

KNOWLEDGE, ATTITUDE, AND PRACTICES TOWARDS MALARIA TEST AND TREATMENT POLICY AMONG HEALTH WORKERS IN KAPCHORWA GENERAL HOSPITAL, KAPCHORWA DISTRICT. A CROSS-SECTIONAL STUDY.

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ABSTRACT.

The purpose of the study.

The purpose of the study was to assess the knowledge, attitude, and practices towards malaria test and treatment policy among health workers in Kapchorwa Hospital, Kapchorwa district.

Objectives of the study

The specific objectives of the study were; to assess the knowledge of malaria test and treatment policies among health workers, to determine the attitude towards malaria test and treatment policies among health workers, and to determine practices towards malaria test and treatment policies among health workers in Kapchorwa hospital, Kapchorwa district.

Methodology.

The study design employed was a descriptive cross-sectional, to address the specific objectives of the study on a sample of 50 respondents using simple random sampling techniques. Some structured questionnaires were designed and used as a data collection tool.

Results of the study.

From the study findings, the majority of the respondents (64%) have never heard about the WHO malaria test and treatment policy, (70%) of the respondents have received training on the malaria test and treatment, (46%) of the respondents knew about microscopic malaria testing, 80% of the respondents agreed with the malaria test and treatment policy, 100% felt it should be implemented, 70% said MTTP increased health workers' perception.

Conclusion.

In conclusion, the overall knowledge of the respondents of malaria was not pleasing though their attitude was pleasing where the majority of them agreed to do malaria testing before treatment as well with their practices were pleasing where majority reported to do malaria testing before treatment.

Recommendation.

The Ministry of Health should intensify supervision of health workers to adhere to the malaria test and treatment policy and also carry out further training of health workers in Kapchorwa Hospital to improve their knowledge of the malaria treatment policy.

Keywords: Malaria Test, Treatment, Knowledge, Attitude, Practices.

Submitted: 2023-07-07 Accepted: 2023-10-27

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BACKGROUND.

Malaria remains the main cause of morbidity and mortality in global health challenges with 3.4 billion people at risk leading to 229 million cases and 409,000 deaths each year. The WHO reported that the African region accounted for the most global cases of malaria at 90%, followed by the Southeast Asian region at 7% and

the eastern Mediterranean region at 2% the bulk of which is also reported in sub-Saharan Africa.

In 2015, there was an estimated 429,000 million malaria death most of this death occurred in the African region (92%), followed by the Southeast Asian region with (6%) and the eastern Mediterranean region with (2%). (WHO, 2015)

Uganda ranks the 5th among the highest contributors to malaria cases in the region. Malaria is endemic in 95% of Uganda and is responsible for 20% of outpatient visits, 15% of hospital admissions, and up to 5-10% of inpatient deaths. (WHO Report, 2018). The World Health Organization (WHO) recommended the diagnosis and treatment in 2010 as one of the key interventions to control malaria. Diagnosis should be guided by parasitological confirmation with either microscopy or malaria rapid diagnostic test (MRDT) for all persons of all ages in all epidemiological settings. The microscopic examination of blood smears has been considered the best gold standard for malaria diagnosis, but maintaining adequate microscopy standards is challenging in resource-limited settings and thus parasite rapid diagnostic tests have been recommended as having comparable precision and incorporated into clinical guidelines for malaria-endemic countries.

In Uganda, the Ministry of Health and National Malaria Control Division (NMCD) established a policy of malaria test and treatment policy in 2005. This policy requires diagnostic testing for every suspected malaria case with fever and restricting treatment to only those cases with evidence of a positive parasitological test result (Kigozi RN, et al, 2021). Implementation of this policy was limited in the first decades of its adoption. Testing among those suspected was only 24% in 2010, though this rose impressively to 59% in 2013. Uganda hoped, through its 5-year (2014-2020) malaria reduction strategy, to have at least 75% of those suspected malaria cases being tested in 2019, increasing to 84% in (2021).

General objectives

- *To assess the knowledge, attitude, and practice of malaria test and treatment policy among health workers in Kapchorwa Hospital, Kapchorwa municipality, Kapchorwa district.*

Specific objectives

- *To assess knowledge of malaria tests and treatment policies among health workers in Kapchorwa Hospital, Kapchorwa district.*
- *To determine the attitude towards malaria test and treatment policy among health workers in Kapchorwa Hospital, Kapchorwa district.*
- *To determine practices towards malaria testing and treatment policy towards health workers in Kapchorwa Hospital, Kapchorwa district.*

METHODOLOGY.

Study design.

A cross-sectional study design was employed in Kapchorwa Hospital to yield results in the study in a relatively short period using both quantitative and

qualitative data collection methods to assess the malaria test and treatment policy in Kapchorwa General Hospital.

