

# Patterns of wounds in Malawi

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## Abstract

In a prospective study conducted at Queen Elizabeth Central Hospital, Blantyre, data from 200 consecutive patients with wounds were collected over a two-week period using a standard proforma. Assaults were the principal cause of wounding (26.5%). Industrial injury and accidental self-injury were also common (17.5% and 12.5% respectively). Lacerations were by far the most common type of

wound encountered (67.5%). The most common anatomical site of injury was the hand (23.5%), while the trunk accounted for only 6% of injuries. Males were approximately four times more likely to present with a wound than females. The age of patients affected ranged from 2 to 76 with the commonest group affected the 16-25 year olds. 35% of all wounds occurred in this group.

## Introduction

Wounds are a common cause of attendance at the casualty department of Queen Elizabeth Central Hospital (QECH), Blantyre, and therefore represent a major part of the hospital's workload. There are no published data on the patterns of wounds in Malawi. Studies from other parts of the world show varying patterns.<sup>1,3</sup> A study on the patterns of wounds in Wewak, Papua New Guinea, Clark<sup>1</sup> described a series of fourteen accidental injuries and nine resulting from attacks. The main findings of the study were that predisposing factors to wounding were alcohol, conjugal disputes, and "payback" retribution attacks, and that physical factors affecting the outcome were nutritional status and high rate of wound infection. Amuyunzu et al<sup>2</sup> demonstrated the aetiology and implications of domestic injuries in the elderly in Nairobi, Kenya. The Groningen Trauma Study<sup>3</sup> reported injury patterns among trauma patients. Important causes of trauma included accidental falls (28%), sports and unspecified accidents (26%), traffic (19%), cutting and piercing instruments (10%), and violence (4%). The highest incidence rates occurred among men aged 20-29, while males were 1.8 times more at risk of trauma than females. The aim of our study was to define the problem in a Malawian setting and to identify the best use of scarce resources to manage these injuries.

## Patients and Methods

For the purposes of this study, a wound was defined as penetration of the skin surface or burn. All patients with wounds attending the Q.E.C.H. casualty department were examined on arrival and, for each case, a standard proforma completed. The proforma included: patient name, age, sex, date of attendance, type of wound, site of wounding, and the cause of the wound. The study was completed once 200 patients were collected. Data was collected over two weeks. The data were analysed using Microsoft Excel.

## Results

The aetiology of wounds is shown in table 1. The largest group was assaults (26.5%), of which 19% were associated with alleged theft. Lacerations accounted for 67.5% of wounds (table 2), with a wide range of additional wound types. The most common site of injury was the hand (table 3). Foot injuries were also common. The majority (163 out of 200, or 81.5%) of injured were males. The age range was from 2 to 61 years (graph 1) and the largest proportion of wounds was in the age groups of 15-25 years (35%) and 25-35 years (26%).

## Discussion

Assaults were the most common cause of wounds in this setting. This is quite different to results in the Netherlands where Oskam

et al<sup>3</sup> described that assaults caused only 4% of all trauma, but similar to the Papua New Guinea study where assaults caused approximately 39% of wounds presented in that study. Our study included wounds only, and not trauma as a whole, and this could explain some of the discrepancies. Dog bites accounted for 8% of all wounds, which is a particular concern because rabies is prevalent in Blantyre and few dogs are vaccinated against rabies. Interestingly, even though Malawi is reputed to have one of the highest incidences of road traffic accidents in the world, the average person is still three times more likely to be wounded by assault.

Lacerations were commonest and made up 67.5% of wounds. These are functionally important wounds that can be managed simply by wound closure and/or repairing deeper structures depending on the diagnosis and/or resources. These wounds also have high potential for complications such as infection or keloid formation. The extremities of the body, such as upper and lower limbs, and head and neck are most commonly involved. The trunk, despite its large body area, is relatively uninvolved. Hand and foot injuries often lead to a vitally important loss of function, which produces a significant disability in these people. It is widely known that males are more at risk of traumatic injury than females. Oskam et al demonstrated that males are roughly twice as much at risk of trauma than females.<sup>3</sup> In Blantyre, however, males are roughly four times more likely to present with a wound than females. The commonest age group was young adult males. Nearly two thirds of all cases were between the ages of 16 and 35. This is comparable to the findings by others.<sup>3</sup> Young adult males are very important economically in that they are often the sole breadwinners for their family. Thus, any disability they might suffer will undoubtedly affect a much wider section of the population. Very few people over 46 years of age presented with wounds.

From the patterns of wounds observed in Blantyre some points have emerged which could help maximise the benefit obtained from the available scarce resources. Firstly, there is a need for preventative measures. For example, improved road safety, guidelines for appropriate protective clothing and footwear in the workplace, and improved care of people with epilepsy as they are at particular risk of being burned when they have fits. Secondly, there is a need to provide simple resources to optimise wound management. Many hospitals for example do not have appropriate sutures and dressings readily available, so wounds are not adequately managed. Thirdly, because wounds are so widespread, there is a need to educate all health care personnel in appropriate wound management.

## References

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**Table 1**

Cause of Wounding	Percentage Wounded (%)
Assaults	26.5
Industrial injury	17.5
RTA	15.5
Accidental	12.5
Dog bites	8
Falls	7.5
Domestic accidents	7
Burns	3
Infective	1.5
Unknown cause	1

**Table 2**

Type of Wound	Percentage Wounded (%)
Lacerations	67.5
Stab wounds	9
Animal bites	8
Abrasions	4.5
Burns	3.5
Crush injury	2
Open fractures	1.5
Traumatic amputation	1.5
Burst abscess	1.5
Firearms wounds	1

**Table 3**

Site of the Body	Percent of all Wounds (%)
<b>Head and Neck</b>	23
- Face	13
- Scalp	10
<b>Upper limb</b>	35.5
- Hand	23.5
- Forearm	3
- Upper arm and elbow	9
<b>Lower limb</b>	32
- The foot	16.5
- Lower leg	6.5
- Thigh	5
- Knee	4
<b>Trunk</b>	3.5
<b>Injury involving more than one site</b>	6

**Graph 1 - Patient distribution by age**

