



PRESIDENT'S MALARIA INITIATIVE



USAID's Malaria Action Program for Districts

Chase Malaria Campaign Dipstick Survey Report



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Acronyms

ANC	Antenatal care
ACTs	Artemisinin-combination therapies
AD	Advertising Agency
FGD	Focus group discussions
ITN	Insecticide Treated Nets
IDI	Infectious Diseases Institute
IPTp	Intermittent preventive treatment in pregnancy
KII	Key Informant Interview
LLIN	Long-lasting insecticide-treated nets
MAPD	USAID's Malaria Action Program for Districts
MCP	Malaria Control Programme
M&E	Monitoring & Evaluation
MoH	Ministry of Health
MRDT	Malaria rapid diagnostic tests
PMI	President's Malaria Initiative
PHC	Primary Health Center
SBCC	Social behavior change communication
SP	Sulphadoxine-pyrimethamine
UMRSP	Uganda Malaria Reduction Strategic Plan

Executive Summary

Background: SYNC Media Ltd limited is pleased to have been entrusted by USAID's Malaria Action Program for District's Project (MAPD) with the task to assess the current knowledge, attitudes and practices of malaria prevention and control by key target audience in the five MAPD regions. The study was carried out in the districts of Kampala, Masaka, Hoima, Kabarole and Arua. The following is the overall objective of the study:

Objective: To assess the current knowledge, attitudes and practices of malaria prevention and control by key target audience in the five MAPD regions.

Methods: A cross-sectional dip stick survey was conducted in October 2019 in the districts of Kampala, Masaka, Hoima, Kabarole and Arua. Quantitative data was collected by administering a face to face semi-structured questionnaire among 536 households while qualitative data was collected through 10 Focus Group Discussions (FGDs) and 9 Key Informant Interviews (KIIs). The quantitative data was analyzed using SPSS and Microsoft Excel while the qualitative data was analyzed manually using a thematic framework.

Results: In general, exposure to the 'chase malaria' campaign has increased from 76% in March 2018 to 79% in October 2019. Majority (72%) of respondents mentioned Radio, Family and Friends (47%) and then TV (45%) as the communication channel through which they were exposed to malaria messages. 87% recalled the message about malaria control that they should sleep under treated mosquito nets while only 43% recalled the message about malaria that pregnant women should go for antenatal care. 69% listened to malaria messages 7 days a week while only 1% listened to the messages 1 day a week. Actions taken after exposure to the campaign mainly included destroying mosquito breeding places (54%), Sleeping under a treated mosquito net every night (51%) and buying treated mosquito nets (45%).

Practices towards malaria prevention and control were positive in the researched communities however interventions aimed at social and behaviour change should primarily target the gaps in practices highlighted by the study. Based on the findings in this study, the

following issues should be considered for improving preventive and control behaviour against malaria amongst the key target audiences in the five MAPD regions.

Malaria Transmission

Malaria is endemic in all survey districts and there is high awareness of its spread. It was reported across districts and gender that malaria is caused through mosquito bites, sharing beddings with infected people, when it rains on someone, drinking unboiled water, unhygienic environments such as toilets and bathrooms, poor hand washing behavior after toilet visits, eating contaminated food, not clearing bushes, poor sanitation and keeping stagnated water around their dwellings among others.

Perceptions on Malaria Symptoms

There are no differences in perception about malaria symptoms across survey districts; general body weakness, high fever, vomiting, headache, yellowish eyes, loss of appetite, high body temperature, loss of weight, diarrhea, headache, general Malaise, back ache, joint Ache, stomachache are the main symptoms associated with malaria.

Attitudes towards Malaria control

Government's policy to achieve universal access to treated mosquito nets by the whole population (at least one mosquito net per two persons) has increased usage incidences across survey districts with almost half the surveyed households reporting usage. Boiling drinking water, seeking immediate medical attention when they feel ill, spraying of insecticides, clearing bushes and stagnant water around their homes, ensuring that their toilets are clean, eating hot food and keeping left over food covered are some of the reportedly adopted practices. However most of these control measures require personal commitment and have hence suffered laxity as there are no policy guidelines on enforcement even at the lowest levels of administration such as local councils. Mosquito net distribution is said to be lacking in universality as some districts indicated glitches in distribution with cases of discrimination of some residents by local leaders, some leaders selling the nets to residents while others did not receive on the premise that they lacked national IDs.

Malaria Control in Pregnant women

Across survey districts there is high awareness of the need for antenatal visits during pregnancy among both males and females. They are aware that these visits ought to start as early as three months to prevent malaria infections, check on baby health and positioning, to check on mother's health and get training on feeding and physical health. Men are also aware of their responsibility to take their wives for antenatal visits as well as their support role. They also improvise to avoid mosquito bites before bed time by putting "Audi", "akabani" and "kakubansiri" on coals of fire as the smoke emitted sedates mosquitoes so they don't bite them.

Malaria Treatment

Practices on malaria treatment include giving first aid given to malaria patients ranging from wet cloth therapy to pain killers such as panadol, headex and action to manage body temperature across centers. The use of local herbs as treatment for Malaria was reported as a growing practice across districts such as aloe Vera, "akasero" and other ready to drink herbal tonics commonly mentioned were Kazire and Tayebwa. In Arua, Hoima and Fort portal VHTs are a source of malaria drugs like Panadol and Coatem even as they are said to treat children under 5 years mainly. Coatem is believed to be the most effective drug across survey districts. Renalt, Lornat, Azithromycin, fansidar and Quinine are big in Kampala and Masaka. Chloroquine, quinine and artemether are the main malaria drugs in Arua, Hoima and Fort portal districts.

Availability of malaria Drugs in health centers

It was reported across districts that public hospitals lack malaria drugs as doctors only provide pain killers and prescriptions for patients to procure drugs from private pharmacies. This has enhanced self-medication incidences out of past experiences with Fansida and coatem coupled with incomplete dosage. Some respondents in Masaka highlighted that one would be able to get drugs if they bribed the health workers. It was highlighted in Arua, Fort portal and Hoima that VHTs dispense malaria drugs mainly to children in their communities while there was little recall of VHT activities in the central districts.

Malaria Communication

Radio, publicity Secretary or Local Council chairman, VHTS, rigs trucks, television and hospitals are the main communication avenues across districts. Communication on malaria campaign are vivid in all survey districts save for Kampala and Masaka where little memory was exhibited. They mainly prefer communication in the local languages as these are clearly understood even as they embrace the cosmopolitan reality of their environment to adopt some English communication messages for all to understand.

Conclusion/Recommendation: In general, most people had fair knowledge about malaria prevention and control. Most of the respondents see malaria as a threat to their lives and community and majority had poor practices towards malaria prevention and control. Therefore, interventions aimed at social and behaviour change are necessary to address the gaps highlighted by the study.

- a. Although knowledge about malaria prevention and control was generally fair, it did not translate into good practice behaviours for some respondents. Therefore, public education is necessary to address the few but highly negative-impact knowledge gaps highlighted by the study. For example, some residents thought that there are no mosquitoes in their area and that sleeping under a mosquito net is not important while others were using fans to protect themselves against mosquitoes.
- b. There is need to raise awareness and also educate all women of child-bearing age about preventing malaria during pregnancy. Although respondents from the women FGD said that it was important for a pregnant woman to go for ANC, they were not aware of preventive treatment for malaria during pregnancy.
- c. Work with community leaders and influencers to reignite communal work spirit (gwanga mujje) with the old day approach of “mayumba kuumi “. This gazettes small manageable communities of 10 households to supervise and nature a hygienic and mosquito free environment at household and eventually individual level.

- d. Revisit mosquito net distribution program channels to include other community avenues such as places of worship and women groupings and schools for inclusivity of all. It was reported that some people were denied access to mosquito nets due to lack of national IDs yet other local leaders are said to be discriminative and corrupt even to a level of selling the net at a fee of 5000 shillings.
- e. Establish communal mosquito net insecticide centers where communities can take their long lasting nets to be re drugged.
- f. Make malaria communication less serious but more fun to impact. Sports, comedy, music are avenues to explore.
- g. Empower VHTs and local leaders with skills for continuous sensitization of communities on malaria control and treatment
- h. While communication about malaria prevention and control was mainly through health workers there is need to promote other communication channels and strengthen them to deliver messages about malaria. Other channels may include radio, TV, posters, internet/ social media, road shows, newspapers etc. Use of the preferred local languages of the target audience is important in ensuring that they understand the messages communicated to them about malaria since many of them may not understand English well.
- i. 47% of the respondents said that they do not sleep under mosquito nets because they do not have the money to buy them. There is need for government to provide free mosquito nets to residents of the five MAPD regions as well as provide them with information on income generating projects/activities to enable residents fight poverty and its effect on their health. Interventions could be as simple as teaching residents how to create a village savings and loan scheme. Equipping residents with basic financial literacy and saving skills will go a long way in promoting good behaviours towards malaria prevention and control.

Operational Definitions

There are a number of operational definitions that frame and help guide this research. These include:

Knowledge of malaria: The ability of a person to have correct understanding of malaria in terms of causative agent, mode of transmission, signs and symptoms, treatment and prevention.

Attitudes towards malaria: Beliefs on susceptibility, seriousness and threat of malaria.

Practice of malaria prevention: Routine activities and actions of individual or group for prevention of malaria. These include the use of insecticide treated mosquito nets, using insecticides to spray and control/clear mosquito breeding places.

Community: refers to a group of people living in a particular area and having shared values, cultural patterns, and social problems.

Malaria management: refers to the whole process of recognition of the causes, symptoms and transmission of malaria and seeking health care for its treatment promptly.

Malaria control: is a process that requires eradicating the carrier mosquito or reducing man-vector contact so as to cut in the life –cycle of the parasite.

1.0 Introduction

With a national average of six malaria episodes per person a year, malaria is the leading cause of illness and death in Uganda, accounting for 25-40 percent of outpatient attendance and 20 percent of in-patient admissions¹. Malaria is responsible for killing approximately 70,000 to 110,000 people annually in Uganda, and representing half of the country's disease burden. 100 percent of the population is at risk of malaria, while 63% percent lives in areas with high transmission levels and 25% percent are exposed to moderate transmission.¹

Uganda is at a critical stage in its fight against malaria. Completion of the nationwide universal long-lasting insecticidal net (LLIN) distribution in August 2014 marked a significant milestone for the Government of Uganda (GOU) towards reducing malaria morbidity and mortality. Progress over the past 5 years includes a 55% reduction in malaria prevalence (MIS 2014), renewed focus on malaria in pregnancy (MIP), increased parasite-based diagnosis, roll-out of integrated community case management (iCCM), and increased availability of first-line drugs for uncomplicated and severe malaria. Yet these gains remain fragile, requiring collaborative support for the National Malaria Control Program (NMCP), districts and communities to ensure recent strides lead to sustained achievements in malaria control.

USAID's Malaria Action Program for Districts (herein referred to as MAPD or the project) is leading the President's Malaria Initiative's support to the Government of Uganda's National Malaria Reduction Strategic Plan, working alongside the National Malaria Control Program (NMCP) and District Health Management Teams (DHMTs) in 47 focus districts of Uganda, to build on and sustain recent advances. The project is a 5 year programme being implemented by Malaria Consortium in partnership with Jhpiego, Banyan Global, Communication for Development Foundation Uganda (CDFU), Deloitte Uganda and Infectious Diseases Institute (IDI). It supports implementation of results-oriented and field-tested strategies which, foster an enabling environment for this district-led program to further consolidate gains to reduce malaria burden. The project mainstreams gender and youth, and has a focus on social behavior change.²

The programmes target groups are children under five, youth (aged 18 to 30), pregnant women and women of childbearing age. Special emphasis is placed on innovative social and behaviour change

¹ Chase Malaria: Social and Behavior Change Communication Campaign 2017

²<https://www.malariaconsortium.org/projects/malaria-action-program-for-districts/more>

communication approaches to reach all targeted communities with efficient messages. Following current national policies, guidelines and international practices, the programme will work alongside the National Malaria Control Programme and the district health management teams to:

1. Improve malaria prevention in the communities by supporting malaria in pregnancy services at health facilities and increasing access to long lasting insecticidal mosquito nets
2. Improve health workers' diagnosis and treatment practices to provide quality services to patients
3. Improve the capacity of the National Malaria Control Programme and the district health management teams to plan, manage and sustain effective malaria control activities³

The goal of the project is to improve the health status of the Ugandan population by reducing childhood and maternal morbidity and mortality due to Malaria. To achieve this goal, the project is focusing on three specific objectives:

1. Effective malaria prevention programs implemented in support of the National Malaria Control Strategy;
2. Effective malaria diagnosis and treatment activities implemented in support of the National Malaria Strategy; and
3. Build capacity of NMCP, RPMTs and DHMTs to effectively manage and sustain malaria activities.