Study area.

Kapchorwa General Hospital is found in Kapchorwa in the eastern region of Uganda. It's bordered by the Kween district to the north and east, the Sironko district to the south, Bulambuli district to the west and northeast. It is located approximately 65km (40), by road, northeast of Mbale Regional Referral Hospital, the nearest large city hospital in the eastern region. The district hospital is approximately 295km (183ml), by road, northeast of Kampala, the capital city of Uganda. The coordinates of the hospital are 01023'55.0"n, 34026'50.0"e (latitude: 1.389625; longitude: 34.447207). It's the catchment hospital for Kween, Bukwo, Kumi, Sironko, Bulambuli, Kapchorwa, and Karamoja. It serves over 5,000 people from Kapchorwa itself and neighboring districts. The study was conducted from August 2022 to March 2023.

Study population.

The study population comprised all health workers in Kapchorwa main hospital Kapchorwa district.

Sample size determination.

Sample size is the number of observations in the sample. The sample size was estimated using the LoBiondo and Weber sample size formula given below was employed in the study. (lobiondo and Heber, 2014).

where;

$$n = \frac{N}{1 + N(e)^2}$$

n = is the desired sample

n = is the target population, n = 50

e = is the expected error at a standard interval of 95% and e 5% n = 50

$$1 + 50(0.05)^2$$

$$= 44 \text{ people}$$

Sampling technique.

The convenience sampling method was used where health workers available and easy to reach were involved in the study.

This method involved the sample which was being drawn from the part of the population that was close to hand. People who were willing and available to participate were used in the study.

Data collection method.

Data was collected by questionnaire method where both open-ended and closed-ended questions were used and translations were done for those respondents who didn't understand the English language.

Data collection tools.

A self-administered questionnaire that was specifically tailored and structured was used for the study. after the respondents were selected, the researcher and the research assistants also asked them questions about their demographics, knowledge, attitudes, and practices about malaria test and treatment policy.

Data collection procedure.

The participants were selected randomly from among health workers at Kapchorwa Hospital. the purpose of the study was explained to the respondents and they were informed that their participation was voluntary without any coercion or monetary rewards. the participant was assured of confidentiality regarding their identity during and after the research was conducted. they also then signed the consent form before filling in the questionnaires.

Selection criteria.

Inclusion criteria.

All consenting health workers working in Kapchorwa Hospital.

Quality control.

The researcher ensured quality control by conducting induction and training of research assistants. the questionnaire was pre-tested before the primary study was conducted and where modifications were warranted, they were done.

Data analysis.

The data in the questionnaire was analyzed using a calculator. bar graphs pie charts and tables were applied in the analysis of data to help in easier interpretation.

Ethical consideration.

The research project was subjected to approval by the institute of research board before proceeding with the study.

A letter of introduction was obtained from the school to Kapchorwa Regional Hospital administration and permission was from the ward in charge to conduct the study.

STUDY FINDINGS

Individual Factors Contributing to malaria test and treatment policy among health workers.

Table 1 and Table 2 show the distribution of respondents according to their biodata

Variables	Frequency	Percentages %
Age		
15-20	3	6
21-30	25	50
31-40	7	14
41-50	7	14
51-60	5	10
Above 60	3	6
Total	50	100
Marital status		

Single	32	64
Married	9	18
Widow	6	12
Divorced	3	6
Total	50	100

Table 2 shows the distribution of respondents according to their biodata.

Religion		
Catholic	22	44
Muslim	8	16
Protestant	14	28
Born again	6	12
Total	50	100
Occupation		
Nurse	15	30
Dispenser	5	10
Clinical officer	5	10
Lab technician	20	40
Other specification (non staff)	5	10
Total	50	100
Gender		
Female	30	60

Male	20	40
Total	50	100

From the study, 50% of the respondents were aged 21-30 years the last 6% were aged 15-20, and those above 60 years

