

# To Determine The Demographic Profile Of Victims Of Fatal Head Injury In RTA

Dr. Nelson Nishant Kumar Lyngdoh<sup>1</sup>, Dr. Chandrakant M.Kokatanur<sup>2</sup>, Dr. Ajay Y. Pednekar<sup>3</sup>

<sup>1,3</sup>Associate professor, <sup>2</sup>Professor and HOD, Dept. of Forensic Medicine & Toxicology Krishna Institute of Medical Sciences, Karad Maharashtra, India

Corresponding author: Dr. Chandrakant M.Kokatanur, Associate Professor Dept. of Forensic Medicine & Toxicology Krishna Institute of Medical Sciences, Karad Maharashtra, India,

## ABSTRACT

**Aim:** To determine the demographic profile of Victims of Fatal Head Injury in RTA

**Material and methods:** A total of 100 deceased corpses from traffic accidents were transported to the morgue for medico-legal post mortem examination. A detailed history was obtained from family as well as eyewitnesses if they were accessible at the time of the autopsy. The inquest report, family, and hospital treatment records were also used to acquire necessary information. For the filling observation of the current research, a complete pro-forma for collecting history, epidemiological data, and injury information, among other things, was created. The data gathered in this manner was statistically analysed.

**Results:** Males (81%) outweighed females (19%) in this research, with a male to female ratio of 4.26:1 among victims of all RTA head injury cases. The majority of the victims, 66 instances (66%), had only completed secondary school, while the remaining 34 (34%) had completed senior secondary school or beyond . The majority of the fatalities happened as a result of accidents on the highway. 47 instances (47%), followed by 39 cases (39%), and 14 cases (14%), respectively.

**Conclusion:** Most car accidents are caused by drivers who are either going too fast for conditions or not paying attention, breaking traffic laws, overloading public transportation vehicles, or not properly maintaining their cars. The majority of those who die or are injured in car accidents could have avoided it.

**Keywords:** Demographic profile, Victims, Head Injury, RTA

## Introduction

To be considered a "road traffic injury," an accident must have either begun or ended on a public road or include at least some portion of a moving vehicle. Also, a person who suffers injuries, whether fatal or not, in a traffic accident involving at least one moving vehicle. In terms of traffic safety, pedestrians, bikers, and the elderly rank at the bottom of the list.<sup>1</sup> Although it is entirely avoidable, it is a huge but underreported public health issue across the

globe. The need for more cars has contributed to an epidemic of collisions on the roads.<sup>2</sup> Unlike communicable illnesses, the roles of agent, host, and environment cannot be reduced to a few simple factors.<sup>3</sup>

About 60% of all fatalities in the young population are attributable to accidents, making them the sixth biggest cause of mortality globally. Seventy-seven percent of these fatalities occur in the western Pacific. Most of

the fatalities occur in the Western Pacific Region, and it is the top cause of death among those under the age of 40 (60%).<sup>4</sup> The World Health Organization estimates that by 2020, road traffic injuries would rank fifth in terms of global mortality, up from their current position in the top 10. Most of these fatalities occur in developing and less developed nations.<sup>4,5</sup>

Men are more likely to die in car accidents than women are, as has been noted.<sup>4,6</sup> As the number of cars on Indian roads has increased by 8% annually over the last decade with little indication of slowing down, one possible explanation is that the country's rapid economic development has led to a surge in vehicle sales of 6% annually.<sup>7</sup> India About 2% of the world's road network is made up of national highways, yet 40% of the world's traffic occurs on Indian roadways, and 65% of all road deaths occur there.<sup>8</sup> When doing comparisons, only the actual numbers will do.<sup>9</sup> Road traffic injuries place a heavy load on our healthcare system.<sup>10</sup>

### Material and methods

The cross-sectional research was carried out at the Department of..... with the agreement of the protocol review committee and the institutional ethical committee. A total of 100 deceased corpses from traffic accidents were transported to the morgue for medico-legal post mortem examination at the department. The research omitted decomposed remains and instances with questionable histories. A detailed history was obtained from family as well as eyewitnesses if they were accessible at the time of the autopsy. The inquest report, family, and hospital treatment records were also used to acquire necessary information. For the filling observation of the current research, a complete pro-forma for collecting history, epidemiological data, and injury information, among other things, was created. The data gathered in this manner was statistically analysed.

