



**Service Priorities and Programmes
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Pedestrians struck by motor vehicles: trends and outcomes over 13 years

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Introduction

Motor vehicle crashes are the leading cause of injury-related death. Pedestrians are most affected in MVCs and this is a major public health issue.

Objectives

The objectives of this study are firstly to describe the mortality, and injury pattern of injured pedestrians and secondly to monitor trends of pedestrian injuries over time.

Methodology

This is a retrospective study of the trauma registry of a regional trauma center from 2001 to 2013. All pedestrians triaged Category I or II in the Accident & Emergency Department or admitted through Primary Trauma Diversion were included. Patients who died on or before arrival were excluded. Patients were grouped according to age (≥ 65 years, 19-64 years, ≤ 18 years).

Result

707 pedestrians met the inclusion criteria and entered the study. Annual numbers of patients were higher in 2001 and 2002 and this has been maintained steadily since then ($P=0.16$). Their average age \pm SD were 43.1 ± 24.2 years and 410 (58%) were male. 568 (80.3%) of incidents occurred between 7am and 7pm. 169 (23.9%) patients had pre-existing disease. Other than external injuries, the most two common injuries were head or neck injuries (427, 60.4%) and limb and pelvic injuries (348, 49.2%). The mean ISS \pm SD was 17 ± 15 , median 11. The mean \pm SD NISS was 23 ± 20 , median 17. Average hospital length of stay (LOS) \pm SD was 13.0 ± 25.8 days. 283 (39.6%) of the patients required a trauma call. 169 (23.9%) patients required Intensive Care Unit (ICU) care and their average ICU LOS \pm SD was 5.9 ± 6.8 days. Their overall mortality rate was 11.6%. The elderly had the highest mortality rate (45/161, 28.0%) followed by adults (32/393, 8.1%) and children (5/153, 3.3%), ($P < 0.001$). The elderly

group had more head and neck injuries (105/161, 65.2%) and unstable pelvic fractures (20/161, 27.4%) compared to the younger groups ($P < 0.01$). They required more rehabilitation services (53, 32.9%, $P < 0.001$). Multiple regressions shows that age, GCS, NISS and coagulopathy were predictors of mortality. Conclusions: Pedestrian mortality is especially high in the elderly. Specific road safety policies and injury prevention programs for the aging population are required.