



UMEÅ UNIVERSITET

Umeå University Medical Dissertations, New Series No 1988

Traumatic spinal cord injuries in rural Tanzania

Occurrence, clinical outcomes and life
situation of persons living in the
Kilimanjaro region

Haleluya Moshi

Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för
avläggande av medicine doktorsexamen framläggs till offentligt
försvar i Aulan Vårdvetarhuset, fredagen den 14 december, kl. 09.00.
Avhandlingen kommer att försvaras på engelska.

Fakultetsopponent: Professor Lena Nilsson-Wikmar,
Institutionen för neurobiologi, vårdvetenskap och samhälle,
Karolinska Institutet.

Department of Community Medicine and Rehabilitation

Organization
Umeå University
Department of Community
Medicine and Rehabilitation
Physiotherapy

Document type
Doctoral thesis

Date of publication
23 November 2018

Author

Haleluya Moshi

Title

Traumatic spinal cord injuries in rural Tanzania - Occurrence, clinical outcomes and life situation for persons living in the Kilimanjaro region

Abstract

Background: Traumatic spinal cord injury (TSCI) is one of the most troubling health condition as it leaves the individual with irreversible sensorimotor impairment. Rural areas of Tanzania and other low income countries are characterized by inadequate emergency, medical and rehabilitation services and are mostly inaccessible by wheelchair. The studies in this thesis aimed at creating an understanding on the epidemiology, clinical outcomes and life for persons with spinal cord injury (SCI) in a typical rural area of a low income country.

Methods: Two studies were hospital-based and two carried out in the community. A retro-spective study assessed the magnitude, etiology and clinical outcomes for past five years (2010-2014) by using patients' data from archives of the Kilimanjaro Christian Medical Centre. On the same setting, another study assessed the same variables prospectively for one year (2017) with more focus on classifying severity of injury and health complications. In the community, a qualitative grounded theory was used to conceptualize coping resources for persons with SCI in one study while in another, the WHOQoL-BREF questionnaire was used to assess their quality of life quantitatively.

Results: The **retrospective study** obtained 213 full patient records in which the leading cause of injury was falls 104(48.8%) followed by road traffic accidents 73(34.3%). The annual incidence for the Kilimanjaro region (population 1,640,087) was estimated at more than 26 persons per million population for this period. The most documented complications were pressure ulcers 19.7%, respiratory complications 15.0% and multiple complications 13.1%. In-hospital mortality rate was 24.4%. The **prospective study** involved 87 persons who sustained SCI in 2017 of whom 66.66% were due to falls (especially from height), 28.7% road traffic accidents and 4.6% from other causes. The annual incidence rate based on Kilimanjaro region (population 1,910, 555) was estimated at more than 38 new cases per million population. The majority of the injuries occurred at the cervical 56.3% and lumbar 31% levels. Most of the injuries 59.8% were incomplete while 40.2% were complete. The **questionnaire study** reports that the majority of the participants rated their quality of lives as neither poor nor good 39(48.8%) and poor life 20 (25%). The mean score for domains of QoL showed the highest score in social relations and psychological well-being while the lowest scores were rated for physical health and environment. There was no significant mean difference in score of domains based on sociodemographic characteristics except for physical environment in which quadriplegia scored less than paraplegia ($p = 0.038$). The **qualitative interview study** identified Acceptance as the core category for identification and utilization of both internal and external coping resources for persons with TSCI in the community. Internal coping resources related to personal factors and external coping resources related to family and community were identified.

Conclusion: Most of the traumatic SCI in Kilimanjaro rural area are due to falls followed by road traffic accidents. SCI-related complications are common and hospital mortality is still high. Persons with SCI faces various challenges pertaining to health and accessibility affecting them physically, psychologically, in social relationships and environmentally. Establishment of emergency and critical care services, trauma registries, community-based rehabilitation and population-based surveys would address major issues pertaining to TSCI in these areas.

Keywords

Traumatic spinal cord injuries, rural, low income country, clinical outcomes, quality of life

Language	ISBN	ISSN	Number of pages
English	978-91-7601-956-6	0346-6612	62 + 4 papers