USAID's Malaria Action Program for Districts developed a multi-pronged SBCC campaign based on collaboration with the Ministry of Health (MOH) and Communication for Health Communities project (CHC), and insights into community drivers of change through its contextual analysis of districts. The campaigns' goal is to build individual, household, community and districts capacity (willingness and ability) to stop malaria deaths and reduce malaria morbidity. The primary audience are caretakers of children under 5 years, pregnant women and health workers. In order to motivate the primary audience to adopt malaria prevention behaviours a district focused and phased campaign was adopted, focusing first on caretakers of children under 5 and then expanding to include pregnant women and health workers in an evidence based and phased approach.

³ Ibid

The Chase Malaria Campaign Phase 3. Diagnosis and treatment

The theme for the 3rd phase of the campaign is diagnosis and treatment and the Communication Objectives of this phase include the following.

- Increase the proportion of pregnant women who:
- Know the dangers of having malaria during their pregnancy
- Know how to prevent malaria during their pregnancy
- Feel that malaria in pregnancy is dangerous

The Desired Behaviors for this phase included

- Go for at least four ANC visits during pregnancy
- Receive at least two doses of SP/Fansidar during ANC visits
- Sleep under a mosquito net every night
- Encourage other pregnant women to go for IPTp twice during pregnancy

The campaign runs on Radio and TV where 30 second malaria “moments” (tips/spots) are run at the same time daily, with a new tip every week (e.g. every day at 8pm as one is getting ready for bed), interactive radio programs.

Key Messages

- Visit a health facility within 24 hours of onset of a fever.
- Not every fever is malaria. Make sure you visit the clinic and demand for malaria test before you are (or your child is) treated.
- A child can die of malaria if not treated early and with the proper drugs. It is important to know the signs of malaria in children so that you can get them the proper treatment before it is too late.
- The signs of malaria in children are fever, restlessness, general weakness and failure to breastfeed or eat food.
- If your child has any of these signs, they may have malaria. All cases of malaria should be treated within 24 hours.
- The proper treatment for malaria is ACTs, ACTs can be found at all health facilities, and from trained community drug distributors.
- Children are given different doses of ACTs depending on their age. Your community medicine distributor, the pharmacist, or health worker will know the correct dose.
- Children under four months should not take ACTs. Take them to the health center immediately for medical care.

- It is important that you help your child finish the full treatment as instructed, even if he or she is feeling better. Your child is likely to become sick again if he or she does not complete the dose or does not take it correctly, and the medicine may no longer work.
- Herbs, traditional medicines, and self-treatment with Chloroquine are not effective for treating malaria.

1.4 Problem Statement

Several malaria initiatives have been implemented including integrated vector control through selective spraying of residual insecticides, use of insecticide treated mosquito nets and efforts to implement improved diagnosis. However, provision of diagnosis, treatment and preventive tools are not enough to combat the disease without empowering target populations with the requisite information to change risk behavior. MAPD's SBCC integrated campaign is using mass media, community and interpersonal channels to deliver malaria messaging on Insecticide Treated Nets (ITNs), malaria testing, timely treatment and prevention of malaria during pregnancy to the target populations. There is need to assess the current knowledge, attitudes and practices of malaria prevention and control by key target audience in the five MAPD regions.

1.5 General Objective

The general objective of this assignment is to assess the current knowledge, attitudes and practices of malaria prevention and control by key target audience in the five MAPD regions.

1.5.1 Specific Objectives:

The following were the specific objectives of the dipstick study

1. Assess changes in knowledge attitudes and practices of malaria control by the target audience since the last dipstick.
2. Understand changes in environment of the target audience concerning malaria control
3. Identify opportunities for behaviour change among target audience
4. Document things that can motivate the target audience to change behaviours concerning malaria prevention and treatment as individuals, household and community.
5. Profile the respective target audience for the program

6. Gather suggestions on traditional and emerging communication channels that can be used for respective target audiences to motivate them to change, their respective coverage of target population (geographic coverage and audience reach)
7. Asses the different communication messages that the respective audiences trust and would be able to motivate them to change their behaviours

1.6 Expected outputs/deliverables

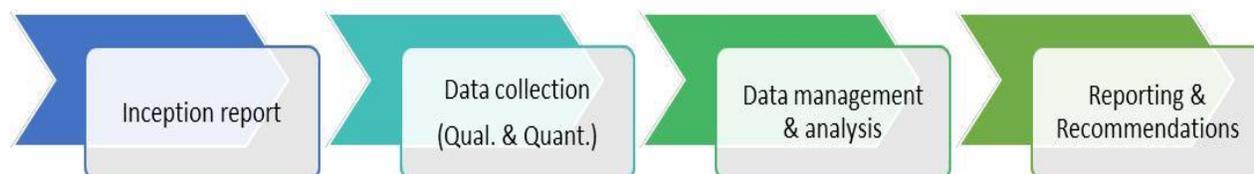
- a) An inception report to demonstrate understanding of the assignment.
- b) Quantitative and qualitative data collection tools that will be used to collect data
- c) Draft report
- d) A final report

2.0 Approach and Methodology to the assignment

The research adopted both qualitative and quantitative methods of data collection in addition to literature review of relevant documents. SYNC reviewed various documents namely; baseline reports, previous dipstick assessment reports, any other relevant documents on malaria prevention and control for purposes of thorough contextualization of the project subject matter and comparison and tracking changes in the malaria prevention and control by MAPD. This cross-sectional study involving the use of varied methodologies and data sources will help ensure more accuracy and stronger research outcomes by triangulating data from different methods.

2.1 Approach and Methodology

Figure 1: The Chronology of methodologies as shown below



2.2 Quantitative Survey

2.2.1 Research Design

This study was conducted to assess the changes in knowledge, attitudes and practices of Malaria control by the target audiences since the last dipstick in the five MAPD regions.

2.2..2 Study Design

This was a cross-sectional study that used both quantitative and qualitative research methods, based on a Priority-Sequence model suggested by Morgan (1998). Specifically, the main study was quantitative but with preliminary qualitative methods incorporated. Quantitative methods involved use of interviewer-administered structured questionnaires while the qualitative methods involved use of focus group discussions (FGDs) and key informant interviews (KIIs) with selected 'gate keepers' to document gains made by the SBCC campaign so far.

2.3 Target Respondents

The survey sought to collect information from the audiences potentially exposed to the communication activities carried out by Malaria Action Program for Districts and Ministry of Health. The target population in this study included residents of Kampala, Masaka, Hoima, Kabarole and Arua. The respondents who have been living in these areas for at least 6 months and are at least 18 years old.

2.4 Sample size distribution

Quantitative Survey Sample Size and Study Site

A sample size of 536 interviews was selected with an estimated sample size of 110 respondents in each of the project regions (Kampala, Masaka, Hoima, Kabarole and Arua). We targeted males and females aged 18 years and above at household level.

The researcher compiled a household list for the entire area selected with the help of local council members. This list was used to randomly assign households to different enumerators for data collection process. At each household, the head of household (either male or female) was interviewed. In the event that the head of household was away, an adult (18 years or older) was selected for the interview.

2.5 Qualitative Survey

2.5.1 Research Design

The qualitative research involved use of focus group discussions (FGDs) and key informant interviews (KIIs) with selected 'gate keepers' to document preferred messages and reasons of preference at community level. It was envisaged that the research findings would provide an insight into the community perceptions about messages aired under the MAPD Campaign. To supplement quantitative findings, participants in qualitative research were asked for their perceptions on similar topics covered in the quantitative questionnaire.

Qualitative Survey Sample Size

1. Focus Group Discussions

The study conducted 10 FGDs of 10 people each. An equal number of FGD participants was selected from the target areas. We purposively included pregnant women and mothers with children under 5 years (because they are the most vulnerable to malaria). Male groups included household heads (because they use their financial power to influence decisions on malaria control and prevention).

Table I: Distribution of FGDs by region

Study Districts	Group Segments	No. of FGDs
Kampala	1 Male group of house hold heads aged 18 years and above 1 Female group of pregnant women and mothers with children aged 18 years and above	2
Masaka	1 Male group of house hold heads aged 18 years and above 1 Female group of pregnant women and mothers with children aged 18 years and above	2
Kabarole	1 Male group of house hold heads aged 18 years and above 1 Female group of pregnant women and mothers with children aged 18 years and above	2
Hoima	1 Male group of house hold heads aged 18 years and above 1 Female group of pregnant women and mothers with children aged 18 years and above	2
Arua	1 Male group of house hold heads aged 18 years and above 1 Female group of pregnant women and mothers with children aged 18 years and above	2
Total		10

In depth interviews with Key Informants:

To complement the survey, we conducted 7 Key Informant Interviews (KII). These KIIs helped the research team clarify complex phenomena like behaviours and motivations that emerged during the survey. These KIIs will also be very vital because this target group shape opinion and are change agents in society (Opinion Leaders) and they offer malaria treatment and advice on malaria prevention and control in every district of the study (Health Workers).

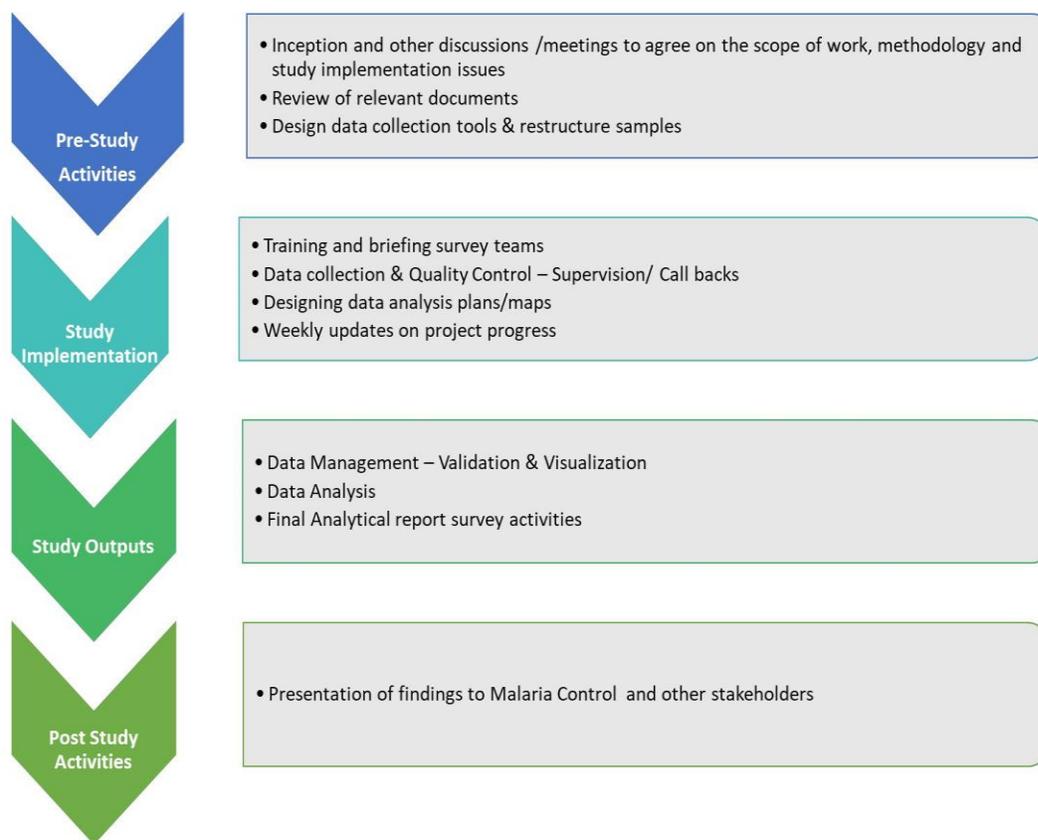
2.6 Study tools

A standardized questionnaire and guides were developed or adopted from earlier studies related to malaria. The questions helped gain insight into the respondents' knowledge, attitudes and practices towards malaria. The questionnaire also covered demographic characteristics of respondents as well as an indication of their financial wellbeing using either the LSM structure or the Progress out of Poverty index (PPI). The questionnaire was translated into relevant languages using professional linguists and pre-tested to ensure that it maintains its original meaning.