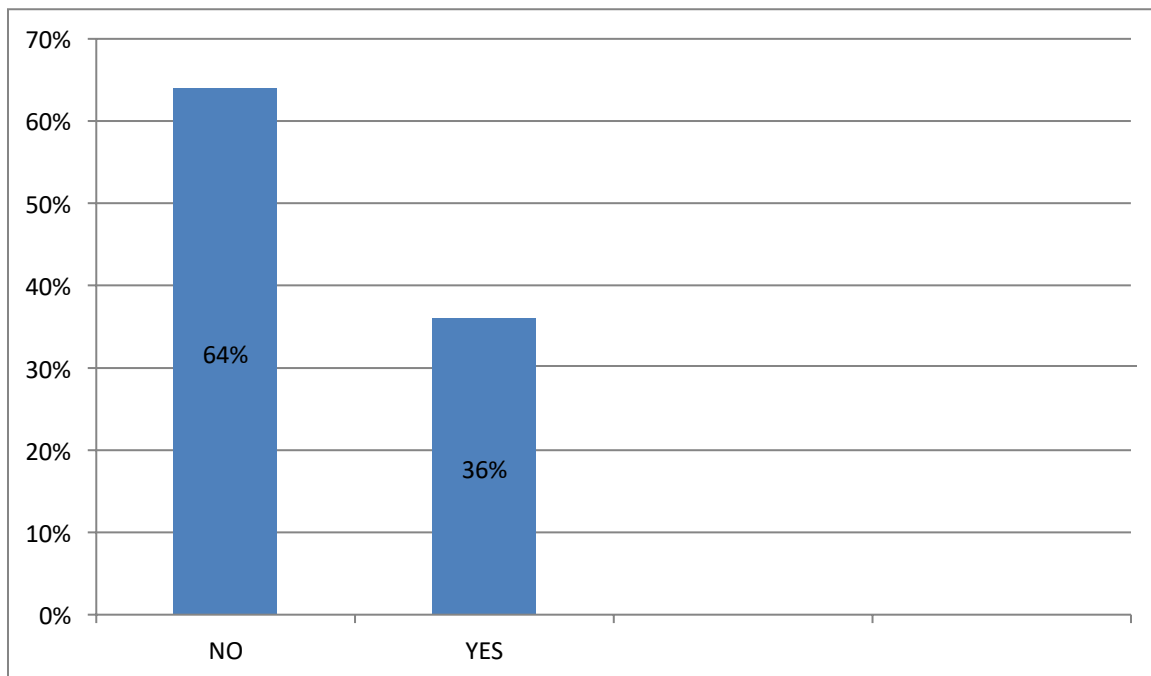
From the study Majority of the participants were Nurses 20 (40%) whereas the minority 5 (10%) were others they specified as non-staff.

Knowledge of malaria test and treatment policy among health workers.

The findings obtained revealed that most respondents had never heard about malaria tests and treatment policy

Figure 1: shows the distribution of respondents if they have heard about WHO recommendations on malaria tests and treatment policy.

N=50



From Figure 1, the majority of the respondents (64%) have not heard the information whereas the minority (36%) of the respondents have heard the information.

Table 3: shows the distribution of the respondents and whether they received training on the WHO malaria test and treatment policy.

N=50

Response	Frequency(f)	Percentage (%)
Trained	35	70
Not trained	15	30
Total	50	100

Table 3 shows that the majority of the respondents (70%) were trained on the WHO malaria test and treatment policy while the minority (30%) were not trained.

Table 4: shows the distribution of respondents according to their knowledge on microscopic malaria testing and treatment.

N=50

Response	Frequency (f)	Percentage (%)
Have knowledge	23	46
Without knowledge	27	54
Total	50	100

From Table 4, the majority of the respondents said that they don't know about microscopic malaria testing.

Attitude toward malaria test and treatment policy among health workers.

Table 5: shows the distribution of the respondents according to their opinion towards malaria test and treatment policy.

N=50

Response	Frequency (f)	Percentage (%)
Agree	40	80
Disagree	10	20
Total	50	100

From Table 5, the majority of the respondents (80%) agreed with the malaria test and treatment policy while a minority of the respondents (20) disagreed with the malaria test and treatment policy.

Table 6: shows the distribution of the respondents on whether they feel it should be implemented in Kapchorwa Hospital. N=50

Respondents	Frequency (f)	Percentage (%)
Should be implemented	50	100
Should not be implemented	0	0
Total	50	100

According to Table 6, all the respondents (100%) feel it should be implemented in the hospital.

Figure 2: shows the distribution of the respondents according to how often they implement the malaria test and treatment policy.