### Results

In this research, 100 cases were examined, revealing a strong male predominance (81%) across all age categories. The research found that the most afflicted age group was between 21 and 30 years old, with 27 instances (27%), followed by 21% who were between 31 and 40 years old. Thus, 48% of the patients in the research were between the ages of 21 and 40. Individuals under the age of ten were the least afflicted (2%), followed by the elderly (60 and above) in 8% of total cases. The victim's youngest age was two years old, while the oldest was 70 years old (Table 1).

Males (81%) outweighed females (19%) in this research, with a male to female ratio of 4.26:1 among victims of all RTA head injury cases. The majority of the casualties (63%), were from rural regions, while 37% were from metropolitan areas (Table 2).

The majority of the victims, 66 instances (66%), had only completed secondary school, while the remaining 34 (34%) had completed senior secondary school or beyond (Table 3).

The majority of the fatalities happened as a result of accidents on the highway. 47 instances (47%), followed by 39 cases (39%), and 14 cases (14%), respectively. Accidents occurred more often in the summer months of March, April, May, and June (40%) than in the winter months of November, December, January, and February (37%), and in the rainy season (23%). The most accidents happened between 4:01pm and 12:00am (67%) followed by 8:01am-4:00pm (27%), and the least frequent between 00:01am and 08:00am (0%). Sixty-two percent of the victims were motorcycle riders. Victims of pedestrians and four-wheelers were 24% and 10%, respectively (Table 5).

**Table 1:** Age wise and gender wise distribution of cases

| Age(years) | Male | Female | Total | Percentage |
|------------|------|--------|-------|------------|
| 1 to 10    | 2    | 0      | 2     | 2          |
| 11 to 20   | 8    | 1      | 9     | 9          |
| 21 to 30   | 21   | 6      | 27    | 27         |
| 31 to 40   | 17   | 4      | 21    | 21         |
| 41 to 50   | 16   | 2      | 18    | 18         |
| 51 to 60   | 10   | 5      | 15    | 15         |
| >60        | 7    | 1      | 8     | 8          |
| Total      | 81   | 19     | 100   | 100        |

**Table 2:** Distribution of cases of RTA according to demographic profile

| Demographic profile | No. of Cases | Percentage (%) |
|---------------------|--------------|----------------|
| Religion            |              |                |
| Hindu               | 93           | 93             |
| Muslim              | 6            | 6              |
| Sikh                | 1            | 1              |
| Marital status      |              |                |
| Married             | 76           | 76             |
| Unmarried           | 24           | 24             |
| Type of habitat     |              |                |
| Rural               | 63           | 63             |
| Urban               | 37           | 37             |

**Table 3:** Education wise distribution of RTA cases

| Education Category      | No. of Cases | Percentage (%) |
|-------------------------|--------------|----------------|
| Illiterate              | 21           | 21             |
| Primary School          | 3            | 3              |
| Middle School           | 12           | 12             |
| Secondary School        | 30           | 30             |
| Senior Secondary School | 23           | 23             |
| Graduate                | 9            | 9              |
| Post Graduate           | 1            | 1              |
| Professional            | 1            | 1              |

**Table 4:** Occupation wise distribution of cases

| Occupation  | No. of Cases | Percentage (%) |
|-------------|--------------|----------------|
| House Wife  | 9            | 9              |
| Laborer     | 28           | 28             |
| Farmer      | 28           | 28             |
| Student     | 11           | 11             |
| Businessmen | 11           | 11             |

|              |    |    |
|--------------|----|----|
| Professional | 11 | 11 |
| Other        | 2  | 2  |

**Table 5:** Distribution of cases according to mode of transport

| Type of Victims         | No. of Cases | Percentage (%) |
|-------------------------|--------------|----------------|
| Pedestrian              | 24           | 24             |
| Bicycle                 | 3            | 3              |
| Two wheeler Motor Cycle | 62           | 62             |
| Four wheeler (driver)   | 10           | 10             |
| Passenger               | 2            | 2              |

## Discussion

In this research, 100 cases were examined, revealing a strong male predominance (81%) across all age categories. The research found that the most afflicted age group was between 21 to 30 years old, with 27 instances (27%), followed by 21% who were between 31 to 40 years old. Thus, 48% of the patients in the research were between the ages of 21 to 40. The results are similar with earlier studies in which the majority of victims were between the ages of 21 to 30, followed by those between the ages of 31 to 40, such as Soni SK et al.,<sup>11</sup> Sonawane S and Jambure M,<sup>12</sup> Arora S and Khajuria B,<sup>13</sup> P.V. Srinivasa Kumar and K. Srinivasan,<sup>14</sup> Patil R C,<sup>15</sup> Akhade S P, et al.,<sup>16</sup> Shruthi P,<sup>17</sup> Kumar R D,<sup>18</sup> Banzal R K et al.<sup>19</sup> Due to the fact that youngsters and the elderly are confined to their houses, the danger of exposure to the outside hazardous environment is minimal. In contrast to the findings of the current study, the findings of Rupani R et al.<sup>20</sup> and Keisham S,<sup>21</sup> who observed that most of the deaths occurred in the age group 41-50 and above, which may be due to differences in selection criteria, slower reflexes, and weakening of eyesight of victims in older age group.

