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Social and Behaviour Change Communication Pre- & Post-test Comparative Analysis: Malaria Prevention Topic Module

Gender Transformative and Nutrition-sensitive Project (2019-2021)
in Chemba District, Sofala Province, Mozambique



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*Front cover photo caption: SBCC partner being trained on proper mosquito net care
Credit: Ernesto Almeida (2020)*

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Pre- & Post-test Comparative Analysis: Malaria Prevention Topic Module

Executive Summary

Social and Behaviour Change Communication (SBCC) is an evidence-based strategy to improve health and nutrition by increasing and improving knowledge, attitudes and practices. The Gender Transformative and Nutrition-sensitive project implements SBCC activities, in parallel to resilience and post-harvest loss interventions, with the aim of contributing to women's empowerment and stunting reduction among children in Sofala, Mozambique. The SBCC strategy uses three approaches to achieve this aim: community mobilization, interpersonal counselling and media. Activities under the three approaches are categorized into three main themes within the project: Nutrition, Gender, and Sexual and Reproductive Health.

The Nutrition theme is further subdivided into four topic modules: infant and young child feeding (IYCF), maternal nutrition, malaria prevention, and sanitation and hygiene. This report focuses on the interpersonal counselling approach of the IYCF topic module. These sessions targeted all 1,500 project households, specifically caregivers of children under 2 and their spouses.

When implementing SBCC activities particularly aimed at reducing or preventing stunting, it is essential to engage in robust monitoring as behavioural change is a slow process and may not significantly impact project outcomes when looking solely at end line indicators. Nevertheless, this does not mean project efforts are not making progress at the individual level. Closely tracking knowledge, attitudes and practices linked to reducing and preventing stunting can guide project implementers in better understanding willingness to change and actual change related to desired outcomes. To measure the project's influence on beneficiaries, the project conducted pre- and post-test surveys on a sample of 120 beneficiaries immediately before and after each interpersonal counselling topic module focusing questions on knowledge, intention, self-efficacy (confidence) and self-reported behaviour. Using a comparative analysis, this report presents the findings regarding the Malaria Prevention topic module.

The Malaria Prevention pre- and post-test questionnaire consisted of eight questions in four categories:

- recalling key malaria-related messages
- identifying and treating malaria
- anti-malaria mosquito net care and usage
- enabling environment to decrease exposure to mosquitos

Project beneficiaries in Chemba District have been exposed to national anti-malaria campaigns and pre-test results reflect this effort whereby there exists a fair amount of knowledge, favourable attitudes and good practices around malaria, its prevention and seeking treatment. Nevertheless, findings have shown clear positive influence across all of the eight indicators when comparing pre- and post-test results for Malaria prevention, particularly understanding the importance of protecting vulnerable groups like pregnant and lactating women and young children.

I. Background

The Gender Transformative and Nutrition-sensitive (GTNS) pilot project, titled *"Reaching the furthest behind first: Gender Transformative and Nutrition-sensitive programming to increase food and nutrition security for women, adolescent girls, and children in Chemba district, Sofala province"* is implemented by the World Food Programme (WFP) under the leadership of the Government of Mozambique, and in close coordination with Government and cooperating partners. The project receives multi-year funding from the Austrian Development Agency (ADA). The catchment area is limited to Mulima locality of the Mulima Administrative Post of Chemba District. The population of Chemba is 87,925 people (17,730 households), and the project aims to reach 7,500 people (1,500 households) using the criteria of at least 500 pregnant and lactating women (PLW), 500 adolescent girls, 750 children under 2 (CU2), and women living with obstetric fistula; an additional 20,000 people will be reached indirectly through Social and Behaviour Change Communication (SBCC) media activities.