N=50

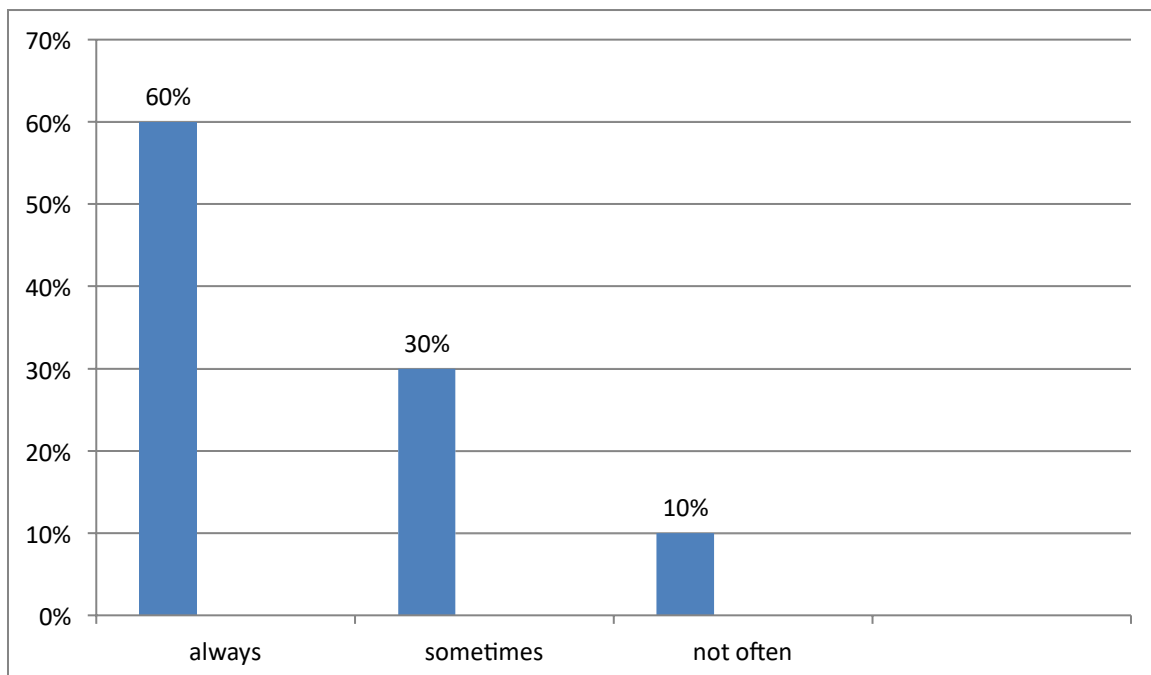


Figure 2 shows that the majority of the respondents (60%) always implement malaria testing whereas 10% did not implement it.

Table 7: shows the distribution of respondents on whether it's hard to read the results clearly in MRDT.

N=50

Respondents	Frequency(F)	Percentage (%)
Yes	40	80
No	10	20
Total	50	100

Table 7 shows that the majority of respondents (80%) said it's not hard to read the results clearly in MRDT and a minority (20%) said it's hard to read.

Table 8: shows the distribution of respondents according to whether the increased malaria surveillance data influenced the perception and behaviours of health workers.

N=50

respondents	Frequency(f)	Percentage (%)
Yes	35	70
No	15	30
Total	50	100

Table 8 illustrates that the majority of the respondents 70% said increased malaria surveillance data has influenced the perception of health workers while the

minority of about 30% said it has not influenced the perception of health workers. practice towards malaria test and treatment policy among health workers.

Table 9: shows the distribution of the respondents according to whether they always do malaria testing before treatment.

N=50

Respondents	Frequency(f)	Percentage (%)
Yes	45	90
No	5	10
Total	50	100

Table 9 shows that the majority of the respondents 90% said they always do malaria testing before treatment and

the minority of the respondents 10% said they don't do malaria testing before treatment.

Figure 3: shows the distribution of the respondents according to whether they can confidently do MRDT.