2.7 Project implementation Plan

Figure 2 Project Implementation Plan

To address the objectives of the study, SYNC followed the project cycle below. Each component of the proposed cycle is discussed in detail in the sections that follow.



3.0 Fieldwork Management

3.1 Recruitment of field teams

For Qualitative Face to face interviews, we recruited field interviewers that conduct interviews regularly and have been trained on research methods and data collection. The project team was drawn from this database. The team selection was based on past experience in carrying out similar surveys, track record of performance in past project and ability to work in any setting (rural / urban). While for the Qualitative phase, the team was different because they are a special category and require special skills e.g. Group moderation, note taking in FGDs, Transcribing etc. All short listed interviewers were screened to ensure they meet project specifications. The exercise was carried out at least one week before the training.

We selected interviewers based on the following criteria;

- a) Minimum age of 25 years
- b) Minimum education of post high school qualification
- c) Local language proficiency to enable interviewing in vernacular
- d) Track record as a good interviewer in similar projects that SYNC has undertaken in the past.
- e) Of high integrity and honesty
- f) Can use both Paper and Mobile data collection methodology

3.2 Training of field teams

The project team was taken through a thorough training to understand the objectives of the survey, questionnaire and methodology of data collection. The training was conducted in English. The objectives of the briefing prepared the team to understand the survey, the instrument and how to administer the instrument in the field. The briefing covered the following:

- a) Survey objectives and expected output
- b) Overview of the target respondents
- c) Working with local government authorities and respect for respondents
- d) Respondent substitution rules
- e) How to administer each question in the questionnaire?
- f) Potential challenges and how to address them (techniques of avoiding non responses in the questionnaire)
- g) Dos and don'ts of the research project.
- h) Interviewer bias
- i) Editing of questionnaire on the spot

- j) Evaluation of participants
- k) Codes of behaviour in the field
- l) Role of the supervisor and back checkers

3.3 Organization of Fieldwork

In each district a team comprising of 5 enumerators and 1 team leader was deployed. The team leader was responsible for allocating work, conducting quality control measures and guiding the team.

3.4 Quality Control and Checks

Supervision of field staff: SYNC is strict and has built a culture based on integrity. All interviewers worked in teams of five, supervised by one team leader. The team leader was responsible for checking all questionnaires while in the field. Any issues needing clarifications were corrected by returning to the respondent. Since we adopted the use of mobile data collection, the team leaders ensured that all complete interviews were immediately uploaded to the SYNC servers for the data manager to perform quality checks

Supervisors accompanied/witnessed 15% of all interviews carried out.

A minimum 20% of all interviews conducted by each interviewer were 'back-checked' by the team leader or field supervisor through telephonic calls so as to ascertain the correctness of particular answers provided.

Pre-testing and dummy analysis: The questionnaire was piloted before being used for the survey and dummy analysis was done.

Questionnaire Design: The following quality checks and procedures were followed before the questionnaire scripts were signed off for data collection

Test mode script:

Prior to the actual data collection, the questionnaire was scripted on to the mobile phone in a pre-take off mode called the test mode. This was used to ensure that any changes suggested were immediately captured and incorporated into the script. It also allowed for any test run of the script not to be mistaken for actual data collection

Production mode script

When all the changes had been agreed upon, the scripted was then switched to the actual data collection mode called the production mode. With this mode, all entries were captured by SYNC' servers as survey data and therefore the data manager observed every piece of data with great scrutiny

The data manager run data checks on a daily basis to ensure that all consistency and quality checks had been followed during the interview process. This exercise went on throughout the data collection exercise

3.5 Data Management Process & Analysis

Continuous data review: Having adopted the Mobile Data collection (MDC) technique, data was reviewed on a daily basis as the data manager was able to identify any issues as soon as the enumerators uploaded an interview to the server. This helped to check if questionnaires were being filled well and if all interviewers had understood the survey. Data was exported to SPSS for cleaning and analysis.

Data coding: All open end responses were downloaded and coded for analysis. The data manager worked together with the coding clerk to develop the coding frames under the guidance of the project manager. This process required that we pick a random sample of at least 15% responses and compare it with the code list.

4.0 Findings

This section presents findings including demographic characteristics of respondents, exposure to campaign messages, channels and dosage of exposure to the ‘protect your dreams’ campaign that has been up and running throughout the entire 47 project focus districts. The communication channels and approaches under the campaign include Radio and TV, Community Dialogues (CD), Experiential Community Mobilization and counseling at health facilities.

4.1 Response rate

Table 1 below summarizes the response rate of the survey. Overall, interviews were completed for 536 respondents out of an expected 550 resulting in a response rate of 97.5%.

Table 2: Response rate

Questionnaires

Interviews	Number
Expected interviews	550
Achieved interview	536
Response rate	97.5%

4.2 Profile of the respective target audiences for the program

This section shows the different demographic characteristics of the respondents.

4.2.1 Demographic characteristics of respondents

Overall, 536 respondents were included in the final analysis of the survey, representing the five project regions. Overall, 36% of the respondents were male and 64% female, 69% were aged 18 to 35 years, 24% between 36 to 55 years and 5% were 56 and above years and 2% could not tell their age. By education status, about 42% had secondary education, 30% had primary education, 21% had university or tertiary education, 5% had no formal education and 2% did not disclose their education status. By marital status, 61% were married, 23% were single, 6% were separated 3% were divorced, 3% were single, 2% were cohabiting and 2% did not disclose their marital status. The distribution of respondents by other demographic characteristics is summarized in table below.

Table 3: Demographic characteristics of respondents

Demographic characteristics	Percent (%)	Number	Demographic characteristics	Percent (%)	Number
Sex			Age group		
Male	36	193	18-35	69	370
Female	64	343	36-55	24	127
Marital Status			56+	5	29
Married	61	327	Education		
Single	23	123	Primary	30	161
Separated	6	32	Secondary	42	225
Divorced	3	16	University or Tertiary	21	113
Widowed	3	16	No Formal Education	5	27
Cohabiting	2	11	Occupation		
Household income UGX			Business Owners	30	161
100,000- 200,000	25	134	Unemployed	14	75
200001-300,000	22	118	Farmer	14	75
Below 100,000	19	102	Professionals	12	64
300001-400,000	13	70	Unskilled laborers	8	43
500,001 and above	8	43	Student	8	43
400,001-500,000	7	38	Retired	2	11
Unknown	6	32	Clerical workers	2	11
Region			Others	10	54
Midwest Hoima	19.6	105	Total	100	536
Midwest Kabarole	19.8	106			
West Nile	20.5	110			
Central Kampala	20.1	108			
Central Masaka	20	107			

The dipstick survey conducted 10 focus group discussions and 9 key informant interviews with implementers at health facility and community levels to understand various issues.

4.3 Knowledge, attitudes and practices of Malaria control.

Knowledge: Across survey districts there is high awareness of malaria transmission. Respondents are aware that mosquito bites, stagnant water and bushes **around** homes are breeding grounds for mosquitoes. They are also aware that sharing beddings with infected people, walking in the rain and using unhygienic environments like dirty toilets do not cause malaria.

The effects of malaria in survey districts is deep ranging from mental disability, retardation, still births in expectant women, death, poverty due to high cost of medication

"It leads to death, poverty, sorrow and there is no peace in the family" **Arua Female**

"Malaria has caused retardation among many children." **Fort portal Male**

"Reduction in incomes since there is constant spending in buying medicines to treat malaria" **Hoima Male**

"There have been cases of mental disability" **Kampala Female**

"Malaria is causing lameness among children" **Masaka Female**

There is general awareness that malaria is a killer disease which manifests in many forms such as yellow fever, brucella, typhoid and malaria caused by anopheles' mosquito.

They acknowledge that malaria requires fast action once suspected in an individual such as going to hospital for proper diagnosis and treatment, temperature and fever management.

Attitudes and Practices: There is a shift in the way people behave towards malaria. They have adopted to teachings from hospitals, radio, LC meetings, VHTs etcetera about malaria control. They practice closing windows early, checking nets for mosquitos before laying them, clearing mosquito breeding places such as bushes and stagnant water, cleaning bathrooms and toilets, boiling drinking water, covering food well, boiling meat well etcetera.

"Making sure you have removed stagnant water within the proximity of your home." **Hoima Male**

"We sleep under mosquito nets" **Fort portal Female**

"Before laying your net, first check whether there are no mosquitoes and then lay it." **Hoima Male**

"We practice closing the windows early" **Fort portal Male**

There is a shift in practices towards malaria with high mentions of self-medication attributed to the high cost of malaria drugs and lack of free drugs in public hospitals. There is also an increased use of local herbs to treat malaria across survey districts.

Price of the drug sits at the center of their malaria drug purchase criteria across districts however priority of other factors differs by center. In Masaka, expiry date, drug Effectiveness, purchase point, doctor Prescription, knowledge and past experience with the drug are key purchase factors yet Kampala considers knowledge, past experience and drug effectiveness of the drug.

“I look at the severity of the sickness, how strong the medicine is/previous experience with the medicine and then where to access the medicine from” **Hoima Male**

“The amount of money I have determines which medicines I will get.” **Arua Male**

Malaria Control in Pregnant women: Pregnant women across survey districts are considered as most at risk grouping due to reduced immunity. Pregnant women go for antenatal classes as early as 3 months. They receive anti malaria drugs and mosquito nets as well as training on ways to live healthy throughout their maternity cycle. Men who accompany their spouses are also trained on how to support their pregnant wives by reducing their workload, identifying signs of early labor and how to manage as well as malaria control.

“They usually encourage pregnant women to go for antenatal and also sleep under mosquito nets and also making sure we don’t allow stagnant water near our homes” **Masaka Male**

“Making sure we send pregnant women for antenatal so that they get sensitized on malaria control and treatment by the health workers.” **Hoima Male**

“Reminding the pregnant mothers to always spread their nets when going to sleep so that they don’t get bitten by mosquitoes” **Kampala Male**

“Whenever you go to hospital for antenatal, you are given fansidar to swallow in order to prevent you from getting malaria when the pregnancy is still at an early stage.” **Arua Female**

Malaria Control in Children: Children are another grouping categorized as most at risk when it comes to malaria infection. Malaria in children is identified by lack of appetite for feeding, short breaths, crying a lot, high body temperature, vomiting, diarrhea, general Malaise sunken yellow eyes, headache, dullness, slowness, and seizures.

“When a child is suffering from malaria, even when the baby is suckling, you feel the mouth temperature is high.” **Kampala Female**

“If it is at night, I will give Panadol, if it is during the day, I take the child to Sunrise health center” **Hoima Male**

“The baby loses appetite and is not jolly.” **Arua Female**

“When you touch them, the temperature is very high, cries a lot and you dually see the veins swelling around the head” **Masaka Female**

Unlike among adults, malaria management in children is treated as an emergency with most parents rushing them to hospital for proper diagnosis, treatment or prescription. They also give first aid in the form of cloth therapy, pain killers or local herbs to manage temperature as they plan taking to children to hospital. It was reported among the male group in Kampala that parents do not compromise children treatment nor deviate from doctor’s prescriptions unlike when treating adults.

“I first take the child for a blood test and ascertain exactly which sickness and then give medicines because you have to act fast on children” **Fort portal Female**

“I don’t risk giving anything to a child unless I have taken the child to the professional doctors to work on her.” **Kampala Male**

“There are local herbs to clean the stomach; it is prepared on top of the food and when ready, the mother chews on it and then gives the child.” **Fort Portal Male**

However, some people opt for local herbs to treat their children. It is common to find mothers treating their children with local herbs for a period of 3-4 days only resorting to hospital if symptoms persist.

“I treat my children with local herbs such as Akaseero and Aloe vera for at least 3-4 days and only take them to hospital if symptoms persist.” **Kampala Female**

“..... if local herbs can be easily got, the mother squeezes for her and she takes”

Hoima Male

Perceptions and attitudes towards malaria may determine uptake and the success of interventions. The survey provided statements to measure perceptions; with responses recorded on the Likert scale. Responses were categorized to indicate agreement with the statements. 47% respondents strongly agreed that **“Malaria is a serious and life threatening disease,”** followed by 43% who strongly agreed that **“it is important to check for an expiry date of a drug before taking it.”** The table below shows other statements about malaria that respondents agreed or disagreed with.