The GTNS project directly supports the priorities of the Government of Mozambique and is fully aligned to WFP's Country Strategic Plan 2017-2021. The aims of the project are to improve gender equity and women and adolescent girls' empowerment; increase dietary diversity; and reduce stunting among girls and boys under 5 in the context of a changing climate. The project design is innovative and integrates multiple nutrition-specific and -sensitive interventions to address the determinants of malnutrition, with a focus on women's empowerment. It combines:

- i) construction of gender- and nutrition-sensitive household and community assets (fuel efficient cooking stoves, water catchment systems, household gardens and afforestation);
- ii) trainings on post-harvest loss for smallholder women and men farmers (food conservation, transformation and storage) and linkages to improved products (hermetic storage); and
- iii) multi-level SBCC activities implemented at individual, household and community level¹

II. Social and Behaviour Change Communication

SBCC is a crucial evidence-based strategy to improve health and nutrition by increasing and improving knowledge, attitudes and practices. The GTNS project's SBCC component is being implemented by WFP's SBCC partners² through three approaches: interpersonal counselling, media (radio), and community mobilisation (see Figure 1). Combining dynamic approaches to engage men for gender equality and behaviour change with nutrition-sensitive programming

¹ In parallel to its SBCC activities, the GTNS project is also generating demand for acute malnutrition treatment, including community-level mid-upper arm circumference (MUAC) screening of PLW and children under 5 (CU5) and referrals of malnourished cases by volunteer community health workers. If screening indicates malnourishment, PLW and CU5 are referred to their local health facility for further treatment. This activity is not included in the pre- & post-test questionnaire and results can be found in the SBCC routine monitoring.

² District Services of Health, Women and Social Action (SDSMAS), Pathfinder International and PCI Media

is expected to facilitate sustainable results at the household level, which can be cascaded to the wider community for replication.



*due to the COVID-19 pandemic theater performances have been adapted to a media modality

Figure 1: The three approaches of the GTNS Project SBCC strategy

The GTNS project categorizes SBCC into three main themes: Nutrition, Gender, and Sexual and Reproductive Health (SRH). The Nutrition theme is further subdivided into four topics: maternal nutrition, infant and young child feeding (IYCF), malaria prevention, and sanitation and hygiene (S&H). These four topics comprise the WFP standard SBCC package and target all 1,500 project households, focusing on caregivers of CU2 and their partners. Topic modules consist of six sessions, facilitated by community health worker pairs, and trained and supervised by field partners.³

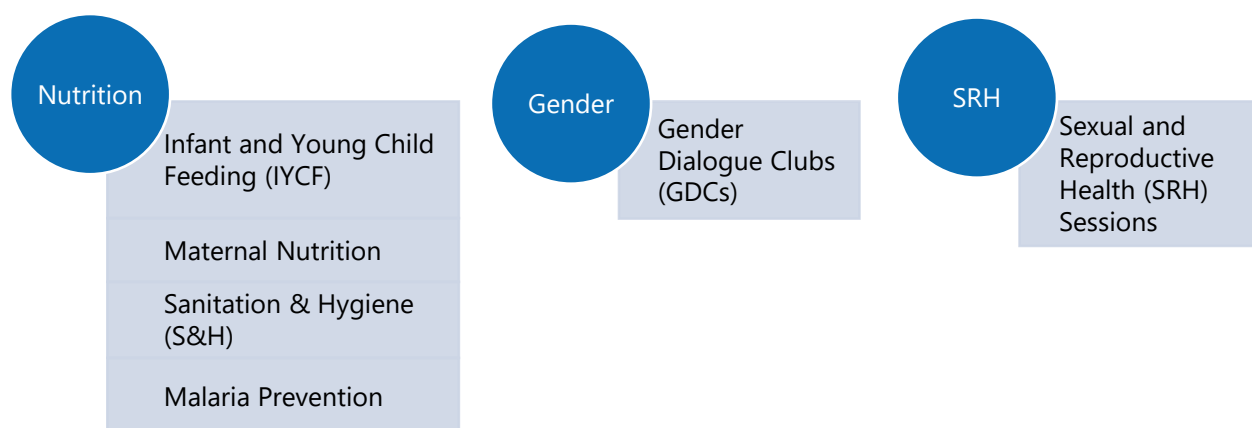


Figure 2: SBCC themes and topics of the GTNS Project

To evaluate the efficacy of SBCC activities, the GTNS project conducted pre- and post-testing to compare and analyse beneficiary knowledge, intention, confidence and self-reported behaviour. The pre- and post-test exercise focused on interpersonal counselling sessions, excluding cooking and food processing demonstrations.

³ Gender Dialogue Clubs consist of complex and sensitive concepts and will therefore be mainly facilitated by implementing partner field staff with some community health worker support.

