PRESCRIPTION PRACTICE AND POTENTIAL DRUG-TO-DRUG INTERACTIONS IN THE MANAGEMENT OF CHILDHOOD MALARIA AT MBALE REGIONAL REFERRAL HOSPITAL: A CROSS SECTIONAL STUDY

BY

CHARLES BENARD OKALEBO, B. Pharm

BU/GS16/MPH/017

SUPERVISOR

PROFESSOR PETER OLUPOT-OLUPOT, MB.Ch.B, MPH, PhD, FUNAS

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DECLARATION

I the undersigned, declares that this dissertation is my original work, except where due acknowledgement has been made. I declare that this work has never been submitted to this university or to any other institution of higher learning for funding or for partial fulfilment for any other award.

Student Name: Charles Benard Okalebo, BPHARM

Registration Number: BU/GS16/MPH/017

Signature:

Date: 10.02.2021

SUPERVISOR'S APPROVAL

This dissertation submitted as a partial fulfilment for the award of masters of Public Health of Busitema University, with my approval as the academic supervisor (s)

Name: PROFESSOR PETER OLUPOT- OLUPOT

Academic Qualifications: MB.Ch.B, MPH, PhD, FUNAS

Signature:

Date: **10.02.2021**

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ACRONYMS AND ABBREVIATIONS

ADRs:	Adverse Drug Reactions
BNF:	British National Formulary
CI:	Confidence Interval
DDIs:	Drug-to-Drug Interactions
EML:	Essential Medicine List
MoH:	Ministry of Health
MoH:	Ministry of Health
mRDT:	Malaria Rapid Diagnostic Tool
PACU:	Paediatric Acute Care Unit
PAR:	Paediatric Admission Record
PPDIs:	Potential Drug-Drug Interactions
RDT:	Rapid Diagnostic Tool
RRH:	Regional Referral Hospital
SSA:	Sub Saharan Africa
UCG:	Uganda Clinical Guidelines
WHO:	World Health Organization

OPERATIONAL DEFINITIONS OF TERMS

Term	Definition
Diagnostic approaches	This was defined as the laboratory tests used to determine what the patient is suffering. For the diagnosis of malaria in this study; blood slide means the use of microscope to detect the presence of the malaria parasite, Malaria RDT means the use of the malaria rapid diagnostic strip for the testing of malaria, while the clinical diagnosis means determining if someone had malaria by using the signs and symptoms without testing using laboratory investigations.
Health worker qualification	This was defined by the level of training and vocational education attained, regulation, and activities and task of jobs for the health worker. It was categorized by cadre as clinical officer, intern Doctor, consultant, medical officers, others (e.g. medical students, nurses) and the unknown as those who did not write their names against the prescription or those whose names could not be traced to qualification.
Potential drug to drug interaction	This was defined as the presence of at least two drugs amongst the prescriptions received during the admission period, which have a potential to interact either pharmacokinetically or pharmacodynamically.
Prescription practices	This was defined as the practices surrounding the prescription of medicines, including the trend of drugs prescribed, what informs the prescription in-terms of laboratory investigations.

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ABSTRACT

Background: Malaria remains a leading cause of mortality among the under-fives in Uganda, and yet health professionals do not adhere to the treatment guidelines and standards. The poor prescription practices have led to irrational drug use; polypharmacy, inappropriate medications, high antibiotic and high injection rate. These contribute to drug interactions, overdose, under dose, poor health outcomes, antimicrobial resistance, drug shortage and increased cost of care. This study was done with an aim of describing prescription practices and potential drug-to-drug interactions in the management of malaria among patients admitted at the paediatric department at Mbale Regional Referral Hospital (Mbale RRH).

Methods: This was a cross sectional retrospective study conducted at the Paediatric Acute Care Unit (PACU) of Mbale RRH from October 2017 to April 2018 on 633 Paediatric admission records of in-patients with malaria diagnosis using consecutively sampling. This data was analysed using the STATA statistical analysis software using univariate and bivariate analysis.

Results: The prevalence of malaria was 45.6% with majority being under five (79.5%) but poor documentation of the anthropometric data. The percentage adherence to laboratory tests for malaria diagnosis was at 86.3% with 13.7% diagnosed for malaria without any documented laboratory test, Blood slide at (66.2) and mRDT was at (47.6%). Drug prescription trends were as follows; artesunate (60.3%), paracetamol (42.8%), ceftriaxone (37.9%), gentamicin (36.5%), and ampicillin (24%). It was noted that 70.1% of the patients without a malaria test performed had antimalarials prescribed which is worrysome. There was also a high antibiotic prescription (65.9%). The prevalence of potential drug-drug interactions was 10.7% with 5.5 % of the prescriptions having one potential drug-drug interaction, 4.3% prescriptions having two potential DDIs, 0.6% prescriptions having three potential DDIs, 0.2% prescriptions having four potential DDIs and 0.2% prescriptions having five potential DDIs.

Conclusion: The percentage contribution of malaria to inpatient admissions is higher and there exist high levels of children with malaria co-infected with other illnesses. There is also non-adherence to the test and treat policy for malaria management with inappropriate prescription of antibiotics.

Key words: Prescription practice, potential drug-drug interactions, malaria, irrational prescription.