In the current research, Hindus made up the vast majority of victims (93%), followed by Muslims (6%), and Sikhs (1%). Verma P et al.,<sup>22</sup> Banzal RK et al.<sup>19</sup> also observed the highest prevalence among Hindus. The reason for the Hindu preponderance is because Hinduism is

the most widely practised religion in this area, and hence the number of Hindu victims is increasing. Deaths in road traffic accidents were higher among married people (76%) than among unmarried people (24%), maybe because the load of family duties and being the only breadwinner in their families causes them to travel more for a living. Similar findings were found by other studies, including Verma P et al.<sup>22</sup>, Sonawane S, and Jambure M. The bulk of the casualties were from rural regions (63%), whilst urban populations were involved in 37% of instances, which may be attributable to more prevalent accidents in rural populations, as well as less understanding and awareness of traffic regulations in the majority of rural population. In the event of an accident in the hamlet or a neighbouring city, the patient is sent to our hospital. The current study's findings contradict those of Verma P et al.,<sup>22</sup> and Shruthi P et al.<sup>17</sup>, who reported that the majority of cases were from the urban population.

In the current research, the majority of the victims (66%) had only completed secondary school, while the remaining 34 (34%), had completed senior secondary school or above.

When the distribution of cases by occupation was examined, the bulk of the cases (28%) were from agricultural farmers and labour employees, followed by students, businesspeople, and professionals in 11 instances (11%), and housewives in the least 11 (11%) cases (Table 4).

Verma P et al.<sup>22</sup> saw similar occupational characteristics. More accidents among farmers and workers may be related to increased usage of two wheelers or being a pedestrian, as well as a lack of understanding of traffic regulations. In contrast to the current research, Jha S et al.<sup>24</sup> found that students were the most common victims in 20.7% of instances in his study.

The majority of the fatalities happened as a result of accidents on the highway. 47 instances (47%), followed by 39 cases (39%), and 14 cases (14%), respectively.

Shruthi P et al.<sup>17</sup> discovered a similar conclusion, that the bulk of the cases happened on highways since cars often travel at extremely high speeds on these routes, and our research centre is situated on the outskirts of the city where the highway connects to city roads.

The most incidents (67%) happened between 4:01pm and 12:00am, followed by 8:01am-4:00pm (27%) and the least frequent between 00:01am and 08:00am. Similar findings were made by Aggarwal A et al.<sup>25</sup>, who discovered that the majority of vehicle accidents happened in the evening and night hours. It might be because traffic is heavier on the highways during this time of year since everyone is rushing home from work, and lighting conditions are poor on most outskirt roads, suburban neighbourhoods, and nearby rural regions.

Sixty-two percent of the victims were motorcycle riders. Pedestrians and four-wheeler drivers made up 24% and 10% of the casualties, respectively. Similar findings were observed by Akhade S P, et al.<sup>16</sup> Because two wheelers are the most common mode of transportation in rural areas, increased fatalities among two wheelers can be explained by factors such as lack of traffic sense, poor street lighting, overcrowding on footpaths, carelessness by both drivers and pedestrians, rash driving, neglect in wearing helmets, inoperability of traffic light signals, alcohol abuse, and so on. Two-wheeler riders have little protection, are unstable, and tumble even on

minor impacts, making them more susceptible to collision with hard road surfaces.

In contrast to the current research, the majority of victims in studies done by Verma P et al.<sup>22</sup> Shruthi P et al.<sup>17</sup> were pedestrians.

### Conclusion

Most car accidents are caused by drivers who are either going too fast for conditions or not paying attention, breaking traffic laws, overloading public transportation vehicles, or not properly maintaining their cars. The majority of those who die or are injured in car accidents could have avoided it. In order to solve this issue, we need a scientific system approach to road safety and a comprehensive variety of actions to improve road safety. In order to find a solution to traffic congestion, it is important to use a systemic approach that considers the interplay between vehicles, pedestrians, and the road itself. Here are a few suggestions for improving the current implementation.

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