III. Aim and Objective of Pre- and Post-testing

When implementing SBCC activities, particularly those aimed at reducing or preventing stunting, it is essential to engage in robust monitoring, as behavioural change is a slow process and may not significantly impact project outcomes when looking solely at end line indicators. Unlike the baseline and end line evaluation that focuses on whether the programme worked, regular monitoring focuses on systematic tracking of activities to assess the effectiveness of implementation efforts. This analysis also serves as evidence for project impact.

The main aim of pre- and post-testing was to understand the influence of interpersonal counselling sessions on project beneficiary knowledge, attitudes and behavioural practices in each topic module. The objective was to use a comparative analysis to determine which concepts and messages within each theme are influencing a positive change among project beneficiaries.

IV. Methodology

Each topic within the Nutrition theme was carefully reviewed to identify key areas where the project seeks to positively change knowledge, attitudes and practices among men and women beneficiaries. This was used to develop indicators to measure behavioural change over the course of each topic module. The body of research from similar contexts and documentation from the project site shows that men are generally the main decision-makers in the household, and often influence the behaviour of other household members, therefore it was imperative to separately consider assessing men and women when developing the indicators and questionnaires for each topic module. Therefore, the indicators target three groups: men and women caregivers together, women caregivers only and men caregivers only.

Social and behaviour change can be negatively influenced by external factors. To account for these externalities, at the individual level, behaviour change can be measured not only through behavioural outcomes but also through the desire or plan to change. This can be evaluated through psychosocial domains: knowledge, intention, self-efficacy (confidence), attitude, subjective norms and perceived behavioural control (see Table 1).

Table 1: Psychosocial domains for measuring behavioural change⁴

Domains	Descriptions (Adopted from NCI, 2005)	Domains	Descriptions (Adopted from NCI, 2005)
Knowledge	Facts, information, and skills necessary to perform a behaviour	Attitude	Perceived evaluation and / or enthusiasm toward the behaviour
Intention	Perceived likelihood of performing a behaviour	Subjective norm	Perception about whether key people approve or disapprove of the behaviour
Self-efficacy	Confidence in one's ability to take action and successfully carry out the behaviour	Perceived behavioural control	Belief that one has, and can successfully exercise, control over performing the behaviour

⁴ WFP. (2019, January). *Social and Behaviour Change Communication (SBCC) Guidance Manual for WFP Nutrition*. Chapter 8: Monitoring Phase [partially adapted]. Originally titled "Table 15. SBCC-related psychosocial indicators".



For the GTNS context, the appropriate psychosocial indicators for this pre-/post-testing exercise were knowledge, intention and confidence. Within the pre-post questionnaires, the psychosocial indicators mentioned below were combined with questions on self-reported behaviour to give a more holistic picture of the potential behaviour change impact pathway, as well as to shed light on behavioural outcomes.

For each indicator, objectives based on SMART criteria⁵ were developed to measure against the comparative analysis of the pre- and post-tests. The SMART objectives were agreed through discussion with the programme team based on context, expertise and secondary data sources. A matrix was created to consolidate this information per topic, to guide the M&E team in producing short questionnaires on WFP's corporate data collection tool (Open Data Kit – ODK) (see Annex 1 for Malaria Prevention topic matrix).

The questionnaire was used both during the pre-test and post-test to assess the change in results after a beneficiary completed the module (See Annex 2).⁶ The Malaria Prevention pre- and post-test focused on four main areas for desired behaviour change:

- recalling key malaria-related messages
- identifying and treating malaria
- anti-malaria mosquito net care and usage
- enabling environment to decrease exposure to mosquitoes

In total, there were eight indicators covering these areas that translate into eight questions on the questionnaire. The Malaria Prevention topic module was specifically scheduled to align with the local government's universal distribution of mosquito nets.

The interviews were conducted in the local language of Sena which required field staff to be confident with the questionnaire to easily translate between Portuguese and Sena. WFP trained the implementing partner, Pathfinder International, to conduct the data collection. The questions were pre-tested to ensure translation was accurate and questions were understood by community members.

For the Malaria Prevention topic, the target sample for both the pre- and post-test was 120 project beneficiaries (60 women and 60 men) across Mulima locality in Chemba District, Sofala. The sample size was calculated based on the feasibility to collect these results, taking into consideration the elements of limited resources and timing. The results are to provide indications as to how the response of the SBCC-indicators may be impacted by targeted community members before and after SBCC topic module sessions. The results inform the project's overall SBCC programming and field implementation. The methodology does not serve to inform other SBCC interventions and is specific for the GTNS project in Chemba.