Table 4: Statements about malaria that respondents agreed or disagreed with

Messages	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Sure
If someone has got Malaria, people should avoid having close contact with him/her	30%	56%	10%	3%	1%
I think that one can recover spontaneously from Malaria without any treatment	24%	54%	15%	4%	2%
Malaria can be transmitted from one person to another like the common cold	15%	60%	20%	1%	4%
In my opinion, only children and pregnant women are at risk of Malaria	13%	53%	25%	8%	1%
I am sure that I can treat myself if I get Malaria	2%	29%	55%	11%	2%
I might be at a greater risk of getting Malaria if I work and sleep overnight in the garden or forest	2%	12%	58%	18%	10%
I think that Malaria is a serious and life-threatening disease	1%	3%	49%	47%	0%
I think the best way to prevent myself getting Malaria is to avoid getting mosquito bites cold	1%	5%	65%	29%	0%
I am sure that anyone can get Malaria	1%	7%	62%	29%	1%
I believe sleeping under a mosquito net during the night is one way to prevent myself getting Malaria	1%	6%	59%	33%	1%
I think that it is dangerous when Malaria medicine is not taken completely	1%	7%	51%	39%	1%
I can buy anti-Malaria drugs from the drug shop/pharmacy to treat myself when I get Malaria	1%	25%	63%	9%	3%
I think that I should go to the health centre/clinic to have my blood tested as soon as I suspect that I have suffered from Malaria	1%	3%	58%	36%	2%
I will seek for advice or treatment when I get Malaria	0%	1%	72%	25%	1%
In my opinion, it is very important to check for an expiry date of the drug before taking it	0%	0%	49%	43%	8%

Key emerging Issues

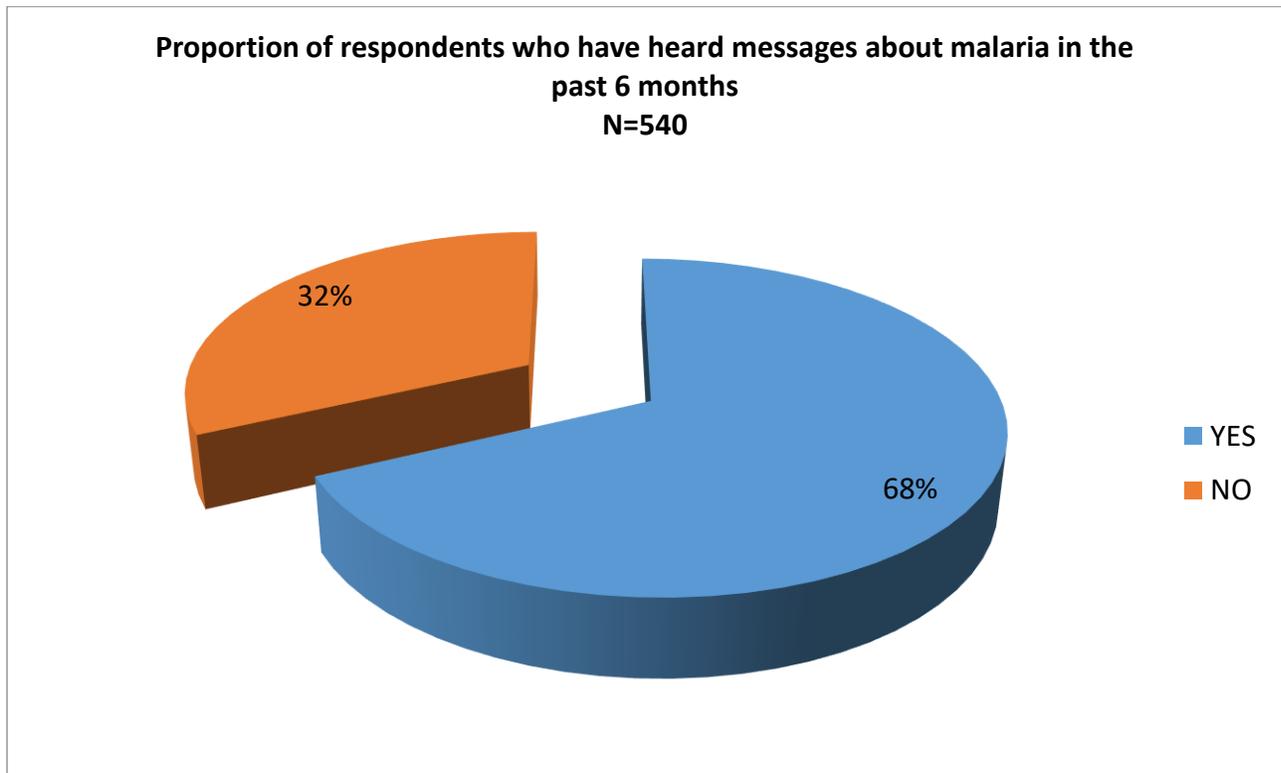
- Mosquito net distribution mismanagement ought to be revisited. It was reported that access was limited to people with national IDs and those well known to the local leaders as the rest are expected to pay up to 5000 shillings per mosquito net.

- Re-drugging of Mosquito nets; there is need for clear systems on where to access the drugs or for communal places to add insecticides into the mosquito nets.
- There is an increase in the use of herbal tonics such as Tayebwa, Kazire, aloe vera, akasero to treat malaria as a result of lack of free malaria drugs in public hospitals.\

4.3.1 Exposure to general malaria messages

The survey asked respondents of the study whether they had heard general messages about malaria in the past 6 months and overall 68% of the respondents had heard messages about malaria. These messages were from organizations like Ministry of Health National Malaria Control Program, Global Health Uganda, PACE, MACIS Uganda etc.

Figure 3: proportion of respondents who have heard messages about malaria in the past 6 months

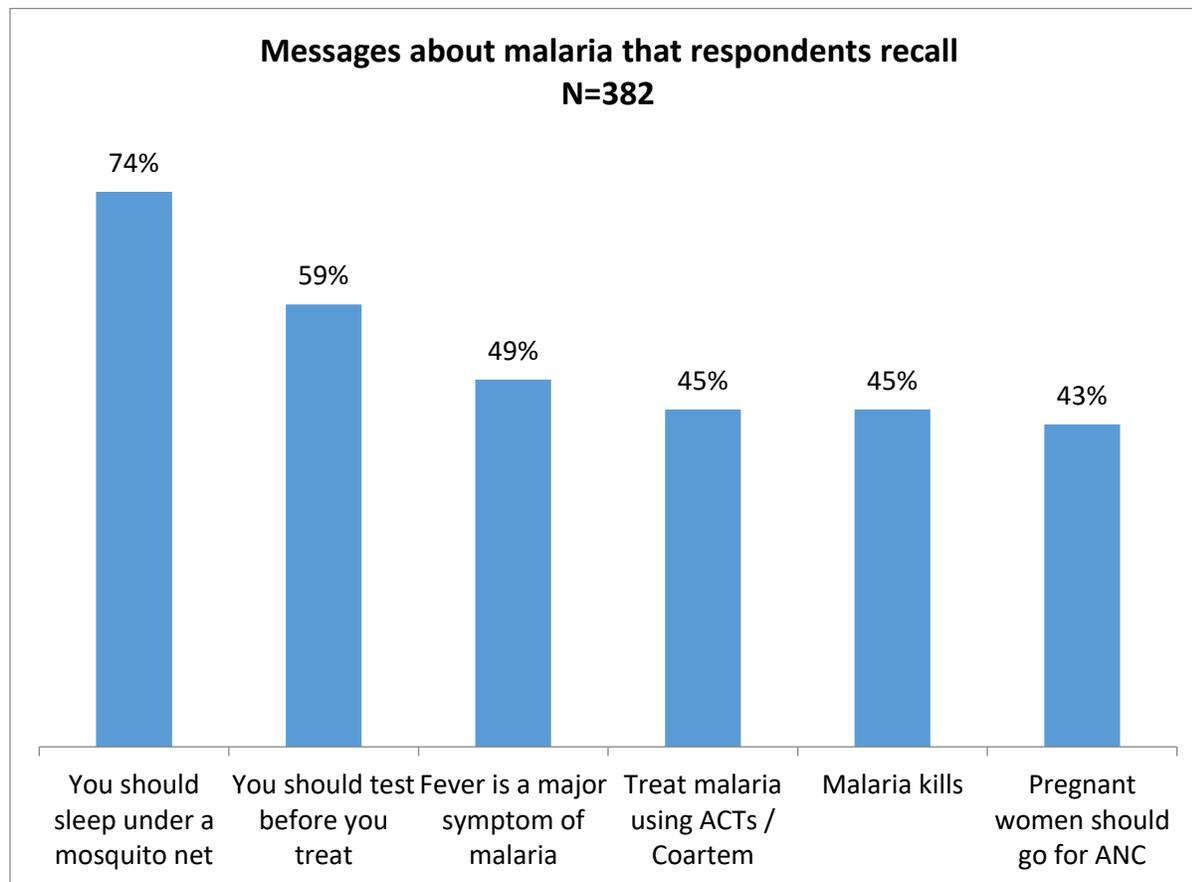


4.3.2 General messages about malaria that respondents recalled

The respondents of the survey were asked whether they recall the messages they heard about malaria in the last 6 months. Overall 74% of the respondents recalled that they should sleep under a mosquito net followed by 59% who recalled the message that said they should test

before treating malaria. The least message recalled was by 43% of the respondents who remembered that pregnant women should go for antenatal care.

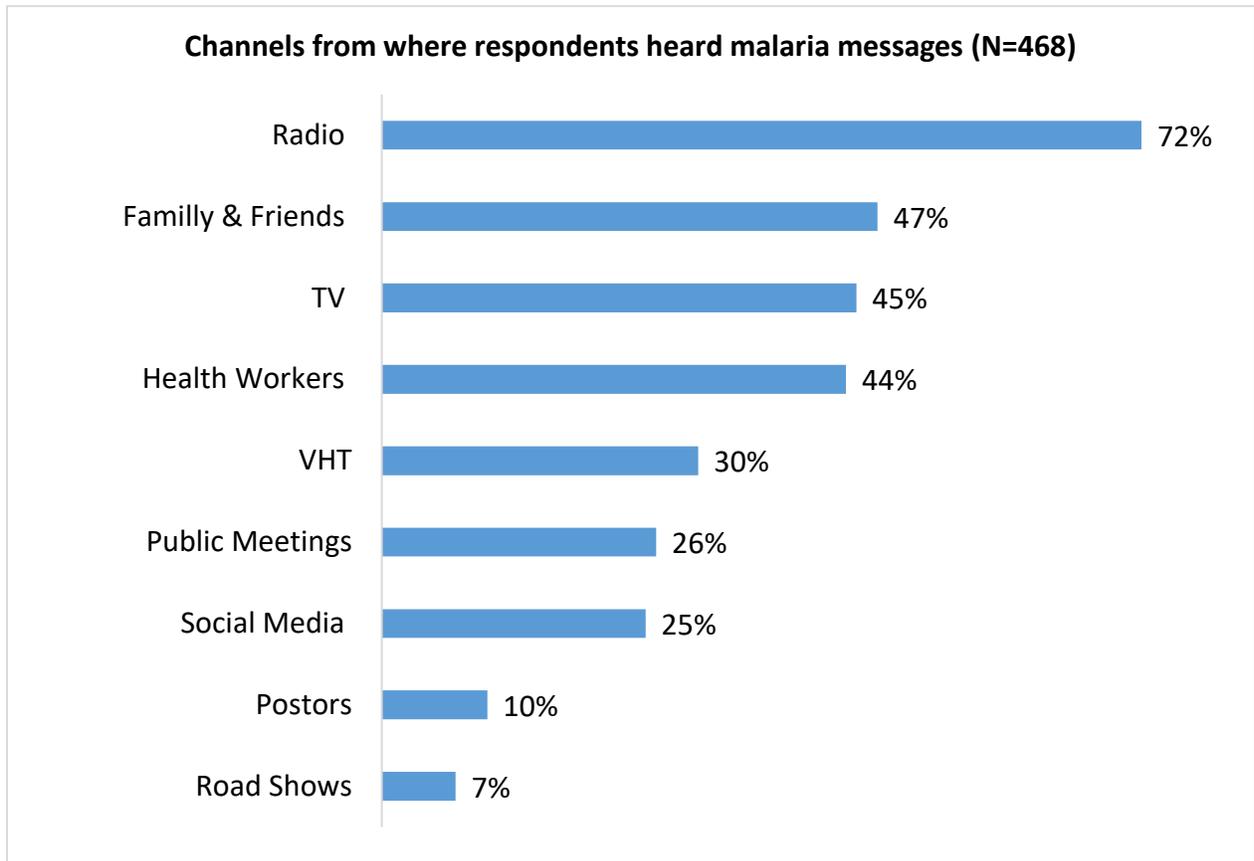
Figure 4: Messages about malaria that respondents recalled



4.3.3 Channels of exposure to general malaria messages

The channels from where respondents had heard malaria messages in the past 6 months were provided during the survey and overall 72% of the respondents had heard of malaria messages from Radio followed by 47% from Family and Friends and 45% from TV. Other channels included VHTs (30%), posters (10%), public meetings and community dialogues (26%), and road shows (7%) being the lowest.

