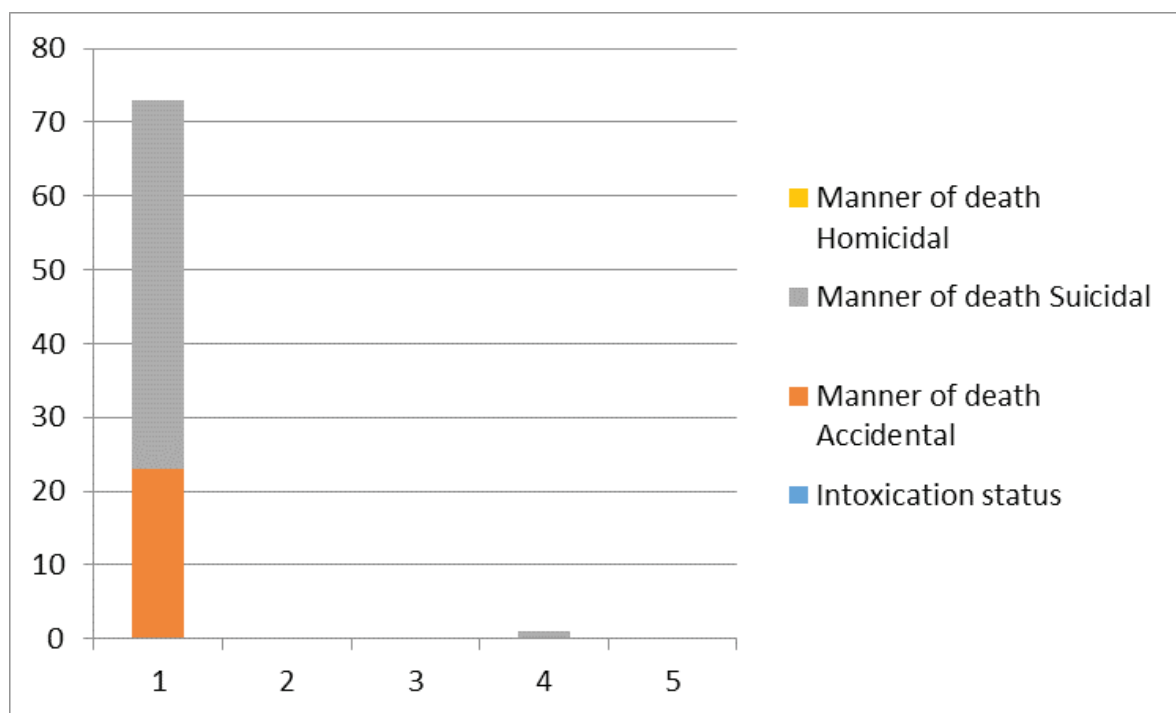


Figure 3: Relation of intoxication status to the manner of death

Table 1

Age	Manner of death			Total
	Accident	Suicide	Homicide	
0 to 11 yr	0	0	0	0
11 to 20 yr	0	2 (3.92%)	0	2
21 to 30 yr	5 (21.74%)	17 (33.33%)	0	22
31 to 40 yr	4 (17.39%)	19 (37.25%)	0	23
41 to 50 yr	5 (21.74%)	5 (9.8%)	0	10
51 to 60 yr	2 (8.70%)	4 (7.84%)	0	6
61 to 70 yr	2 (8.70%)	3 (5.88%)	0	5
71 to 80 yr	4 (17.39%)	0	0	4
81 to 90 yr	1 (4.35%)	0	0	1
91 to 100 yr	0	1 (1.96%)	0	1
Total	23 (100%)	51 (100%)	0	74

Age versus manner of death**Table 2**

Cause of Death	Period of survival					Total n (%)
	Immediate death	< 6 hours	6 to 24 hours	1 to 3 days	>3 Days	
Decapitation	4	0	0	0	0	4 (5.4)
Head injury	23	0	0	0	0	23 (31.08)
Abdominal Injury	1	0	0	0	0	1 (1.35)
Multiple injuries	44	0	1	0	0	45 (60.81)
Traumatic amputation of trunk	1	0	0	0	0	1 (1.35)
Total	73 (98.65)	0	1 (1.35)	0	0	74 (100)

Period of survival in relation to cause of death

Discussions and Suggestion

Death is one inevitable event the human life, can result from natural or unnatural means. It can be result of injuries sustained. Injuries caused by a fast-moving object can result in death. Especially trivial injuries produced by fast moving trains can result in fatality.