⁵ Specific, Measurable, Achievable, Relevant, and Timebound

⁶ In the questionnaire, men and women were also asked a question that is related to the parallel cooking demonstration activity that occurs once in each topic module (question 3.1 in Annex 2). This data is analysed and reported separate from this comparative analysis report (see forthcoming GTNS Tableau dashboard).

The survey was conducted through individual interviews with men and women separately, using convenience sampling⁷ during community visits. Data was collected immediately before the first of six Malaria Prevention sessions for the pre-test (in November 2020) and after the sixth session for the post-test (in December 2020). The target sample is not necessarily the same individuals across pre- and post-testing as the methodology does not require tracking the same community members.

For the Malaria Prevention pre-test, 120 project beneficiaries (61 men and 59 women) were surveyed across 19 communities. For the post-test, 120 project beneficiaries (60 men and 60 women) were surveyed across 28 communities. Across the pre- and post-testing, 34 out of 49 communities⁸ were included in the exercise.

While not a completely accurate representation of the population, this analysis will provide insight into programme implementation within the catchment area.

V. Results

The pre- and post-test questionnaire consisted of eight questions (all targeted at both men and women caregivers). Overall, all eight indicators were reached based on the SMART objectives developed for the Malaria Prevention topic (see Table 2). When looking at the average of men and women caregivers, six of the indicators already reached the SMART objective during the pre-test (1.2, 1.3, 1.4, 1.5, 1.6 and 1.8). Looking at women caregivers only, one additional indicator (1.7) reached the SMART objective during the pre-test. The SMART objective for the remaining indicator (1.1) was nearly reached in the pre-test, missing by three percentage points.

Table 2: Pre- and Post-test Results (in percentages)

#	Indicator Detail	SMART Objective	Pre-test Result (%)			Post-test Result (%)		
			Men	Women	Avg	Men	Women	Avg
1.1	Increased percentage of malaria-related messages recalled by caregivers	After complete SBCC topic area is conducted [6 weeks], <u>75% of caregivers</u> partaking in the SBCC sessions, will be able to recall 3 key malaria-related messages (causes, transmission, signs, symptoms, testing, prevention, treatment, vulnerable groups, and eliminating mosquitos)	74	69	72	100 (+26)	100 (+31)	100 (+28)

⁷ Convenience sampling method is selecting respondents who are easily accessible (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5606225/>). For Malaria Prevention pre- and post-test data collection, enumerators surveyed eligible, accessible beneficiaries who had consented to being interviewed.

⁸ Andrassone, Arnelo, Bangwe, Bucha, Candima, Castela, Dzunga 1, Dzunga 2, Fernando, Francalino, Fumbe 1, Fumbe 2, Macendua, Mapata, Mateus, Melo 1, Muandinhoza, Mulima-sede, Nhacavunvu, Nhamaliwa, Nhamazonde, Nhambhandha, Nhancaca, Nhangué, Nharugue, Nhasulu, Nhatsete, Ofece, Shonsua, Tomucene 1, Tomucene 2, Xavier, Zenguerere, Zomdane 1

1.2	Increased percentage of caregivers who know at least 3 signs and symptoms of malaria	After complete SBCC topic area is conducted [6 weeks], <u>75% of caregivers</u> partaking in the SBCC sessions, know at least 3 signs and symptoms of malaria	100	100	100	100	100	100
1.3	Increased percentage of caregivers intend to seek health care when they suspect a family member has malaria, especially pregnant and lactating women and children	After complete SBCC topic area is conducted [6 weeks], <u>50% of caregivers</u> partaking in the SBCC sessions, intend to seek health care when they suspect a family member has malaria, especially pregnant and lactating women and children	77	75	76	90 (+13)	93 (+18)	92 (+16)
1.4	Increased percentage of caregivers are confident they prioritize mothers and children under two to sleep under a mosquito net	After complete SBCC topic area is conducted [6 weeks], <u>66% of caregivers</u> partaking in the SBCC sessions, are confident they will prioritize mothers and children under two to sleep under a mosquito net	67	69	68	87 (+20)	92 (+23)	89 (+21)
1.5	Increased percentage of caregivers confident how to properly care for their mosquito nets	After complete SBCC topic area is conducted [6 weeks], <u>50% of caregivers</u> partaking in the SBCC sessions, are confident on how to properly care for their mosquito nets [sewing, treating, washing]	77	69	73	87 (+10)	92 (+23)	89 (+16)
1.6	Increased percentage of caregivers ensures at least mothers and children sleep under a mosquito net every night	After complete SBCC topic area is conducted [6 weeks], <u>66% of caregivers</u> partaking in the SBCC sessions ensures at least mothers and children sleep under a mosquito net every night ⁹	98	100	99	100 (+2)	100	100 (+1)