Figure 5: Channels from where respondents heard general malaria messages



4.3.4 Exposure to the 'chase malaria' campaign

Overall, the survey discovered that there was general increase in exposure to the campaigns. As shown in table 3, exposure to the 'chase malaria' campaign has increased from 76% in March 2018 to 79% in October 2019. Although increase in exposure was consistent across all demographic characteristics, respondents who had completed primary (77%) and secondary education (76%) were less exposed compared to their counterparts with University or Tertiary education (96%). Also, respondents aged 10 to 29 years of age (81%) and 40-54 years (73%) were less exposed to the campaign in the 6 months preceding the survey compared to those aged 30-39 years (85%).

Table 5: Percent of respondents exposed to the campaign messages

Background characteristics	Oct 2017 - Dipstick		March 2018 – Dipstick		Oct 2019 - Dipstick	
	Percent Exposed	Number	Percent Exposed	Number	Percent Exposed	Number
Sex						
Male	62	246	77	282	79	193
Female	57	254	74	258	84	343
Age group						
10-29	64.4	126	79.4	126	81	370
30-39	65.2	119	82.2	129	85	127
40-54	53.9	255	70.9	285	73	29
Education						
Primary	57.6	145	74.6	131	77	161
Secondary	57.6	321	74.6	374	76	225
University or Tertiary	71.6	34	88.6	35	96	113
Region						
Midwest Hoima	54.2	99	75.2	109	87	105
Midwest Kabarole	58.3	96	73.3	105	79	106
West Nile	63	105	80	110	82	110
Central Kampala	57.5	102	74.5	110	74	108
Central Masaka	57.5	98	74.5	106	91	107
Total	59.6	500	75.6	540	79	536

4.3.5 Channels of exposure for the chase malaria campaign

Channel of exposure

Respondents exposed to the chase malaria campaign messages were asked for the channel through which they were exposed. Majority (67%) of respondents mentioned health workers as the communication channel through which they are exposed to the campaign messages. Specifically, 63% mentioned Radio, 36% mentioned TV, 30 mentioned VHTs and 12% mentioned posters as the source of exposure. Notably, a less percentage of men (66%) compared to women (68%) cited health workers as their source of exposure. On the contrary, respondents aged 36 to 55 years (66%) were less likely to have been exposed through health workers compared to their counterparts aged 18-35 years (67%) and those aged 56 years and above (81%).

Also, respondents with primary education (76%) as well as those with secondary education (70%) were more exposed to malaria messages by health workers compared to their counterparts with university or tertiary education (63%).

By region, exposure through health workers was highest in West Nile (91%) followed by Masaka (90%). Kabarole was (71%), Hoima (39%) and Kampala (32%). Exposure via radio was highest in Kabarole (78%) and Hoima (70%), then (57%) in Masaka, (52%) in West Nile and (51%) in Kampala. Exposure via TV was highest in Kampala at 59%. For further distribution of channels of exposure to the chase malaria campaign messages by background characteristics, refer to the table below.

Table 6: Channel of exposure to campaign messages

Background Characteristics	Health Worker	Radio	TV	VHT	Posters	Number
Sex						
Male	66.0	70.0	36.0	35.0	16.0	178
Female	68.0	58.0	37.0	27.0	10.0	290
Age group						
18-35	67.0	57.0	40.0	28.0	12.0	318
36-55	66.0	70.0	28.0	32.0	15.0	115
56 and above	81.0	85.0	23.0	46.0	12.0	26
Education						
Primary	76.0	66.0	24.0	35.0	12.0	147
Secondary	70.0	61.0	42.0	28.0	15.0	192
University or Tertiary	63.0	58.0	49.0	34.0	17.0	96
Region						
Midwest Hoima	39.0	73.0	15.0	8.0	0.0	92
Midwest Kabarole	71.0	78.0	38.0	37.0	14.0	100
West Nile Arua	91.0	52.0	21.0	56.0	10.0	103
Central Kampala	32.0	51.0	59.0	8.0	3.0	73
Central Masaka	90.0	57.0	51.0	31.0	31.0	100
Total	67.0	63.0	36.0	30.0	12.0	468

There is a growing use of the community “kizindalo” usually managed by the local council publicity secretary. Mobile drives, VHTS, community whatsapp groups and Facebook are some of

the emerging communication channels yet some respondents from Bwaise highlighted that text messages have been effective during political campaigns hence an avenue to consider.

Respondents from Hoima, Fort portal and Arua prefer early listening to malaria communication in the mornings 5-9am before they leave for work and evenings 8-10pm after work during the week weekends especially Sundays 4-7 pm

Respondents from central region on the other hand watch TV mainly between 7-10 pm for the news hour, sports program hours on radio have males tuned on radio while females listen to Radio between 10am -1pm on Star Fm, 9pm Simba Fm, 11pm Tiger FM, 7pm,7am Simba Fm daily

Television is the most trusted source of communication in the central region. Stations such as NTV and Bukedde TV are singled out for their explicit content; the former for English and the latter for Luganda.

“NTV because it gives instant news with all information” **Masaka Male**

“Bukedde TV is trusted for the well-articulated Luganda communication” **Kampala Male**

It is important to note that while TV cuts across gender, females in the central region however follow radio for specific programs such as Endobeso on Beat FM and Ebaluwa on Star FM while the males follow sports programs on radio.

In Fort portal and Hoima radio is the most trusted source of information across gender because it is said to be believable. There were some mentions of TV preference by some females in Fort portal alluded to the pictorial appeal while local council leaders were the other mention.

“I trust radio so much and whenever something is announced there, I take it as the truth.” **Fort portal Male**

“I choose radio because information spreads faster” **Fort portal Male**

Arua males trust churches and mosques as the best channel to disseminate information that will influence behavioral change. The females on the other hand choose local council leaders and VHTS. Other mentions include; Television, Radios, Health workers

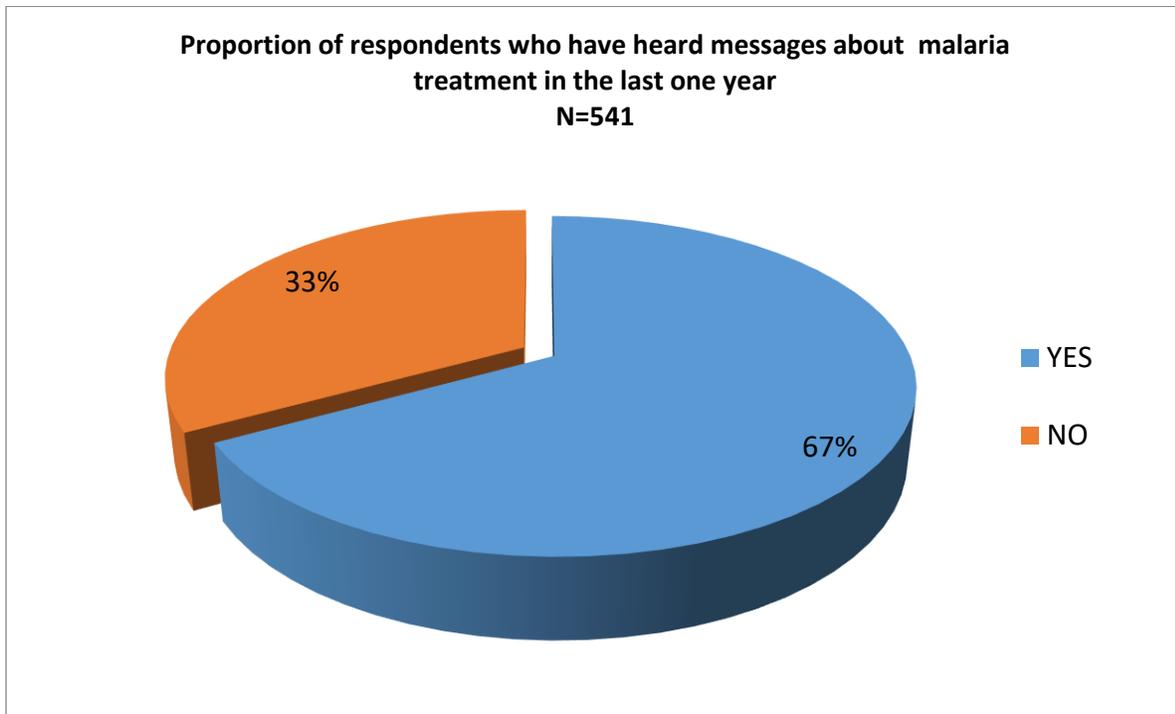
“Church announcements. Churches gather many people and it is very easy for the information to reach them.” **Arua Male**

“VHTs are near us and they can easily reach us.” **Arua Female**

4.3.6 Proportion of respondents who have heard messages about malaria treatment

The survey asked respondents of the study whether they had heard messages about malaria treatment in the last one year and overall 67% of the respondents had heard messages about malaria treatment in the last one year.

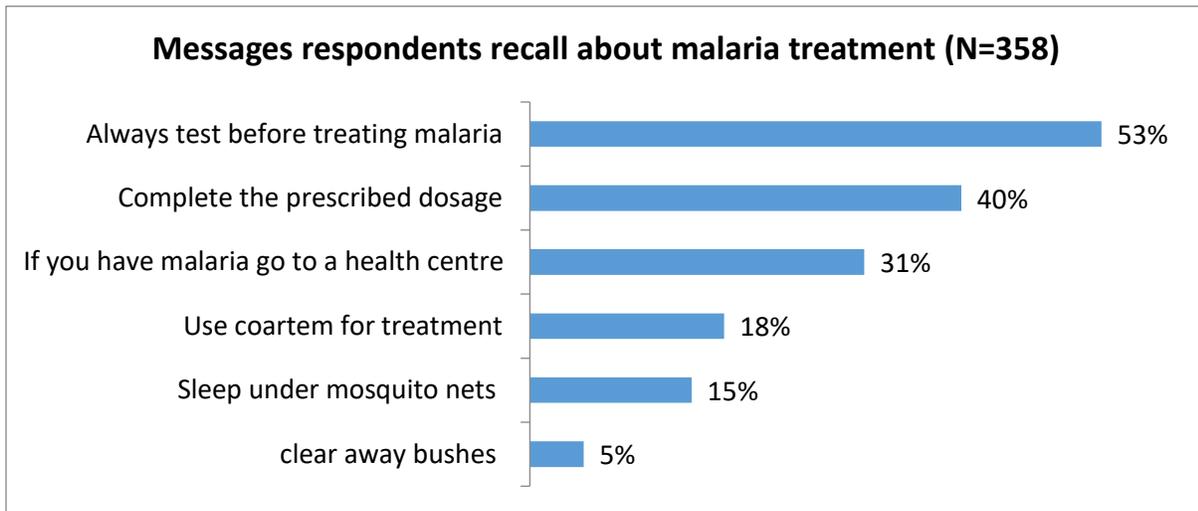
Figure 6: proportion of respondents who have heard messages about malaria treatment in the last one year



4.3.7 Messages about malaria treatment that respondents recalled

The respondents of the survey were asked whether they recall the messages they heard about malaria treatment. Overall 53% of the respondents recalled that they should always test before treating malaria. 40% recalled the message that says they should complete the prescribed dosage, 31% recalled that they should go to a health centre if they have malaria, 18% recalled that they should use coartem for treatment, 15% recalled that they should sleep under mosquito nets and 5% recalled that they should clear bushes away.

