

**ANTIBIOTIC USE IN CHILDREN UNDER-FIVE YEARS  
WITH FEBRILE ILLNESS AT SOROTI REGIONAL REFERRAL  
HOSPITAL:  
IS THE MALARIA TEST AND TREAT POLICY WORKING?**

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## DECLARATION

### Student's declaration

I **Mary Gorret Atim** do hereby declare to the best of my knowledge and ability that the work presented in this dissertation is my own, except where otherwise stated and that it has never been submitted before by anyone to any university or institution of higher learning for any academic award or publication.

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**Supervisor's Approval**

This Dissertation is submitted as a partial fulfillment for the award of Master of Public Health degree of Busitema University. We declare that the dissertation presented is the original work of the above-named student who has been under our supervision with our approval as the academic supervisors

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## **DEDICATION**

Dedicated to my children; Mary Martina Esiana, Hannah Martrina Aminat and Annie Belle Martins Arereng. I love you all so much and May God bless you abundantly!

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**ABBREVIATIONS/ACRONYMS**

<b>ABC</b>	Antibiotics
<b>ACTs</b>	Artemisinin Combination Therapy
<b>BS</b>	Blood Smear
<b>CBC</b>	Complete Blood Count
<b>HIV</b>	Human Immunodeficiency Virus
<b>IMCI</b>	Integrated Management of Childhood Illness
<b>LFT</b>	Liver Function Tests
<b>MoH-PD</b>	Ministry of Health –Pharmacy Division
<b>MoH</b>	Ministry of Health
<b>MTC</b>	Medicines and Therapeutics Committee
<b>OPD</b>	Outpatients Department
<b>RDT</b>	Rapid Diagnostics Tests
<b>RFT</b>	Renal Function Tests
<b>SRRH</b>	Soroti Regional Referral Hospital
<b>STG</b>	Standard Treatment Guidelines
<b>WHO</b>	World Health Organization



## OPERATIONAL DEFINITIONS

**Antibacterial drugs:** Are a group of medicines derived from bacteria or Molds or synthesized and used to treat infections caused by bacteria and to prevent in cases of lowered immune system or before carrying out any medical procedure.

**Antibiotics:** Also known as antibacterial are medications that destroy or slow down the growth of bacteria.

**Antimicrobial:** A drug or disinfectant with antimicrobial properties such as antibiotics and antifungal.

**Antibiotic Resistance:** It's the ability of bacteria or other microorganisms to withstand the Therapeutic effect of antibiotic or not being able to subdue the present Bacteria.

**Antibiotics use:** Is the administration of Antibiotics to prevent or treat bacterial infections

**Fever:** Is the temporal increase of body temperature due to an illness like bacterial infection, viral infections, Injury and so on.

**Febrile illness:** Defined as presentation of a patient with fever of 38 degrees Celsius of history of fever that persisted for 2-7 days with no localizing source.

**IMCI:** Integrated Management of Childhood Illness.

**Irrational medicine use:** Means prescribing and/or dispensing of medicines to patients inappropriate to their clinical needs such as overprescribing or dispensing less than it has been prescribed

**Malaria:** Is an infectious disease caused by plasmodium parasites primarily spread by the bite of the female anopheles mosquitoes from an infected person to healthy individuals.

**Rational use of medicines:** Use of medicines in the right way based on the treatment guidelines and proper medical prescriptions

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## ABSTRACT

### Introduction

The revised WHO 2015 guidelines recommends a universal test-and-treat strategy for malaria in all endemic areas targeting rational use of antimalarials and antibiotics(Organization, 2015).Antibiotic resistance is a growing global concern and the key strategy to minimize further development of resistance is the rational use of antibiotics. To assess the impact of Test and Treat malaria treatment guidelines in Soroti RR Hospital, we designed the study to evaluate its effects on Antibiotics use in children under-fives presenting with fever. The absence of data on acceptance and adherence to test and treat malaria policy in Uganda implies that, the impact of the implemented policy is not realized without any supporting documentation .The results obtained from our assessment is source of direction for policy implementation and its acceptability by the health workers.

**Methods:** This was a mixed-method cross sectional retrospective study, review of patients' registers and prescriptions to analyze the effect of the test and treat malaria policy on pediatric fever at Soroti RR Hospital. A total of 410 prescriptions were sampled and obtained systematically from the prescription register of children under-five years of age with fever. While in-depth interview was used to obtain information on prescribers' perception on Antibiotics use in children under-five with fever.

**Results:** Of the 410 children's prescriptions sampled, 71.5 % (n=293) were sent to the laboratory; and 98% (n=287) had malaria tests done. Of the 287 children with malaria tests done; 39.4% (n=113) were malaria positive while 59.9% (n=172) were malaria negative. The 0.70% (n=02) children though tested for malaria did not have tests results. The 44.4 % ( n= 8) with no diagnosis were prescribed antibiotics

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Of those with positive malaria test results, 46% (n=52) received both antibiotics and ACTs, 37.2 % (n=42) received ACTs alone, while 6.2% (n=07) received antibiotics alone and 10.6% (n=12) received other drugs. Of those that were malaria negative, 58.72 % (n=101) received antibiotics, 15.1 % (n=26) received both antibiotics and ACTs, while 7.6% (n=13) received ACTs only and 18.6% (n=32) were treated with other medications

Of those 2 % (n=06) where no malaria test was done, 50 % (n= 03) were treated with antibiotics alone, 16.7 % (n= 1) received both antibiotics and ACTs and 33.3% (n= 02) were prescribed ACTs only.

A total of 28.5% (n=117) children were not sent to the laboratory, of these 55.6% (n=65) were treated with antibiotics only, 17.9% (n=21) were managed with both antibiotics and ACTs, 10.3 % (n=12) received only ACTs, while 16.2 % (n=19) received other drugs.

The results from the Qualitative component also revealed that most health workers were considerably aware of the Test and Treat malaria policy, many did not have copies of the Uganda Clinical Guidelines (UCG), while antibiotics use in negative malaria results was highly refuted by most prescribers.

**Conclusion:** Results show up 41.2% ( n= 169) of the children without malaria or who were not tested for malaria (including those that were not tested even if they were referred to laboratory and those who were referred to the laboratory) were treated with antibiotics against the test and treat malaria policy. The health workers knowledge on antibiotics use in children with negative results did not agree with what was observed from the extracted data; 58.78% (101) children with negative malaria results were treated with antibiotics contrary to their statements during the in-depth interviews.

**Recommendation:** Malaria testing for every febrile patient has not yet achieved the required 100%, need strengthening. Further research to investigate high levels of antibiotics prescription and potential effect on antibiotics resistance in negative malaria patients is needed. There is need to scale up this study

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in all Regional Referral Hospitals and other lower Health facilities that have the test and treat malaria policy operationalized to correlate the findings for policy enhancement and improved management of febrile illness in children under-five years of age is desired

A guideline for antibiotics use among children under-fives is also required. In addition, the role of continuous professional development should not be underestimated for all health workers and it should be enforced.