N=50

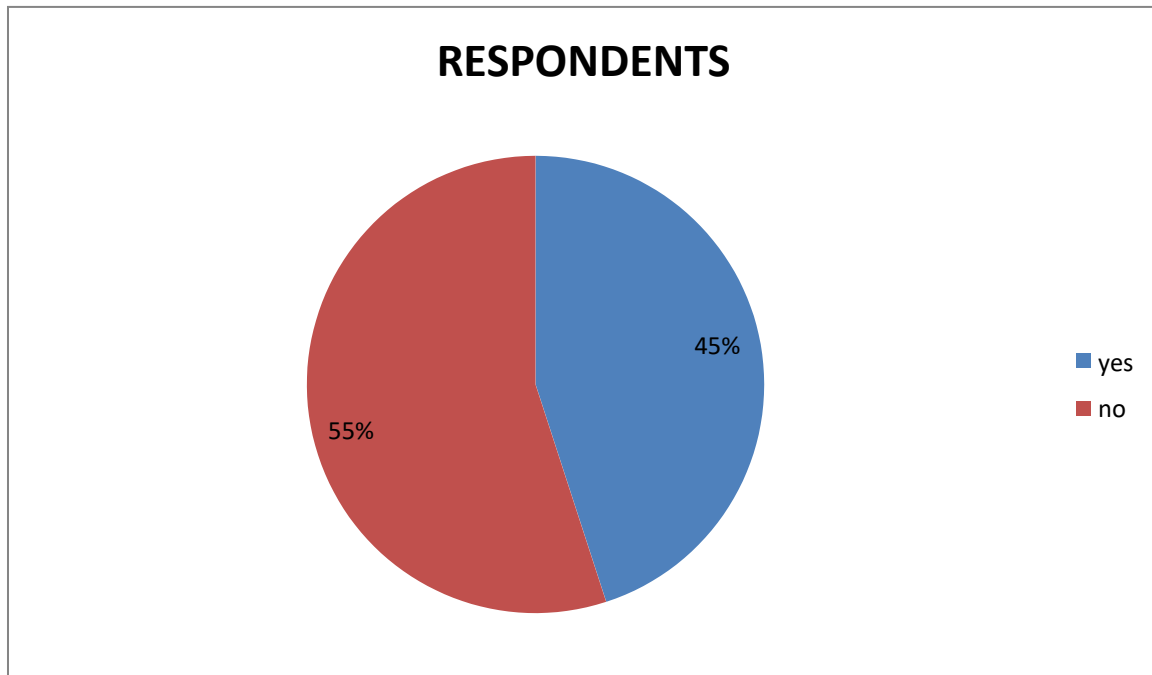


Figure 3 shows that the majority of the respondents 55% said they cannot confidently do MRDT and a minority of the respondents 45% said they could confidently do MRDT.

Figure 4: shows the distribution of the respondents according to whether MRDT can detect malaria irrespective of the number of parasites.

N=50

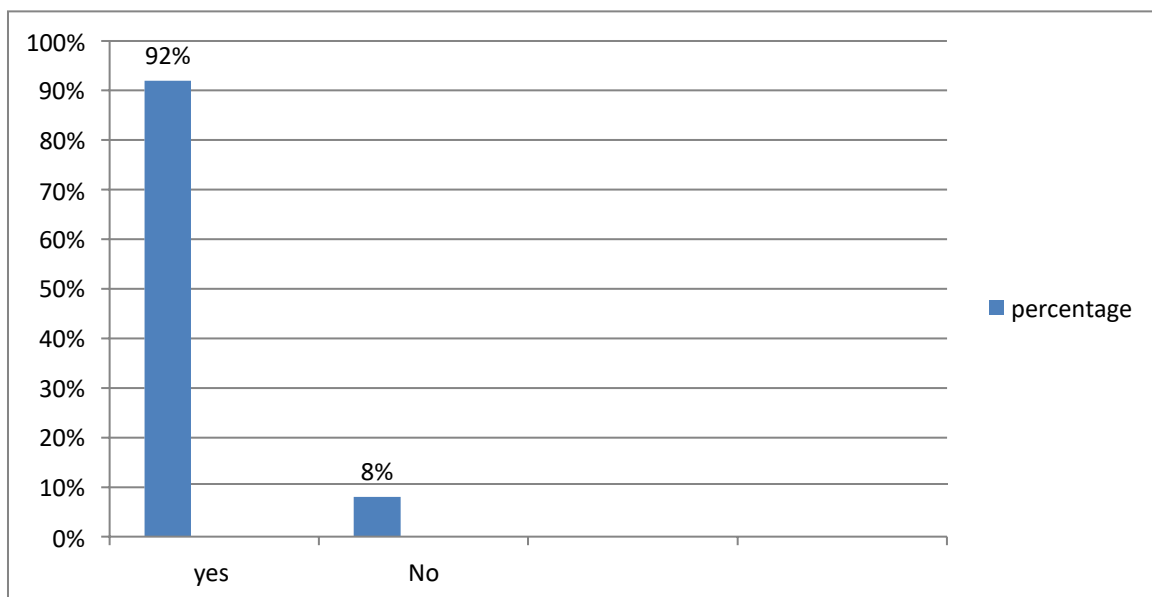


Figure 4 shows that the majority of the respondents 92% said MRDT can detect malaria irrespective of the number of parasites while 8% of the respondents said it cannot detect malaria.

Table 10: shows the distribution of the respondents according to whether a negative microscope test virtually rules out malaria. N=50

Respondents	Frequency(f)	Percentage (%)
Yes	30	60
No	20	40
Total	50	100

From Table 10, the majority of the respondents (60%) said a negative microscope test virtually rules out malaria and a minority of the respondents (40%) said a negative microscope test does not virtually rule out malaria.

Figure 5: shows the distribution of respondents on whether there are challenges they face with the use of lab tests in diagnosing malaria in your facility.

