Epidemiology, outcomes and experiences of living with traumatic spinal cord injury in Botswana – a doctoral thesis

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Returning home after discharge from the rehabilitation centre. Common type of house with toilet and water outside and a sandy environment

Introduction

Many resource-constrained settings lack systems-of-care for persons sustaining a traumatic spinal cord injury (TSCI), leading to lower functional outcomes and higher rates of morbidity and mortality.

These studies were conducted in parallel with a partnership project between the Ministry of Health in Botswana and The Spinalis Foundation in Sweden, partly funded by Sida. The aim was to establishing a SCI-rehabilitation unit within the public health care system run by local professionals.

Botswana is a high middle-income country in southern Africa.

Aim of thesis

- To deepen the understanding of living with TSCI in Botswana
- Explore epidemiology and outcomes of TSCI

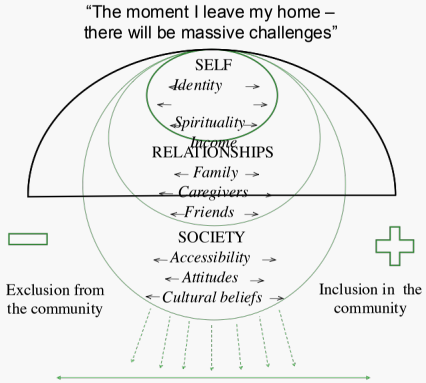
Methods / material

Study I: An interview study with persons who had lived with TSCI >2 years, analysed according to grounded theory.

Study II-IV: Prospective studies on the same sample, namely all persons who were admitted at the national TSCI-referral hospital with acute TSCI during a 2-year period.

Data collection was conducted at admission (II), discharge (III), and at the 2 year follow-up (IV).

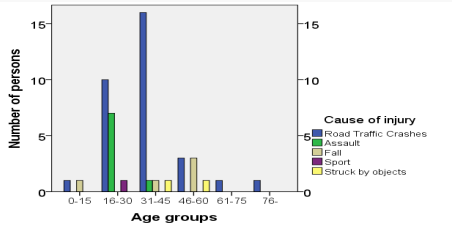
Results



Lived experiences (study I)
This model illustrates the relations between the core category, Self, and the categories Relationships and Society, which can represent factors affecting societal inclusion or exclusion. Personal resources and a positive attitude were crucial to experience integration into the community. Family support, having a source of income, and spirituality were strong facilitators, while inaccessibility and devaluing attitudes were barriers.

Epidemiology (n=49) (study II)
- Incidence: 13 persons/million
- Male/female 71/29%
- Mean age 33 years, range 4-81
- Tetraplegia/paraplegia 59/41%
- Mortality prior to rehab: 20% (n=10)

- Aetiology: Road traffic crashes (68%), assault (16%), falls (11%)
- Road traffic crashes: over 70% were involved in single crashes, caused primarily by burst tires and secondarily by animals on the road



Graph over causes of injury per age group. Road traffic crashes was overrepresented in 31-45 years of age, and assault in 16-30 years.

Outcomes (n=39) (study III)
- Stabilizing surgery: median 12 days post-injury
- Hospitalization: 5 months, prolonged by pressure ulcers and complete injuries (AIS A)
- Bladder: self-catheterization 34%, suprapubic catheter 24%, indwelling catheter 21% (among those with neurogenic bladder)
- Complications: pressure ulcers 41%, urinary tract infections 28%
- Mortality: n=1 (ventilator dependent)

Follow-up (n=38) (study IV)
- Follow-up rate: 71% (median 24 months post SCI-injury, range 6-38 months)
- Bladder: self-catheterization 42%, suprapubic catheter 32%, indwelling catheter 11%
- Complications: pressure ulcers 48%, urinary tract infection 41%
- Mortality post discharge: 0
- Return-to-work or studies: 44%

Conclusion

The outcomes for persons with TSCI in Botswana were to some extent approaching the situation that is valid in some high-income countries; such as return-to-work, follow-up, and survival 2 years post injury.

In other aspects, the situation was closer to low-income countries; especially regarding the acute management, leading to long delays to surgery, high rates of complications and in-hospital mortality.

Botswana has the financial power to further develop SCI-management in order to decrease complications and acute mortality.

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