Some general conclusions of pedestrian safety problems

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Abstract

Pedestrian traffic accidents constitute a major part of all traffic accidents in Iran. Studies based on the year 2007 data, have revealed that out of a total of 27567 traffic accident fatalities, 6258(22.7 percent) have been pedestrians. This is why the present study has been done to find practical pedestrian safety measures, having in mind how critical pedestrian traffic safety is. To do field studies with the objective of finding and classifying pedestrian traffic safety problems, two provinces of Gilan and Mazandran were selected for case studies in order to present the solutions and strategies for the improvement of pedestrian traffic safety. We first defined some indexes for the selection of proper areas and then prioritized them. After a more precise study of prioritized areas, necessary object setting for improvement of pedestrian safety purposes was carried out. This way, necessary strategies to meet predefined targets were determined by classifying pedestrian's safety problems and defining safety targets for each category of problems; and, for each strategy, safety improvement measures, under three titles, named engineering, education and enforcement measures were presented. Results show that heavy vehicles traffic volume and number of pedestrians are related to the number of pedestrian accidents in such a way that with an increase in heavy vehicles traffic volume and number of pedestrians, there is an increase in the number of pedestrian accidents with such vehicles. In both provinces, proportion of daytime pedestrian accidents is greater than that of night time. In spite of the fact that 68.24 percent of Gilan and 73.15 percent of Mazandaran pedestrian accidents have occurred during the day, remarkable percentages of night time pedestrian accidents must be noticed. Also, 71.19 percent of Gilan and 71 percent of Mazandaran pedestrian accidents have occurred during the week days.

Keywords: Pedestrian Safety, Traffic Accident, safety Measures, Strategy

1. INTRODUCTION

Trauma is the leading cause of years of potential life lost in most developed countries and due to an epidemiological transition during which the frequency of infectious diseases is declining and instead, injury related problems are becoming more prominent, it is emerging as the major cause of mortality and morbidity especially among young population of developing countries [1].

In any kind of injury control activity and especially in traffic safety research, correct diagnosis of the high risk groups and quantifying the risk of injury is the key point for further interventions. Due to the nature of the transport-related injuries, such diagnosis should be based on well designed community-based studies [2]. Inter-country or regional differences in patterns of injury in different categories of the road users (i.e. pedestrians, car passengers, motorcyclists and bicyclists) have significant implication for prevention policies [3].

Motor vehicle-pedestrian accidents are a significant source of injures leading to death and disability and a major concern for public health, trauma medicine and traffic safety[4].traditional views of pedestrian traffic safety trend to place the burden of responsibility on the behaviour of pedestrians and emphasize education as the means to prevent accidents. This perspective has been challenged by data showing that educational efforts are less effective than efforts aimed at modifying the physical and social environment of the transportation system [5], a viewpoint that underscores the importance of thoroughly investigating all injury-producing accidents. Detailed analysis of traffic fatalities is crucial in understanding the interaction of human and environmental factors that contribute to accidents as well as vehicular and biological factors that influence the severity of injuries [6].