N=50

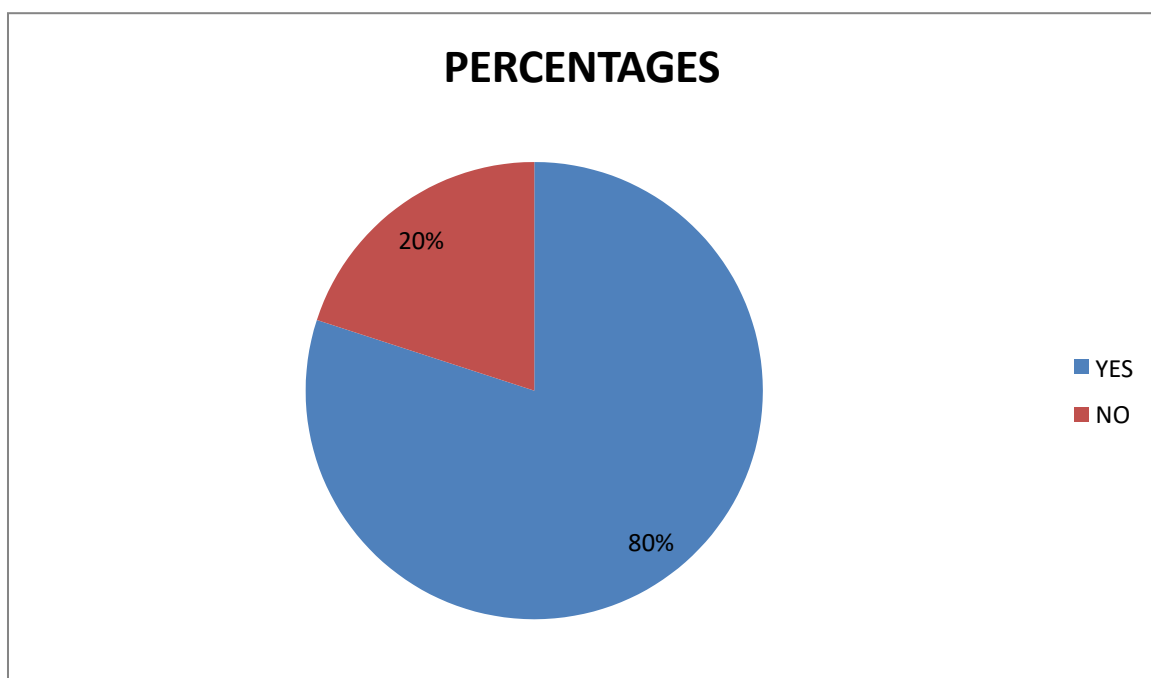


Figure 5 shows that the majority of the respondents 80% said there are challenges they face with the use of

laboratory tests in diagnosing malaria while the minority 20% respondents said there are no challenges they face.

DISCUSSION.

Knowledge of malaria tests and treatment is polite policy among health workers.

From the study findings, it revealed that the majority of the respondents (64%) had not heard about the WHO malaria test and treatment policy this implies that the

respondents were not aware of the malaria diagnosis and treatment and this was in line with the study conducted in equatorial Guinea among health workers by Marta Blanco (2021) about 57.7% said not to have heard about the national malaria treatment guidelines also in line with the study conducted Ghana by James Kojoprah et al 2019 which revealed that 83% of the respondents had not received training on the WHO T3 strategy.

The study revealed that 70% of the respondents were trained on the WHO malaria test and treatment policy this was in line with the at peripheral health centers in Uganda which revealed that 76% of the health workers received training and consented to be interviewed by Caroline Asiimwe et al 2012 and was in contrast to the study done in Ogunstate in Nigeria which revealed that 20% of the health workers were trained on malaria test and treat policy on case management of malaria by Oluyomi F Bamiselu et al,2016 which was also in contrast to the study in Kenya which revealed that 46% of the health workers in the private sector had received training.

Attitude toward malaria test and treatment among health workers

The study findings revealed that the majority of the respondents 80% agreed with the malaria test and treatment policy and this study was in line with the study done in Nigeria in private health sectors by Olugbenga A Mokuolu et al 2016 which revealed that 79.5% of health workers had high perception towards malaria RDT diagnosis and treatment.

The study findings revealed that the majority of the respondents 100% felt it should be implemented in Kapchorwa Hospital and gave reasons like distinguishing malaria from other illnesses this was in line with the study conducted in urban and rural areas of Enugu state in South-eastern Nigeria among public and private health facilities where members identified malaria test and treatment as an important step to distinguish malaria from other illnesses with similar symptoms and a means of delivering appropriate treatment.

The study finding revealed that 60% of the respondents always implement malaria testing and treatment this was in line with the study conducted in Kenya which revealed that 57.9% implementation rate of health workers on the malaria testing in the facility and also in line with the study conducted in Tanzania which reported that 54.6% of the health workers adhered strictly and was in contrast to the study conducted in Ebonyi state in Nigeria by Ugwu I and Omale 2021 where 48.7% sometimes implement the malaria guidelines.

