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## COPYRIGHT DECLARATION

I, the undersigned, declare that the dissertation represents my own work and that it has not previously been submitted for a degree, diploma or other qualification at this or another University. I further declare that all sources I have quoted have been indicated and acknowledged by means of complete references. It has been prepared in accordance with the prescribed guidelines for the post graduate studies dissertations of the University of Zambia.

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## CERTIFICATE OF APPROVAL

This dissertation of Dr Mwinga Sheyo has been approved in partial fulfilment of the requirements for the award of degree of Master of Medicine (Surgery) by the University of Zambia, School of Medicine.

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## **ABSTRACT**

**Background:** Zambia is among the countries with the highest Human Immunodeficiency Virus (HIV) prevalence in Africa. Burn injuries are a common form of trauma in Zambia and are a significant source of morbidity and mortality. HIV infection and burns are both known to induce a state of immunosuppression that can predispose burn patients to infectious complications. This study sought to find out the clinical outcome in burns patients who are HIV positive at the University Teaching Hospital (UTH) in terms of prevalence of HIV infection among burn patients, in-hospital burn wound infections and mortality.

**Patients and Methods:** A prospective observational cohort, hospital-based study was performed at the UTH, Lusaka, Zambia between November 2009 and November 2010. Patients with recent burns (less than 24 hours old) who presented to the hospital during this period were recruited into the study and the parameters studied included patient's demographics, HIV status, burn history, management and clinical outcome. Data collected was analysed using STATA 10.

**Results:** A total of 452 burn patients with a median age of 10.5 years gave written consent to be included into the study during this one year period. Of all the 452 burns patients, 92.26% were below the age of 5 years. The male to female ratio was 1:1.3. 80.06% of the patients were burnt with hot liquids (scalds) and 16.1% of the patients tested positive for HIV. In HIV positive patients 60.3% developed burn wound infection and mortality occurred in 9.6%. Wound infection occurred in 39.58% of HIV negative patients. 89.06% of the mortalities were HIV negative. The average CD4 percentage of the HIV positive burn patients who died was 21.23% while for those who were discharged was 17.83%. The average CD4 percentage in HIV positive patients who developed wound infection was 18.88% while the average percentage for HIV negative patients with wound infection was 17.04%.

**Conclusions:** The majority of burn cases admitted to UTH are below the age of 5 years. There is no difference in prevalence of HIV infection in burn patients and the general population. HIV positive patients are more likely to have burn wound infections than those who do not have HIV. The HIV status of a burns patient does not significantly alter the outcome of burns in terms of mortality.

## **DEDICATION**

To my sisters Nsendo, Mumba and Shali, nephew Wami and niece Atotwe.

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## LIST OF ABBREVIATIONS

1. **AIDS:** Acquired Immunodeficiency Syndrome
2. **ART:** Antiretroviral Treatment
3. **CI:** Confidence Interval
4. **DNA:** Deoxyribonucleic Acid
5. **FBC:** Full Blood Count
6. **HIV:** Human Immunodeficiency Virus
7. **MODS:** Multi-Organ Dysfunction Syndrome
8. **PCR:** Polymerase Chain Reaction
9. **UNAIDS:** United Nations programme on HIV/AIDS
10. **UNZA:** University of Zambia
11. **UTH:** University Teaching Hospital
12. **SIRS:** Systemic Inflammatory Response Syndrome
13. **TBSA:** Total Body Surface Area
14. **VL:** Viral Load
15. **WHO:** World Health Organisation