According to Bernoulli's Principle, when an object moves a greater velocity, it produces a low pressure in its path. Trains moving greater speed also produce a low pressure in their path and suck the objects towards them because they are placed in high pressure area and result in fatal injuries.⁹ That is why a red painted area is made on the margins of the platform of Railway stations, so that people should not enter in to it when a train comes on to the platform.⁴

In spite of the precautions and the preventive measures adopted by the Railway authorities, still many deaths are occurring on the track because of the railway related injuries.

The evidence is clearly shown in the present study by getting 74 deaths in whom railways (Trains) Produced injuries resulting in the death of persons. The annual incidence of railway related deaths is coming to 2.65% (44 deaths in the year 2013 to the total of 1661 Post mortem Examinations done), this is almost equal to the study made in Germany and much less in comparison to the rest of south east Asian countries.^{3,4,5} This is because the magnitude of railway related accidents may be same throughout the world, if the track is accessible to the people, but in Warangal geographical area, the suicidal methods adopted differ from rest the habitat. In this area people are committing suicides by poisoning more than other methods.

When we compare the Cause of Death with the manner of death, it is found that, in 31 (41.89%) cases of suicides, there are multiple injuries. In 16 (21.62%) cases of suicides, there are head injuries. In 3 (4.05%) cases of suicides, there are decapitations. In one case (1.35%) of suicide there is traumatic amputation of trunk.⁷

As many as 71 dead bodies are first seen by the railway employees. This is because the deaths are witnessed by the drivers, are the gang-men or key-men making rounds on the track. Suicides are common in younger age groups and accidents are common in elderly people. More suicides occurred in the age group of 21 to 50 years and more accidents occurred in 51 to 90 years of age groups.

Suggestions

- All railway related deaths are invariably fatal in nature and are preventable by strict vigilance of railway staff on the track.
- There should be proper vigilance on the railway tracks about the suspiciously moving persons on the track, by the gang men.
- Level crossing should be properly maintained round the clock.
- Impatient driving of the vehicle across the track should be watched out by CCTVs footages and corrected time to time
- Trespassing should be penalized with heavy penalties, to discourage the movements on the track
- Proper fencing should be made in the areas of movement of people
- Grazing domestic animals on the railway tracks should be discouraged
- suicidal spots on the track should identified and properly protected
- Infrared beams should be provided to identify the movement of the people on the railway track
- Platforms should be provided with proper height to boarding and alighting.

Conclusion

Most of the railway fatalities were accidental in nature and in the bread earning age group particularly among the males. The increasing number of population, overcrowding in the trains, reckless and careless behavior of the passengers, pedestrians and the train drivers towards safety norms are the constant causes of

railway fatalities. The high levels of the railway fatalities make a strong case for the necessary accident control interventions. Public as well as the railway authorities must take some measures to bring down these fatalities. People must follow some easy set of laws like do not travel on footboard, do not enter or get down from running trains, do not try to cross the level crossing gate when it is closed, be alert and reduce your speed while approaching railway unmanned level crossing, never guess the speed of the train and adhere to the set norms of railway safety to curb this menace. By comparing the data of the present study of 2013 with that of the previous studies, the incidence of railway accident cases are gradually increasing in number day by day.

Ethical Clearance: This study has been carried out in the year 2013, after from the ethical committee of Kakatiya Medical College/General Hospital, Warangal.

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Conflict of Interest: Nil

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