Practice malaria test and treatment policies among health workers.

The study findings revealed that 90% of the health workers always do malaria testing before treatment this was in line with the study conducted in Zamfara state which revealed that 82.7% of the health care workers reported using malaria RDT routinely before making a diagnosis of malaria (Rabi Usman, 2018) it was also in

line with the study conducted in Kenya which showed major improvement trends in health workers test and treat practices with over 90% of all the febrile patients tested and treated according to the guidelines.

The study findings revealed that 45% of the respondents could confidently do the MRDT test which was in contrast to the study conducted at the peripheral centers in Uganda that showed that a total of 54% of the health workers correctly carried out all the 15 steps in MRDT job aid or missed only one step and most health workers skipped more than one instructions or performed the MRDT without the job aid by Caroline Asiimwe et al 2012 The study findings revealed that 92% of the health workers belief that MRDT can diagnosis malaria irrespective of the number of the malaria parasites in the blood which was in contrast to the study conducted in southeast Asia which showed that MRDT have been found to underestimate parasite prevalence due to the inability to detect low-density parasite below 200p and believed that early detection and clearance of malaria parasites at low levels is detectable by the USMRDT (Mwong M, 2015)

The study findings revealed that 60% of the respondents believed that a negative microscopy test virtually rules out malaria which was in contrast to the study in Uganda which revealed that 49% of the respondents believed that a negative MRDT was truly negative by Caroline Asiimwe et al 2012.

The study findings revealed that 80% of the respondents said there are challenges they face with the use of lab tests in diagnosing malaria in their facility like

CONCLUSION.

The overall results on knowledge of the malaria test and treatment policy were not pleasing about 36% of the respondents reported having heard about the WHO recommendation on malaria test and treatment policy and 46% of the health workers know MRDT.

About the attitude, the study revealed that the attitude of health workers towards malaria testing was pleasing where the majority of the respondents 80% agreed with malaria testing and treatment and 100% of the health workers said to be implemented in Kapchorwa Hospital because it prevents antimalarial resistance and wastage of the available stock and 60% of the respondents said to implement it always and 80% reported it's not hard to read the results on the MRDT after the training which was conducted.

The general practices of the health workers revealed that 90% of the respondents always do malaria testing before treatment but 45% of the respondents can confidently do an MRDT test without being helped in addition 92% of the health workers reported that MRDT can diagnose malaria irrespective of the number of the parasites although 50% of the respondents reported there are challenges, they face while conducting lab tests.

RECOMMENDATION.

The Ministry of Health should intensify supervision to ensure health workers adhere to malaria tests and treatment policies.

There should be further training for the health workers at Kapchorwa Hospital to improve their knowledge of malaria tests and treatment policy

Secondly, there should be frequent provision of MRDT test kits to minimize prescribing of antimalarial to patients who don't have malaria and to prevent antimalarial resistance.

ACKNOWLEDGMENT.

First and foremost am grateful to my supervisor Mr. TUSHABA OHURIRA for the great work he did towards my research to enable the flow of this report book it's because of his effort that I managed to come up with this report book may the good lord bless the works of your hands.

REFERENCES

1. Adela Budimu Basiliana Emidi, S. m. (2020). adherence, awareness, access, and use of standard diagnosis and treatment guidelines for malaria case management among health care workers in Meatu, Tanzania. *journal of tropical medicine*.
2. Adela Budimu, B. E. (2020). adherence, awareness, access, and use of standard diagnosis and treatment guidelines for malaria case management among healthcare workers. *Journal of Tropical Medicine* 2020.
3. Beatrice Amboko, K. S. (2020). Trends in health workers' compliance with out-patient malaria case management guidelines across malaria epidemiological zones in Kenya 2010-2016. *malaria journal* 19,1-14.
4. Beatrice Chipwaza, J. P. (2014). community knowledge and attitudes and health workers' practices regarding Non-malaria Febrile Illnesses. *PLoS Neglected Tropical Disease* 8 (5), e2896.
5. Caroline Asiime, D. J. (2012). Early experiences on the feasibility, acceptability, and use of malaria rapid diagnostic tests at peripheral health centers in Uganda insights into some barriers and facilitators. *implementation science* 7(1), 1-12.
6. Caroline Asiimwe, D. J. (2012). early experiences on feasibility acceptability and use of malaria rapid diagnostic tests. *implementation science* 7 (1) 1-12.
7. Chandler CIR, M. R. (2018). Malaria overdiagnosis of antimalarials is a patient pressure problem. *health policy and planning* 23 (3), 170-178.

I also highly appreciate my father Mr. Malinga Christopher, St Luke pharmacy staff, and my friends at large for the support they have given to me. May God bless you always.

