

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

**PREVALENCE OF MALARIA PARASITAEMIA IN
SEVERELY MALNOURISHED CHILDREN AT UTH'S
WARD A07 AND MATERO REFERENCE CLINIC**

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Declaration

I hereby declare that this dissertation represents my own work and has not been presented either wholly or in part to any forum or University other than the University of Zambia.

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APPROVAL

This dissertation of Dr Mwansa Jonathan Kaunda has been approved as fulfilling the requirement of the award of the Degree of Master of Medicine in Paediatrics and Child Health by the University of Zambia

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ABSTRACT

Background: Malnutrition contributes 53% of under-five mortality.

Under-five children of Sub Saharan Africa are the group most affected by both malnutrition and malaria. Malaria is a major public health problem in Zambia. The disease burden is higher in children under-five causing 45% of hospitalisation and outpatient department (OPD) attendance.

Equally malnutrition has long been recognised as a serious public health problem in Zambia, with no improvement in the nutrition status since the 1970's. Malnutrition is compounded by a heavy burden of infection, among which malaria is the commonest.

Global distribution of malnutrition overlaps that of malaria yet the relationship between the two remains unclear.

Objective: The objective of this study was to determine the prevalence rates of malaria parasitaemia in severely malnourished children.

Methods: This was a cross sectional study of severely malnourished children aged between 6 to 59 months seen at University Teaching Hospital (UTH)'s ward A07 and Matero Reference Centre. The study was conducted between February and August 2009.

Results: The prevalence of malaria parasitaemia was found to be 5.64%. Most children who suffer severe malnutrition come from high density residential areas (89%). While oedematous malnutrition seem to be a very good predictor of malaria parasitaemia (p value = 0.03), HIV did not seem to be (p value = 0.3).

Conclusion:

The results of this study have shown that malnutrition may predispose children to malaria infection as demonstrated by the significantly higher malaria parasitaemia prevalence rate in severely malnourished children than that of the general population. In addition the study has demonstrated that oedematous severe malnutrition predisposes to malaria parasitaemia more than non oedematous severe malnutrition. However, HIV sero-status of the severely malnourished child did not significantly affect the prevalence rates of malaria parasitaemia in this study.

DEDICATIONS

To my Wife Mwinsa, you have always supported me through this ragged terrain; to you I am highly indebted.

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LIST OF ACRONYMS

| | |
|-------|---|
| AIDS | Acquired Immuno – Deficiency Syndrome |
| CSO | Central Statistics Office, Zambia |
| CP | Cerebral Palsy |
| FBC | Full Blood Count |
| GRZ | Government Republic of Zambia |
| Hb | Haemoglobin |
| HIV | Human Immuno-deficiency Virus |
| IgA | Immunoglobulin A |
| IQR | Inter Quartile Range. |
| ITN | Insecticide Treated Nets |
| MPS | Malaria Parasites Slides |
| MUAC | Mid Upper Arm Circumference |
| NCHS | National Centre for Health Statistics US. |
| NMCC | National Malaria Control Centre, Zambia |
| PCR | Polymerase Chain Reaction |
| PEM | Protein Energy malnutrition |
| REC | Research Ethics Committee |
| RDT | Rapid Diagnostic Test |
| SOP's | Standard Operating Procedures |
| UTH | University Teaching Hospital |
| WBC | White Blood Cells |
| WFH | Weight- for- Height |
| WHO | World Health Organisation |
| ZDHS | Zambia Demographic and Health Surveys |