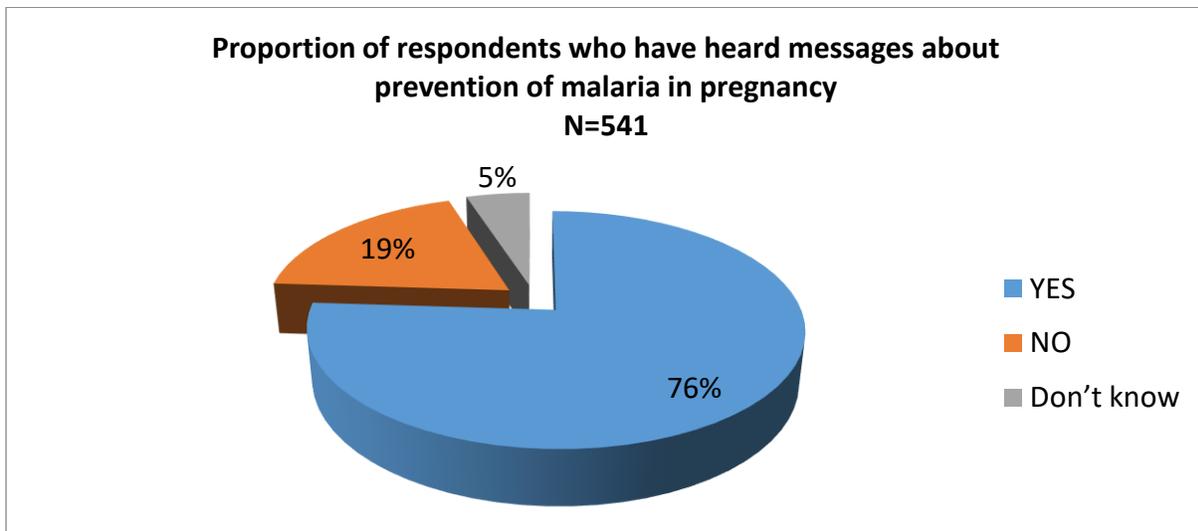
Figure 7: Messages about malaria treatment that respondents recalled



4.3.8 Proportion of respondents who have heard messages about prevention of malaria in pregnancy

The survey asked respondents of the study whether they had heard messages about prevention of malaria in pregnancy and overall 76% of the respondents had heard messages about prevention of malaria in pregnancy.

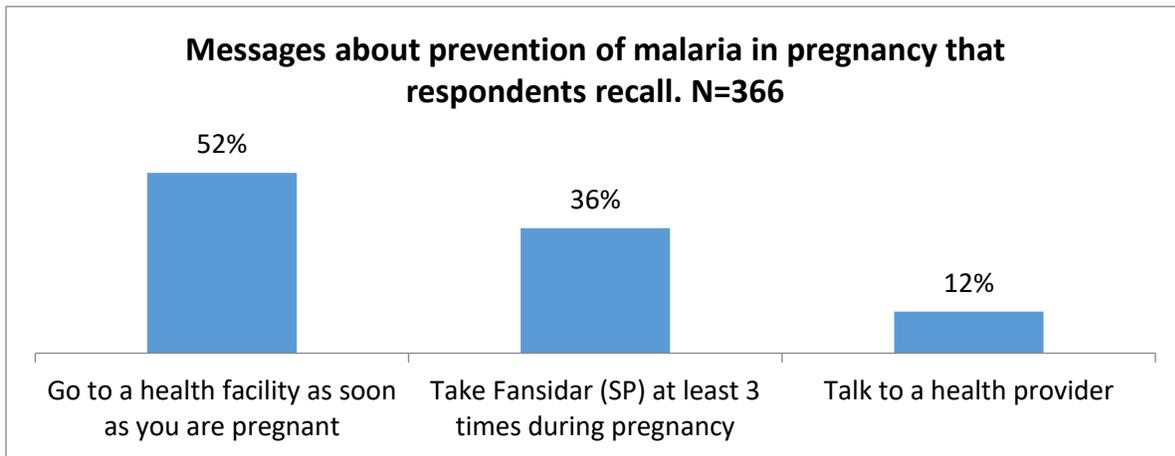
Figure 8: proportion of respondents who have heard messages about prevention of malaria in pregnancy



4.3.9 Messages about prevention of malaria in pregnancy that respondents recalled

The respondents of the survey were asked whether they recall the messages they heard about prevention of malaria in pregnancy. Overall 52% of the respondents recalled that they should go to a health facility as soon as they are pregnant followed by 36% who recalled the message that said they should take Fansidar (SP) at least three times during pregnancy. 12% recalled the message that said that they should talk to a health provider during pregnancy.

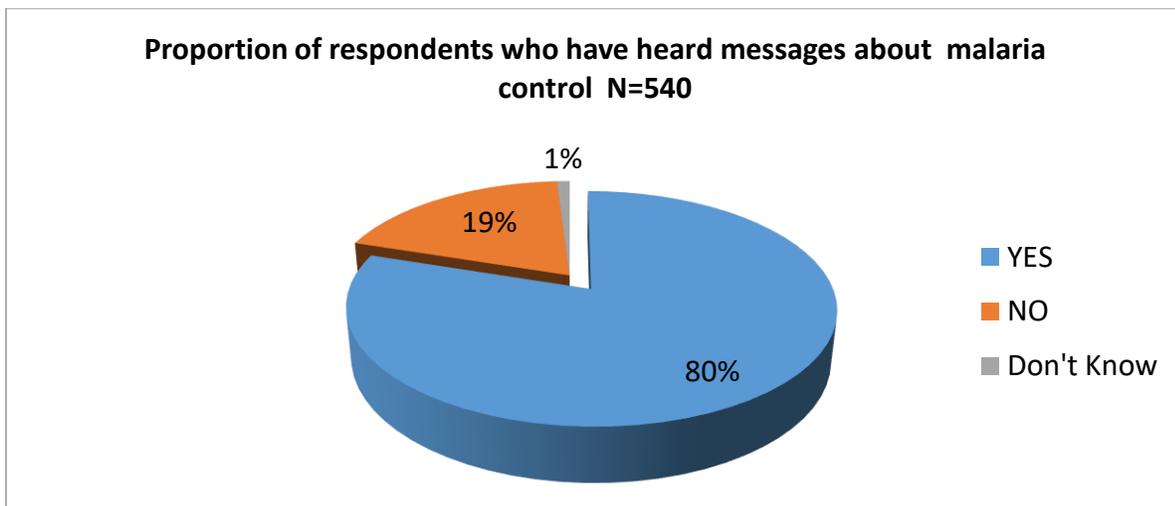
Figure 9: Messages about prevention of malaria in pregnancy that respondents recalled



4.3.10 Proportion of respondents who have heard messages about malaria control

The survey asked respondents of the study whether they had heard messages about malaria control and overall 80% of the respondents had heard messages malaria control.

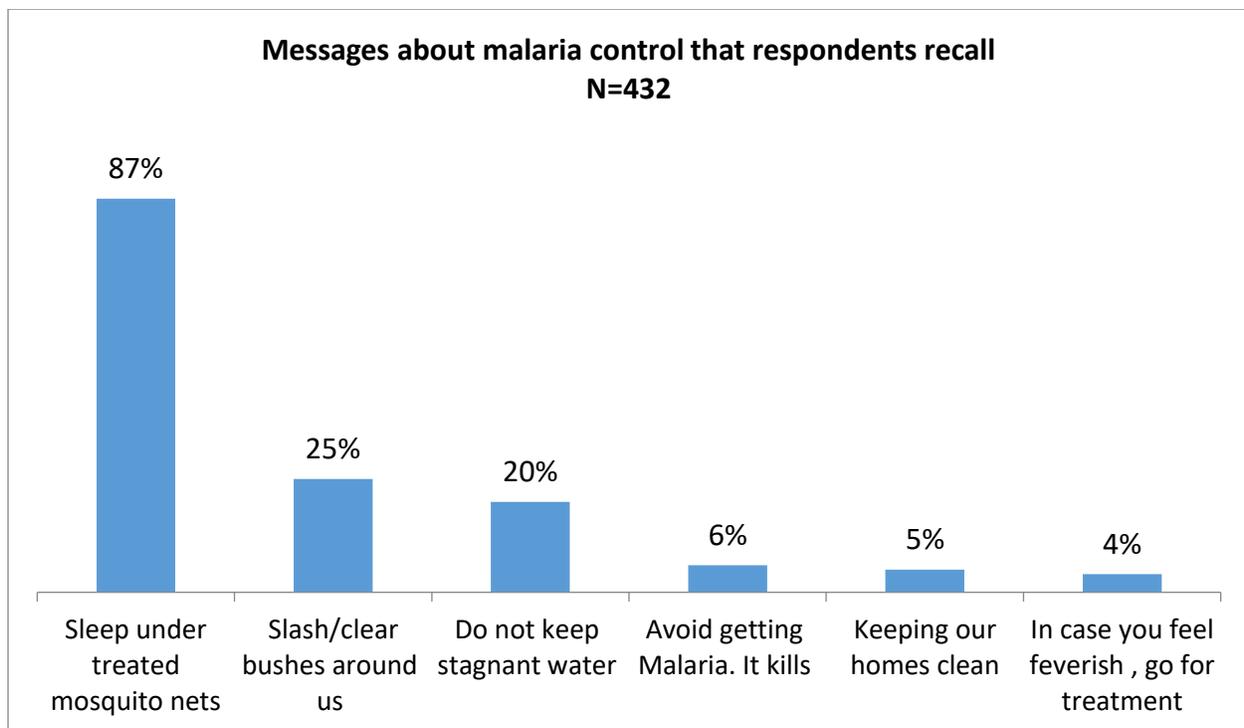
Figure 10: proportion of respondents who have heard messages about malaria control



4.3.11 Messages about malaria control that respondents recalled

The respondents of the survey were asked whether they recall the messages they heard about malaria control. Overall 87% of the respondents recalled the message that they should sleep under treated mosquito nets, 25% recalled that they should slash or clear bushes around them, 20% recalled that they should avoid keeping stagnant water and 6% recalled that they should avoid getting malaria because it kills. 5% recalled that they should keep their homes clean and 4% recalled that they should get treatment in case they feel feverish.

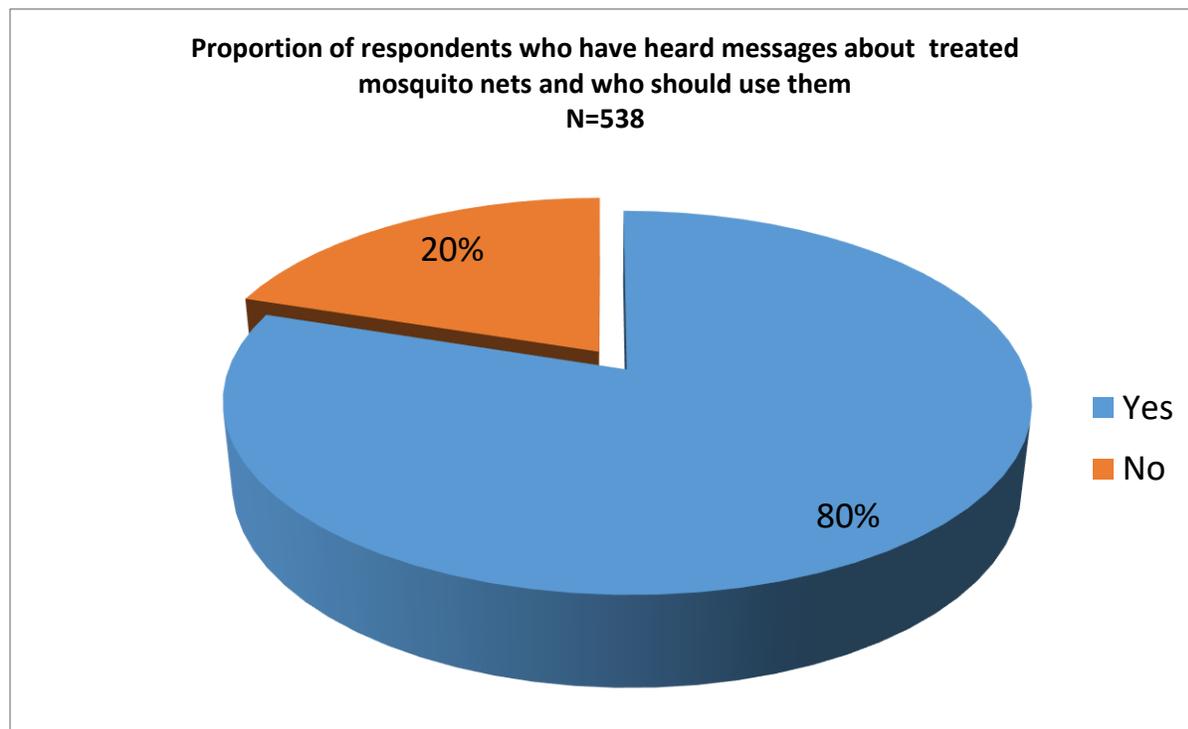
Figure 11: Messages about malaria control that respondents recalled



4.3.12 Proportion of respondents who have heard messages about treated mosquito nets and who should use them

The survey asked respondents of the study whether they had heard messages about treated mosquito nets and who should use them and overall 80% of the respondents had heard messages about treated mosquito nets and who should use them.