LIST OF ABBREVIATIONS

ACT: Artemisinin-based combination Therapy.
KAP: Knowledge Attitude and Practice
MTAT: Mass test and treat campaign
MOH: Ministry of Health.
NMCP: National Malaria Control Program
PPMV: Patent proprietary medicine vendors
RDT: Rapid Diagnostic Test.
UMSP: Uganda Malaria Surveillance Project.
WHO: World Health Organization.

8. De Martin S, v. S. (2015). Community perception of a mass administration of an antimalarial drug combination in Gambia. *Trop Med Int Health* 6442-8.
9. Dejan Zurovac, S. G. (2014). Major improvement in the quality of malaria case management under the Test and Treat policy in Kenya. *plos one* 9 (3), e92782.
10. James Kojo Prah, A. Y.-A. (2019). knowledge attitude and practices of prescribers regarding malaria diagnosis. *pan African medical journal*, 34.
11. James kojo prah, A. Y.-s.-A. (2019). assessment of the knowledge, attitude, and practices of prescribers regarding malaria diagnosis among Ghanaian prescribers. *The Pan African Medical Journal* 34,
12. Kigozi RN, Bwanika J, Godwin E, Thomas P, Bukoma P, Nabyonga P, Isabirye F, Oboth P, Kyokira C, Niang M, Belay K, Sebikaari G, Tibenderana JK, Gudozi SS. Determinants of malaria testing at health facilities: the case of Uganda.
13. *Malar J*.2021. Dec 4;20(1):456. Doi:10.1186/
14. Larsen DA, B. A. (2015). Population-wide malaria testing and treatment with RDTs and artemether-lumefantrine in southern Zambia. *Malaria Journal* 14, 171.
15. Marta Blanco, P. S.-S. (2021). knowledge attitude and practices regarding malaria and the national treatment guidelines among health workers. *malaria journal* 20(1), 1-9.
16. Marceline Mubi, D. K. (2013). Malaria diagnosis and treatment practices following the introduction of rapid diagnostic tests. *Malaria Journal* 12 (1), 1-8.

17. Miriam Nanyunja, J. N. (2011). malaria treatment policy change and implementation in Uganda. *malaria research and treatment*.
18. Mwangi m, N. T. (2015). The epidemiology of subclinical malaria infections in southeast Asia. *malarial journal* 14,381.
19. Ogochukwu Ezeoke, N. E. (2012). exploring health providers' and community perceptions and experiences with malaria. *Malaria Journal* 11 (1), 1-10.
20. Okello PE, V. B. (2017). variation in malaria transmission intensity. defining and defeating the intolerable burden of malaria 111 77 (6) of *American Journal of Tropical Medicine and Hygiene*.
21. Oladimeji Oladepo, A. S. (2019). Malaria testing and treatment knowledge among selected rural patent and proprietary medicine vendors. *Malaria Journal* 18 (1), 1- 8.
22. Olugbenga A Mokuolu, G. N. (2016). status of the use and compliance with malaria rapid diagnostic tests in formal private health facilities in Nigeria. *malaria journal* 15, 4.
23. Oluyomi F Bamiselu, I. A. (2016). adherence to malaria diagnosis and treatment guidelines among health workers in Ogun state Nigeria. *BMC Public Health* 16, 828.
24. Omale, u. i. (2021). knowledge attitude and practice of the national guidelines for the diagnosis and treatment of malaria among medical doctors in Ebonyi state, Nigeria. *plos one* 16(9), e0257600.
25. Omale, U. i. (2021). knowledge, attitude, and practices of the national guidelines for the diagnosis and treatment of malaria among medical doctors in Ebonyi State Nigeria. *plos one* 16 (9), e0257600.
26. Organization, w. h. (2018). knowledge attitude and practices of prescribers regarding malaria diagnosis. WHO, 1.
27. Rabi usman, A. A. (2018). predictors of malaria RDT utilization among health care workers in Zamfara state. *plos one* 13 (12), e0200856.
28. WHO. (2015). awareness of malaria and treatment-seeking behavior among persons with acute undifferentiated fever. *World Health Malaria Report*.

Publisher details:

Publishing Journal: Student's Journal of Health Research Africa.

Email: studentsjournal2020@gmail.com or admin@sjhresearchafrica.org



(ISSN: 2709-9997)

Publisher: SJC Publisher Company Ltd

Category: Non-Government & Non-profit Organisation

Contact: +256775434261(WhatsApp)

Email: admin@sjpublisher.org

Website: <https://sjpublisher.org>

Location: Wisdom Centre Annex, P.O. BOX. 113407 Wakiso, Uganda, East Africa.