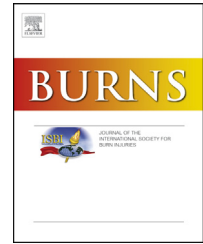


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Review

Burns in sub-Saharan Africa: A review



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ABSTRACT

Objective: Burns are important preventable causes of morbidity and mortality, with a disproportionate incidence in sub-Saharan Africa. The management of these injuries in sub-Saharan Africa is a challenge because of multiple other competing problems such as infectious diseases (HIV/AIDS, tuberculosis and malaria), terrorist acts and political instability.

There is little investment in preventive measures, pre-hospital, in-hospital and post-discharge care of burns, resulting in high numbers of burns, high morbidity and mortality.

Lack of data that can be used in legislation and policy formulation is a major hindrance in highlighting the problem of burns in this sub-region.

Methods: An online search of publications on burns from sub-Saharan countries was performed.

Results: A total of 54 publications with 32,862 patients from 14 countries qualified for inclusion in the study. The average age was 15.3 years. Children aged 10 years and below represented over 80% of the burn patient population. Males constituted 55% of those who suffered burns. Scalds were the commonest cause of thermal injuries, accounting for 59% of all burns, while flame burns accounted for 33%. The burn mortality averaged 17%, or the death of one of every five burn victims.

Conclusions: These statistics indicate the need for an urgent review of burn policies and related legislation across the sub-Saharan region to help reduce burns, and provide a safe environment for children.

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Abbreviations: HIC, high income country; LMIC, low and middle income country; HIV, human immunodeficiency virus; AIDS, acquired immunodeficiency syndrome; TBSA, total burn surface area; USD, United States of America dollar; GDP, gross domestic product; LD₅₀, lethal dose 50, the TBSA that will kill 50% of patients.

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1. Introduction

burns are a common cause of morbidity and mortality [1]. While these injuries and the resultant burn morbidity and mortality have declined in high income countries (HIC), these preventable injuries continue to plague much of sub-Saharan Africa, resulting in a disproportionate incidence of burns, morbidity and mortality.

The management of burns in sub-Saharan Africa remains a challenge for many reasons: the ravages of infectious diseases such as tuberculosis, malaria and HIV/AIDS place a perennial stress on the focus of sub-Sahara African governments and international financial lending institutions. This focus is such that the surgical burden of disease, including trauma, although recognized as a primary health concern in these countries, is perpetually eclipsed by the burden of infectious diseases [1–3]. Terrorist acts, internal strife, war and political instability in many of these countries further diminish opportunities for focusing on specific health problems, such as burns.

1.1. Pre-hospital and in-hospital care

There is an acute inadequacy in the preparedness for the management of burns across most of sub-Saharan Africa, with little or no investment in prevention, public education, or pre-hospital care. The lack of knowledge of first aid measures is reflected in the widespread use of harmful substances on burn patients prior to hospitalization [4,5].

The in-hospital care is often wanting, resulting in morbidities and mortalities that are preventable. Limited financial and skilled manpower resources, as well as inaccessibility of quality health care facilities all make it difficult to provide appropriate in-hospital care. Lack of resources is a potent stimulant for innovation and implementation of affordable alternatives to standard burn care, as practiced in HICs [1,4,6]. Unfortunately, the absence of national burn guidelines and policies also means that referrals are not streamlined, and that therefore many patients do not get optimal care, even in countries with burn units [7].

As in many other areas of medicine in sub-Saharan Africa, there is a lack of quality data on burns. Such data would help define the extent of the problem that burn is in the region, and therefore help guide policy formulation on burn prevention, pre-hospital, in-hospital and post-discharge care. Similarly, there is no data on the number of pre-hospital burns, burn morbidities and mortalities across the region.

The South African Burn Society reported working on a national burn audit in 2011, after invitation by the South African government in 2010 to put in place strategies as a measure of preparedness ahead of the 2010 FIFA World Cup tournament [8]. Measures put in place toward the reduction of fire catastrophes in South Africa are slowly bearing fruit [9].

Most of the rest of sub-Saharan Africa has no formal professional or legislative protocols for the management of burns, whether it be prevention or treatment. The current practice across most of the region is that each healthcare institution manages what burns it can, and sends the rest to national referral centers, which in many countries means that one or two national hospitals bear the burden of all severe burns. Furthermore, as most specialists in the country will be found in such institutions, such hospitals also take care of all other specialist problems in the country – oncology, renal, cardiac etc. Such institutions are therefore stretched, overcrowded and often overwhelmed so that burns cannot receive the attention that they deserve [7].

The author reviewed publications in English on burns from countries in sub-Saharan Africa published between 1989 and August 2014. This review should stimulate a renewed interest in the state of burn care across the region, with a focus on burn prevention, improvement of preparedness, pre-hospital, in-hospital and post-discharge care.

2. Methods

An online search of the terms ‘burn’, ‘thermal’, ‘injury’ and ‘Africa’, Kenya, Uganda, Djibouti, Somalia, Ethiopia, Eritrea, Zambia, Lesotho, Swaziland, South Africa, Namibia, Zimbabwe, Malawi, Mozambique, Mauritius, Uganda, Rwanda, Burundi, Congo, Togo, Cameroon, Senegal, Benin, Nigeria, Sierra Leone, Cote D’Ivoire, Ghana, Liberia, Niger, Chad, South Sudan, Mali, Guinea and Angola in the AJOL (African Journals Online), PubMed and Bioline International (<http://www.bioline.org.br/>) databases was made.

After retrieval, data was collected from the publications into a Microsoft® Excel® workbook. Data collected included the author, country, year of publication, period of data collection, sex, age, burn agent, TBISA, inhalation injury, and mortality. All the publications between 1989 and 2014 that met study inclusion criteria were included. Case reports and case series involving less than 10 patients were excluded, as were any studies that did not provide adequate data. Subset data publications were also excluded.

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