⁹ A majority of caregivers (97%) indicated that it is the whole family who sleeps under the mosquito net in the pre-test (including mothers and young children), which increased to 100% of caregivers in the post-test.

1.7	Increased percentage of caregivers will know at least 3 risks of malaria during pregnancy	After complete SBCC topic area is conducted [6 weeks], <u>75% of caregivers</u> partaking in the SBCC sessions, will know at least 3 risks of malaria during pregnancy	66	83	74	88 (+22)	87 (+4)	88 (+14)
1.8	Increased percentage of caregivers intend to prevent mosquito breeding grounds	After complete SBCC topic area is conducted [6 weeks], <u>50% of caregivers</u> partaking in the SBCC sessions, intend to prevent mosquito breeding grounds	69	63	66	95 (+26)	93 (+30)	94 (+28)

Note: Values in the parentheses indicate the percentage point change, comparing values from the pre- and post-test results

The results will be presented in four categories: recalling key malaria-related messages, identifying and treating malaria, anti-malaria net care and usage and enabling environment to decrease exposure to mosquitos.

Recalling key malaria-related messages

Findings indicate that both men and women caregivers demonstrated an increase of knowledge around malaria-related messages discussed in the Malaria Prevention sessions. While the pre-test results did not reach the SMART objective of 75% of caregivers, the majority of caregivers could recall at least three key malaria-related messages (72% of caregivers) (see Figure 3). By the post-test, all caregivers surveyed were able to recall at least three key malaria-related messages, an average increase of 28 percentage points. More specifically, the percentage of men increased from 74% and women increased from 69% (see Figure 3).

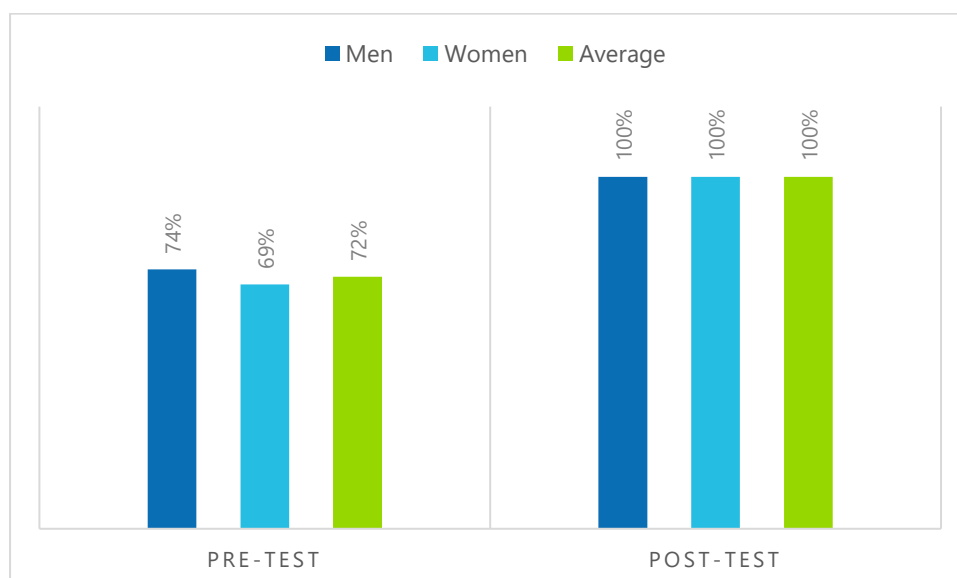


Figure 3: Percentage of caregivers who knew at least three key malaria-related messages

The top three key messages recalled in the pre-test were knowing a person can only be infected with malaria when bit by an infected mosquito (87% of caregivers), flies, garbage and

dirt enable an environment for mosquitos to live (80% of caregivers) and that malaria is treatable if one goes immediately to a health facility (43% of caregivers). In the post-test, results showed that all but one key message was recalled more by caregivers (a 19- percentage point decrease in recalling that flies, garbage and dirt create an environment prone to mosquitos). The top three messages recalled in the post-test were knowing a person can only be infected with malaria by being bitten by an infected mosquito (97% of caregivers, a 10 % increase), malaria is treatable if one goes immediately to a health facility (73% of caregivers, a 29% percent increase) and the best way to prevent malaria to sleep under a treated mosquito net (70% of caregivers, a 28 percentage point increase).