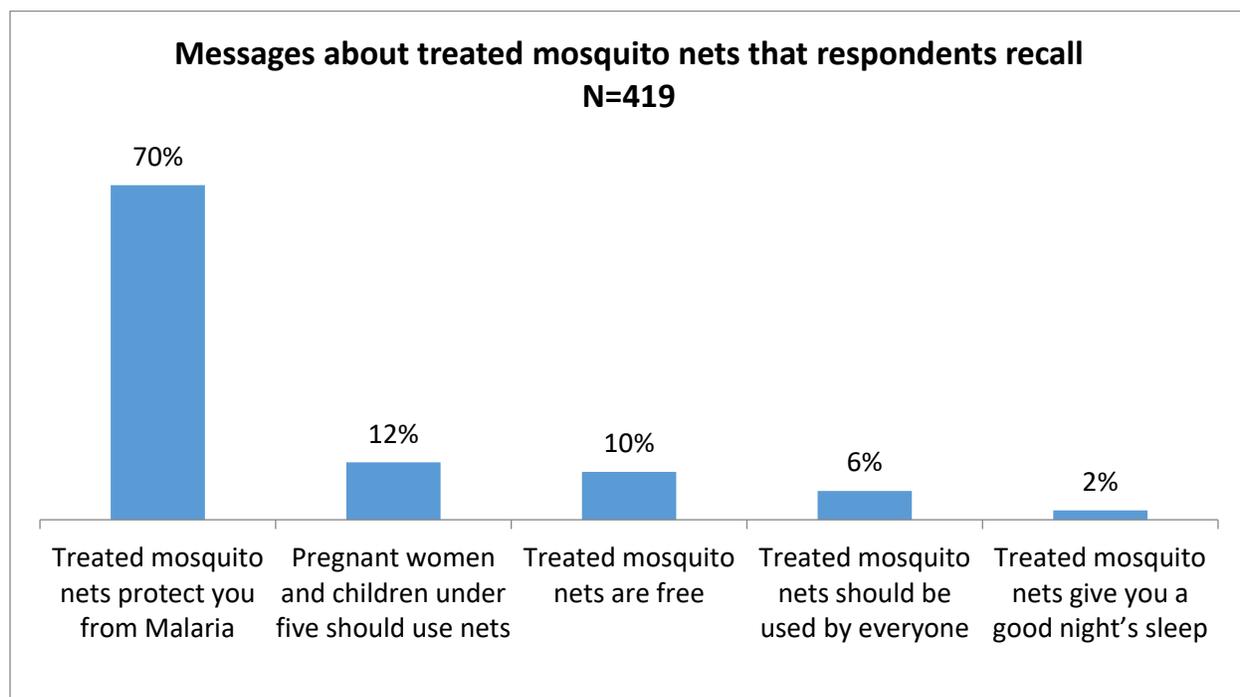
Figure 12: proportion of respondents who have heard messages about treated mosquito nets and who should use them



4.3.13 Messages about treated mosquito nets that respondents recalled

The respondents of the survey were asked whether they recall the messages they heard about treated mosquito nets. Overall 70% of the respondents recalled the message that said treated mosquito nets protect you from malaria followed by 12% who recalled the message that said pregnant women and children under five years should use nets. 10% recalled the message that said that treated mosquito nets are free, 6% recalled the message that said that treated mosquito nets should be used by everyone and 2% recalled the message that said that treated mosquito nets give you a good night's sleep.

Figure 13: Messages about treated mosquito nets that respondents recalled



4.4 Behavior change of respondents due to exposure to messages.

This section describes the number of times respondents were exposed to malaria messages and the actions they took as a result of the exposure.

4.4.1 Dosage of exposure to messages on radio per week

Among respondents exposed to campaign messages, the survey asked for the number of times that the respondents had heard the messages on radio. As shown in the table below, majority of the respondents (69%) listened to the messages 7 days per week. 14% of respondents had heard messages between 1 to 3 days per week, 18% listened for 4 to 6 days per week. Since majority of respondents are listening to messages 7 days per week there is high dosage of exposure to the messages. For respondents who listened to campaign messages on radio seven days a week, females (71%) were more likely to be exposed to messages compared to men (67%). Furthermore, for those who listened to radio campaign messages 7 days per week exposure was 81% for those aged 56 years and above, 70% in the 36-55 years' group and 68% in those aged 18-35 years. By region, exposure for seven days per week was 92% in Kampala, 89% in Hoima, 86% in Kabarole, 79% in Masaka and 73% in West Nile. For the 7 days' exposure per week, those with university or tertiary education (72%) were more exposed to radio campaign messages compared to their counterparts with primary education (69%) and secondary education (68%). Other levels of dosage of exposure by background characteristics can be seen in table 5 below.

Table 7: Dosage of exposure to messages on radio per week

Sex	% 1Day	2 Days	3 Days	4 Days	5 Days	6 Days	7 Days	Number
Male	1.0	9.0	6.0	5.0	10.0	1.0	67.0	165
Female	2.0	4.0	6.0	7.0	8.0	2.0	71.0	245
Age group								
18-35	2.0	7.0	6.0	7.0	11.0	1.0	68.0	280
36-55	1.0	6.0	6.0	7.0	8.0	3.0	70.0	100
56 and above	0.0	0.0	8.0	8.0	0.0	4.0	81.0	26
Education								
Primary	2.0	5.0	6.0	7.0	11.0	0.0	69.0	125
Secondary	1.0	6.0	6.0	7.0	9.0	2.0	68.0	179
University or Tertiary	1.0	7.0	5.0	3.0	10.0	2.0	72.0	83
Region								
Midwest Hoima	1.0	1.0	0.0	4.0	8.0	0.0	85.0	89
Midwest Kabarole	0.0	3.0	12.0	10.0	15.0	1.0	58.0	86
West Nile	0.0	1.0	3.0	10.0	8.0	1.0	77.0	73
Central Kampala	4.0	8.0	5.0	8.0	12.0	3.0	55.0	92
Central Masaka	27.8	34.2	27.8	34.2	34.2	3.8	0	79
Total	1.0	6.0	7.0	7.0	9.0	2.0	69.0	415

4.4.2 Actions taken after exposure to messages

Following exposure to the campaign, respondents were asked whether they took any actions due to the messages. Overall, 54% of respondents destroyed mosquito breeding places followed by 51% who made sure that their family was sleeping under an LTN every night. Those who listened to radio campaign messages 2 days per week (75%) destroyed mosquito breeding places more compared to their other counterparts followed by those who listened to radio campaign messages 6 days per week (60%). The table below shows other actions that respondents took as a result of being exposed to campaign messages.

Table 8: Actions taken after exposure to campaign

Actions taken	Total	No. of days respondents listened to radio messages per week						
		1	2	3	4	5	6	7
	378	2	12	14	25	21	5	223
Destroyed mosquito breeding places	54%	0%	75%	64%	56%	48%	60%	58%
Made sure my family was sleeping under an LTN every night	51%	50%	25%	57%	72%	52%	40%	50%
Bought a treated mosquito net for my family	45%	0%	58%	29%	40%	43%	40%	48%
My family or I now go for malaria test early, whenever we see malaria signs and symptoms	40%	0%	42%	29%	32%	48%	40%	45%
Used treatment to fight malaria	35%	0%	17%	29%	36%	33%	40%	40%
My family and I finish the dose of coartem when we test positive for malaria	30%	50%	17%	14%	20%	33%	20%	38%
Advised pregnant women to go to ANC to get their preventative dose of SP	28%	0%	0%	29%	28%	19%	40%	33%
Discussed with friends about the importance of sleeping under ITN every night	20%	50%	8%	14%	12%	14%	0%	23%
Educated the community about the effects of malaria	9%	0%	8%	0%	0%	5%	20%	10%

4.4.3 Preferred channel of exposure to messages

To inform future programming of the campaign, respondents were asked to provide their preferred channel for message exposure. As shown in table below, the most preferred source of exposure to malaria messages is by radio (72%), followed TV (14%), Health Workers (14%), SMS Messages (10%) and Community Leaders (7%). A less percentage of males (67%) preferred radio compared to the females (74%) and respondents aged 56 and above years (79%) preferred radio more compared to those aged 18-35 years (72%) and those aged 36-55 years (70%).

Also, respondents with university or tertiary education (85%) prefer radio more compared to their counterparts with primary education (70%) as well as those with secondary education (68%).

By region, notably, respondents from Arua (81%) preferred radio the most followed by respondents from Kampala (72%), then Kabarole (71%), Masaka (69%) and Hoima (66%). Preference for TV was highest in Hoima (45%) and Masaka (45%), followed by Arua (41%) and Kabarole (41%) and lowest in Kampala (33%). For further distribution of channels of exposure to the campaign messages by background characteristics, refer to the table below.

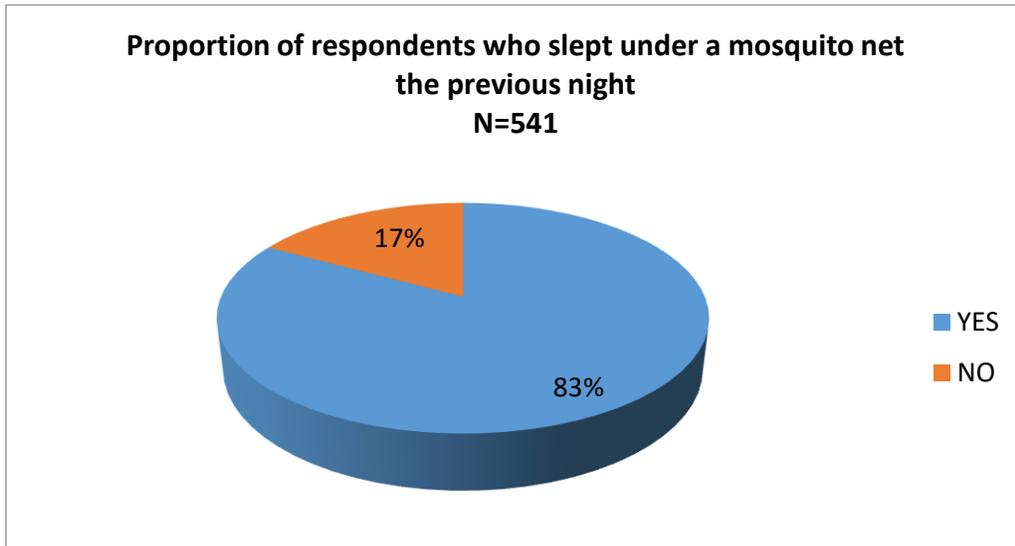
Table 9: Preferred channel of exposure to messages

Background Characteristics	Radio	TV	Health Worker	SMS Messages	Community Leader	Number
Sex						
Male	67.0	36.0	11.0	12.0	8.0	193
Female	74.0	44.0	15.0	9.0	7.0	337
Age group						
18-35	72.0	42.0	16.0	10.0	8.0	372
36-55	70.0	37.0	11.0	11.0	8.0	125
56 and above	79.0	52.0	3.0	10.0	0.0	29
Education						
Primary	70.0	39.0	10.0	12.0	6.0	160
Secondary	68.0	43.0	16.0	10.0	8.0	224
University or Tertiary	85.0	48.0	9.0	6.0	5.0	113
Region						
Midwest Hoima	66.0	45.0	14.0	11.0	5.0	103
Midwest Kabarole	71.0	41.0	19.0	10.0	6.0	108
West Nile Arua	81.0	41.0	14.0	11.0	4.0	109
Central Kampala	72.0	33.0	14.0	11.0	11.0	108
Central Masaka	69.0	45.0	10.0	6.0	9.0	108
Total	72.0	41.0	14.0	10.0	7.0	536

4.4.4 Usage of mosquito nets

According to the figure 9 below, 83% of the respondents in this survey slept under a mosquito net the previous night.

