

ABSTRACT

Introduction

Road traffic injuries are an emerging public health problem. Information related to pre hospital care, pattern of injuries, disabilities and economic burden are essential to prevent and control this emerging tragedy.

Objectives

This study was conducted to describe the pre hospital care received, the pattern and severity of injuries on admission among road traffic injury patients admitted to the National Hospital of Sri Lanka (NHSL) and to describe their disability, level of community reintegration and household cost profile up to three months after hospital discharge.

Methods

World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) and Community Integration Measure (CIM) were translated to Sinhala language and validated to assess the level of disability and community reintegration respectively. Pre hospital care was assessed in a descriptive cross sectional study enrolling 1546 road traffic injury patients directly admitted to NHSL.

A descriptive longitudinal study was conducted among 883 road traffic injury patients admitted to NHSL to describe the pattern and severity of injury on admission and to describe their disability and community reintegration at three months after hospital discharge. The severity of injuries was assessed using the injury severity score (ISS). A pre tested interviewer administered questionnaire was used to collect socio demographic information on admission and injury related household cost during the hospital stay and at three months after discharge. Functional disability was assessed using Barthel Index on admission and at three months after discharge. Overall disability and community reintegration were assessed at three months after discharge using WHODAS 2.0 and CIM respectively.

Results

WHODAS 2.0 Sinhala version and CIM Sinhala version were confirmed as having a good hypothesized scale structure. WHODAS 2.0 showed an adequate convergent validity with relevant domains of SF-36. Confirmatory factor analysis of WHODAS 2.0

confirmed seven-factor model with adequate model fit. One factor model was the best fit model for CIM. Both instruments indicated good reliability assessed by internal consistency and test retest methods.

Pre hospital care of 1546 road traffic injury patients shows that a majority (84.2%; n=1301) has not called for help at the site of accident. Only 5.1% (n=79) had received some form of first aid. Nearly two third (65.5%; n=1013) were transferred by three wheeler. The median time taken to reach a health care facility was 40 (IQR 30) minutes.

There were 43.9% (n=388) motorcycle riders 15.4% (n=136) pedestrians and 15.2% (n=134) passengers among 883 patients studied. The commonest body region injured was bony pelvis and lower extremities (58.7%; n=518) followed by upper extremities (40.9%; n=361). Of the participants 56.9% (n=502) sustained injuries to one body region and 36.5% (n=322) to two regions. The mean ISS was 7.3(\pm 3.5) and based on the recommended cut off 5.2% (n=46) had minor injuries, 43.7% (n=386) moderate injuries and 50.4% (n=445) sustained serious injuries.

Functional disability was reported among 91.1 % (n=803) on admission and among 33.9% (n=299) at three months after discharge based on Barthel Index. At three months after discharge 49.7% (n=438) were not able to commence their routine activities of life. The results of WHODAS 2.0 indicated that of the 793 participants, 70.5% (n=559) had some disability. Significantly, higher proportion of disability was observed with advancing age, with increasing number of body regions injured and with increasing severity of the injuries. The disability was significantly higher among those who did not commence routine activities of life compared to those who had commenced.

The CIM showed a mean score of 34.7 (\pm 4.8) at three months of discharge. A significant decline in community reintegration was observed with advancing age, when the severity of injuries and number of injured body regions increased. The community reintegration was significantly better among those who had commenced routine activities of life.

The injury related median household cost was Rs.27650.00 (IQR Rs. 48600.00) per person per episode of injury (n=883). Of this a median cost of Rs. 8800.00 (IQR 12700.00) had been spent as direct cost for the hospital stay and for the three month period after discharge (n=883). The median indirect cost among the 594 who reported loss income due to injury was Rs. 32000.00 (IQR Rs. 36925.00) per person per episode.

Conclusions and recommendations

The overall pre hospital care received after road traffic accident was not satisfactory. A majority of the participants had sustained injuries to lower extremities and bony pelvis and a majority had serious injuries assessed by ISS. At three months after discharge, nearly 50% could not commence the routine activities of life, one third of were having functional disability while 70% showed some overall disability. It is recommended to improve the pre hospital care for the patients of road traffic injuries and to conduct research to assess the reasons for having high percentages of disability after discharge.