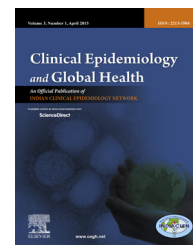


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## Original Article

# Pattern of Road Traffic Accidents in Bhubaneswar, Odisha

Sonali Kar<sup>a,\*</sup>, S.C. Das<sup>b</sup>, A. Tiwari<sup>c</sup>, Irfana Pharveen<sup>c</sup>

<sup>a</sup> Associate Professor, Community Medicine, India

<sup>b</sup> PG Student, Community Medicine, India

<sup>c</sup> PG Student, KIMS, India

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## ABSTRACT

**Introduction:** The surge in motorization coupled with expansion of the road network has brought with it the challenge of addressing adverse factors, such as the increase in Road accidents in India. Significant variation exists within the country. Bhubaneswar, the capital of Odisha, has seen liberalized economic policies of the government, increasing purchasing power of the people, and easy availability of the loans, which have contributed to the changing transportation system and increase vulnerability to Road Traffic Accidents (RTA). The present study aims to establish the baseline information on RTA in Bhubaneswar.

**Objectives:** (1) To estimate the incidence and distribution of RTA in the year 2012. (2) To determine the epidemiological variations of accidents in the city. (3) To suggest recommendations to the traffic police and administration.

**Methodology:** It is a descriptive secondary data analysis of police records of reported RTA of the year January–December 2012 collected from all the police stations within the administrative region of Bhubaneswar, urban and rural inclusive. The data thus collected were analyzed for various epidemiologic factors, which were found contributory to the accidents.

**Results:** Total number of RTA reported for the year was 625, thus accounting for the incidence of vehicular accidents for Bhubaneswar city, which had a 9.07/10,000 population; majority of the accidents had occurred during 9–12 am in both urban and rural areas. Grievous injury accounted to 38% of the total while fatality due to RTA was nearly 30%. The epidemiological trends that emerged were that 84% occurred in urban areas and mainly on the National Highways (46.7%); 18% of RTA occurred during rainfall, though no significant association could be made out and much is attributed to under reporting of data; motor cars (37%) and trucks (19.1%) were predominately involved. Majority of the victims were in the productive age group, 18–24, years and mainly constituted males (68%). Data were analyzed for statistical inferences using proportions and graphs. Recommendations were shared with the Traffic police department and Health

\* Corresponding author at: Department of Community Medicine, KIMS, Campus-5, Patia, KIIT University, Bhubaneswar 751024, India. Mobile: +91 09437823273.

E-mail address: [sonsam72@yahoo.co.uk](mailto:sonsam72@yahoo.co.uk) (S. Kar).

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departments and it was suggested that yearly trends may be discussed so that problem areas may be identified and action initiated.

**Conclusion:** The results hint at the necessity for routine analysis of the police records in a collaborative and integrated approach across many sectors like health, traffic police, transport, and law enforcers.

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A Road Traffic Accident (RTA) involves high human suffering and socioeconomic costs in terms of premature deaths, injuries, loss of productivity, etc.<sup>1</sup> During 2008, road traffic injuries (RTI) ranked fourth among the leading causes of death in the world.<sup>2</sup> Globally, we are now striving to eradicate communicable diseases, control the noncommunicable diseases, and injuries or RTA that are now the third challenge added in this endeavor.

In India, the motor vehicle population is growing at a rate faster than the economic and population growth. According to the World Health Organization (WHO), RTI are the sixth leading cause of death in India with a greater share of hospitalization, deaths, disabilities, and socioeconomic losses in the young and middle-aged population.<sup>3</sup> The problem in India is underrated as it is masked by the benefits of globalization, which currently appears as a bigger priority to policy makers. But along with the economic development, wherein most of the middle-level cities are now becoming big commercial hubs and the big cities are attaining astronomical proportions, we are forgetting that we also have to look into the enforcement of laws and regulations for community safety, do capacity-building of our police and traffic department as well as plan the city well. We also have to ensure a robust health system that can manage the road traffic emergencies, if at all they happen, in the absence of which mortality due to RTA is fairly high.

The problem is not yet perceived as a public health burden and curbing of this menace is not a snap solution but a mutidepartmental strategy that needs stringent implementation.

Bhubaneswar, the capital of Odisha, has seen liberalized economic policies of the government, increasing purchasing power of the people and easy availability of the loans, which have contributed to the changing transportation system and increase in vulnerability to RTA. However, till date no mappings of the RTAs and recommendations thereof have been given to improve the situation in the city.

The present study aims to establish the baseline epidemiological information on RTA in Bhubaneswar.

## 1. Objectives

1. To estimate the incidence & distribution of RTA in the year 2012.
2. To determine the epidemiological variations of accidents in the city.

3. To suggest recommendations to the traffic police and administration

## 2. Methodology

The city of Bhubaneswar, capital of the state of Odisha, is facing rapid urbanization since the last few years and a lot of structural changes in terms of expansion of the city, roadways, and construction of highways; and thereby, there has been deployment of Police and traffic police personnel at appropriate areas. The city has a major District hospital (Capital Hospital) and 3 private medical colleges across the city (come up since 2007) to take care of the injured in the accidents. Review of literature of both in-State directorate as well as various publication websites did not show any review of the city's assessment of its RTA burden and steps or suggestions taken thereof. As per 2011 Census, the population of the city was nearly 8,31,000 lakh, which would be used to calculate the incidence rate of accidents in the city in the year 2012 for every 10,000 population.

This is a **descriptive secondary data analysis of police records** of reported RTA of the year January–December 2012 collected from all the police stations within the administrative region of Bhubaneswar, urban and rural inclusive. The study was duly approved by Institutional ethics committee and the administrative approval of Police Authority of Main branch of Police Commissionerate of Bhubaneswar was sought. Both urban and rural administrative divisions of Bhubaneswar were included.

The **operational definition of RTA** for this study was 'An event that occurs on a way or street open to public traffic; resulting in one or more persons being injured or killed, where at least one moving vehicle is involved.'<sup>1</sup> Thus RTA is a collision between vehicles; between vehicles and pedestrians; between vehicles and animals; or between vehicles and geographical or architectural obstacles.' The current study would be taking into account vehicular accidents as only such accidents are reported at Police station, and the police system too has an official format to note it. Only those accidents were included where residents of Bhubaneswar were involved so that the incidence rate in the city could be calculated. The data were limited to accidents, both major and minor, that came under Police jurisdiction of Bhubaneswar. The limitation of the study was that alcohol influence in the accident could not be judged, as the documentation for this parameter was not very appropriately done in the records. The data were analyzed using SPSS

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