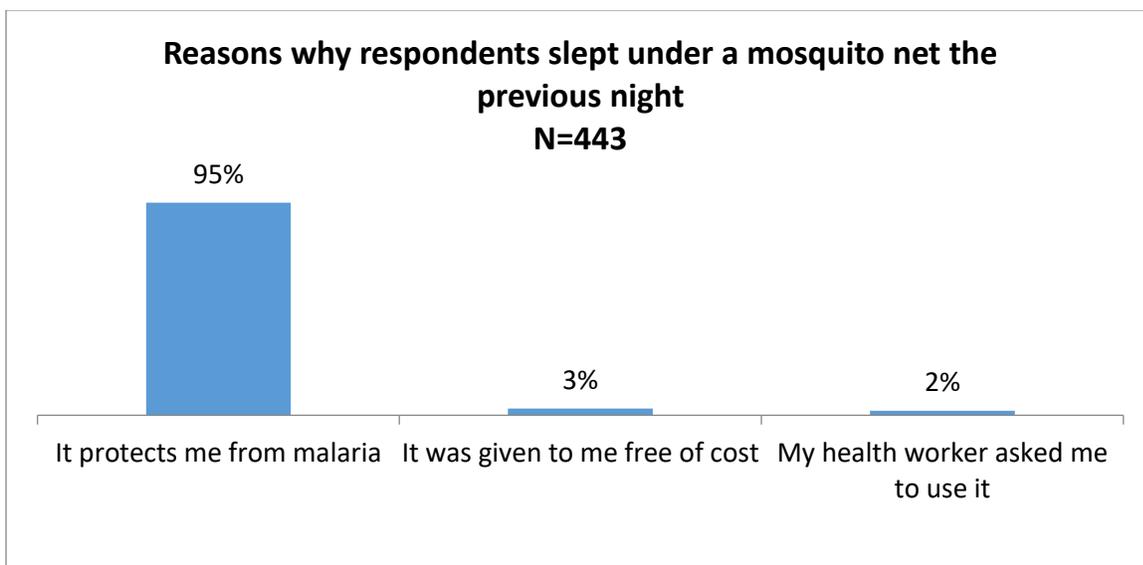
Figure 14: Proportion of respondents who slept under a mosquito net the previous night



4.4.5 Reasons why respondents sleep under a mosquito net

Use of mosquito nets has numerous benefits to the respondents, the main one being protecting them from malaria (95%). Other reasons why respondents use mosquito nets is because they got the nets for free or at no cost (3%) and their health workers asked them to use the nets (2%). The reasons why respondents sleep in mosquito nets are shown in the figure below:

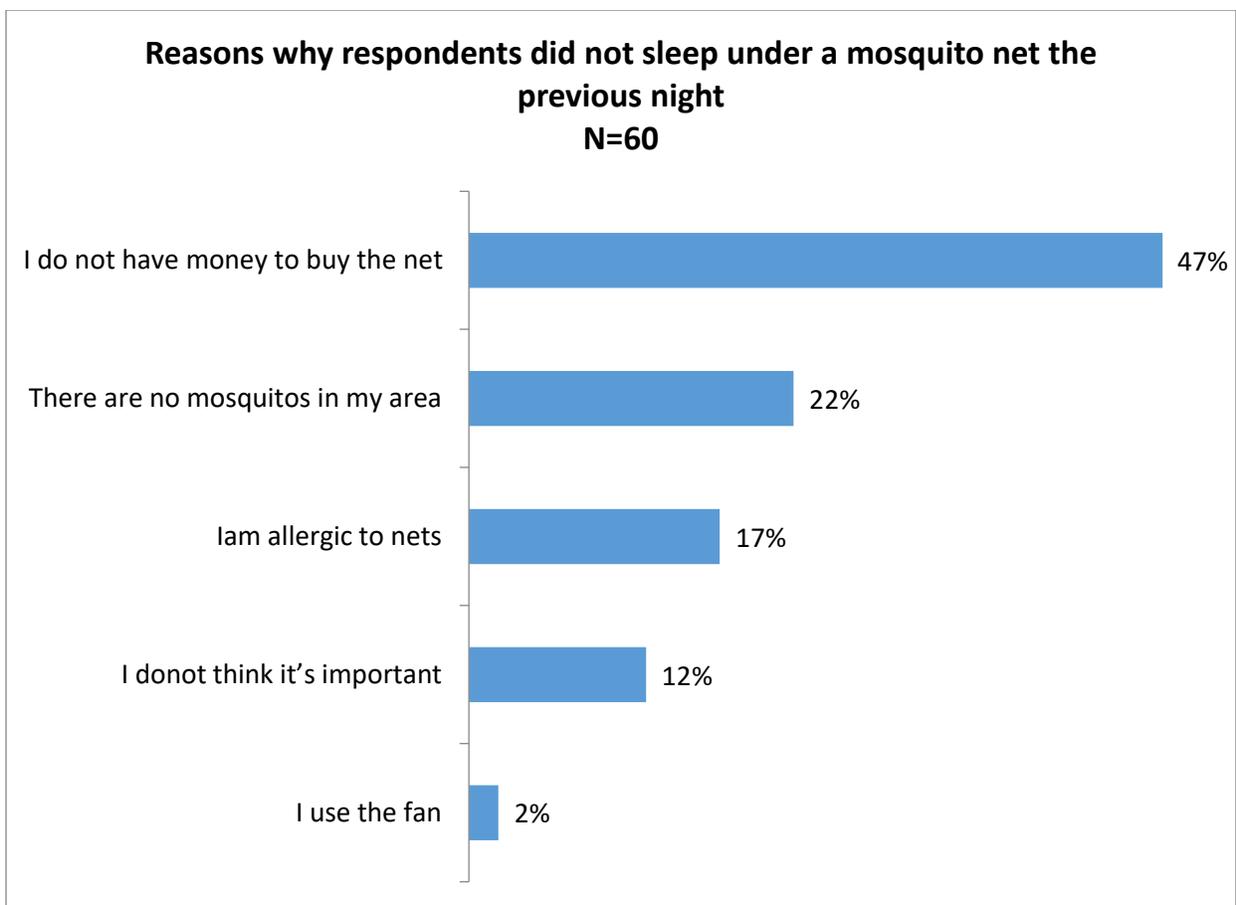
Figure 15: Reasons why respondents sleep under mosquito nets



4.4.6 Reasons why respondents do not sleep under mosquito nets

47% of the respondents in this survey who did not sleep under a mosquito net the previous night did so because they did not have the money to buy the mosquito net. 22% did not use a mosquito net because they believe that there are no mosquitoes in their area while 17% are allergic to mosquito nets. 12% of the respondents do not think that mosquito nets are important while 2% use a fan to protect themselves from mosquitoes instead of using a mosquito net. The reasons why respondents do not sleep in mosquito nets are shown in the figure below:

Figure 16: Reasons why respondents do not sleep under mosquito nets



Target audience drivers /motivators to change behaviors

At household level; clearing bushes and drainages, proper bin disposal, proper water disposal, boiling drinking water, handwashing, reporting potholes/ covering those in their right, encouraging leaders to spearhead community work, leaders to enforce proper bin disposal, take action – apply force to implement action put bylaws in place forcing people to clear drainages and bushes

- Communally, behavioral change seems to be hinged onto the government and local leadership. They would like to challenge local leaders to come up with by laws to revive community work spirit to encourage hygiene at household level which includes clearing bushes and drainages to eradicate mosquito breeding places and enforce mandatory cleaning services for rented steads whose landlords are not area residents.
- Equitable distribution of mosquito nets and this calls for change in distribution channel from the LCs who have been tagged greedy to other local systems such as places of worship and local initiatives.

“Some of us did not receive mosquito because we were required to pay five thousand shillings which we didn’t have” **Kampala Female**

- In Kampala, poverty reduction initiatives are anticipated from government to boost the little income to meet malaria control measures such as boiling drinking water. Females in Bwaise suburb lament that their efforts to fight malaria are futile because of taking un-boiled water as they cannot afford the extra cost of charcoal to boil water.

“Am a single mother and my earnings are very small, I can’t even afford to provide two meals for my family a day, how about boiling drinking water” **Kampala Female**

- They anticipate reduced taxes on mosquito nets so they are affordable on the market as a way of encouraging all people to own and use mosquito nets.
- There should be centers for adding insecticides to mosquito nets in current use following efforts by government to provide the long lasting mosquito nets.
- Constant sensitization by the health workers on the benefits of prevention and treatment of malaria. With these they propose campaigns and would like to see more men engaged as they are household heads and key influencers.

“Distribution of drugs so that in case we fall sick, we can treat ourselves” **Hoima Female**

“Spraying mosquitoes and stocking medicines in government hospitals” **Hoima Male**

5.0 Conclusion and Recommendations

The study aimed at assessing the current knowledge, attitudes and practices of malaria prevention and control by key target audience in the five MAPD regions. In general, exposure to the 'chase malaria' campaign has declined from 76% in March 2018 to 46% in October 2019. Respondents exposed to the malaria messages were asked for the channel through which they were exposed. Majority (66%) of respondents mentioned health workers as the communication channel through which they are exposed to malaria messages. Practices towards malaria prevention and control were not bad however interventions aimed at social and behaviour change should primarily target the gaps in practices highlighted by the study. Based on the findings in this study, the following issues should be considered for improving preventive and control behaviour against malaria amongst the key target audiences in the five MAPD regions.

1. Although knowledge about malaria prevention and control was generally fair, it did not translate into good practice behaviours for some respondents. Therefore, public education is necessary to address the few but highly negative-impact knowledge gaps highlighted by the study. For example, some residents thought that there are no mosquitoes in their area and that sleeping under a mosquito net is not important while others were using fans to protect themselves against mosquitoes.
2. There is need to raise awareness and also educate all women of child-bearing age about preventing malaria during pregnancy. Although respondents from the women FGD said that it was important for a pregnant woman to go for ANC, they were not aware of preventive treatment for malaria during pregnancy.
3. Work with community leaders and influencers to reignite communal work spirit (gwanga mujje) with the old day approach of "mayumba kuumi ". This gazettes small manageable communities of 10 households to supervise and nature a hygienic and mosquito free environment at household and eventually individual level.
4. Revisit mosquito net distribution program channels to include other community avenues such as places of worship and women groupings and schools for inclusivity of all. It was reported that some people were denied access to mosquito nets due to lack of national IDs yet other local leaders are said to be discriminative and corrupt even to a level of selling the net at a fee of 5000 shillings.
5. Establish communal mosquito net insecticide centers where communities can take their long lasting nets to be re drugged.

6. Make malaria communication less serious but more fun to impact. Sports, comedy, music are avenues to explore.
7. Empower VHTs and local leaders with skills for continuous sensitization of communities on malaria control and treatment
8. While communication about malaria prevention and control was mainly through health workers there is need to promote other communication channels and strengthen them to deliver messages about malaria. Other channels may include radio, TV, posters, internet/ social media, road shows, newspapers etc. Use of the preferred local languages of the target audience is important in ensuring that they understand the messages communicated to them about malaria since many of them may not understand English well.
9. 47% of the respondents said that they do not sleep under mosquito nets because they do not have the money to buy them. There is need for government to provide free mosquito nets to residents of the five MAPD regions as well as provide them with information on income generating projects/activities to enable residents fight poverty and its effect on their health. Interventions could be as simple as teaching residents how to create a village savings and loan scheme. Equipping residents with basic financial literacy and saving skills will go a long way in promoting good behaviours towards malaria prevention and control.

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