The key message that had the largest percent increase in recall from the pre-test to post-test (by 52 percentage points) was knowing that the health facility is the only place where malaria can be treated (see Annex 2 in question 2.1 for a full list of key messages).

Identifying and treating malaria

i. Recognizing symptoms and risks

While malaria is best cured by receiving treatment at a hospital or health facility shortly after symptoms appear, people need to be able to first recognise the non-specific signs and symptoms. In the pre-test results, men and women caregivers surpassed the SMART objective of 75% of caregivers knowing at least three signs and symptoms of malaria (100% of caregivers) (see Figure 4). This result remained in the post-test, where again 100% of caregivers were able to recall at least three signs and symptoms (see Figure 4).

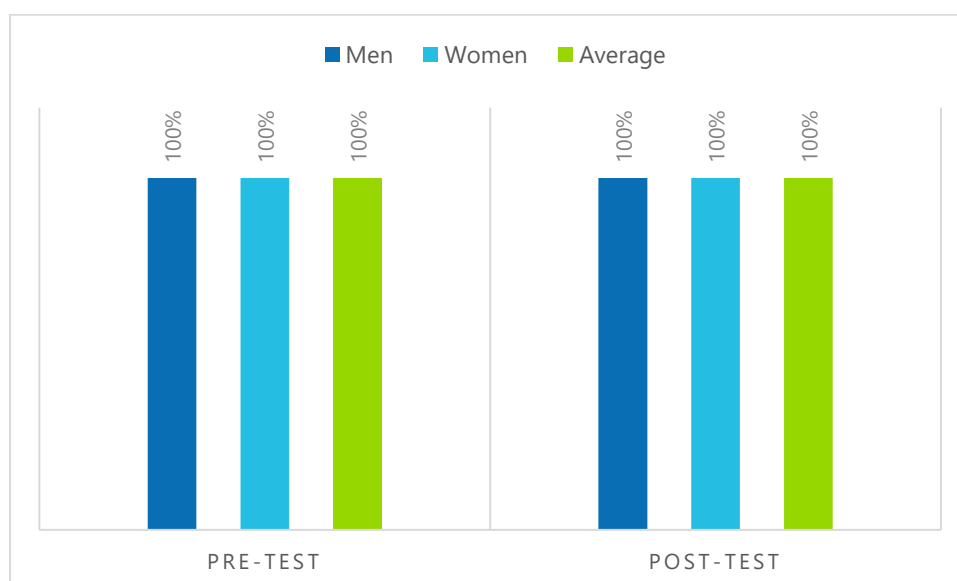


Figure 4: Percentage of caregivers who knew at least three signs and symptoms of malaria

Of the eight signs and symptoms discussed in the topic module sessions (fever, headache, joint pain, tremors/chills, diarrhoea, vomiting and convulsions), results from the pre-test showed that 24% of caregivers (30% of men and 19% of women) were able to recall between five to six and none were able to recall all eight. In the post-test results, 63% of caregivers (63% of men and 62% of women) were able to recall five - six signs and symptoms and 3% of caregivers were able to recall all eight. The top three signs and symptoms mentioned in the pre-test were fever (98% of caregivers), headache (83% of caregivers) and joint pain (60% of

caregivers). In the post-test, both fever and joint pain were recalled slightly less by caregivers (88% and 59%, respectively). All other signs and symptoms showed an increase in recall in the post-test results. Recall of convulsions as a symptom of malaria increased from 4% to 36% of caregivers, the largest increase of all the signs and symptoms.

The majority of caregivers also indicated that they knew the risks of a pregnant woman having malaria (74% of caregivers knew at least three risks) (see Figure 5). The SMART objective of 75% of caregivers was reached in the post-test results where 88% of caregivers were able to recall at least three risks (see Figure 5).

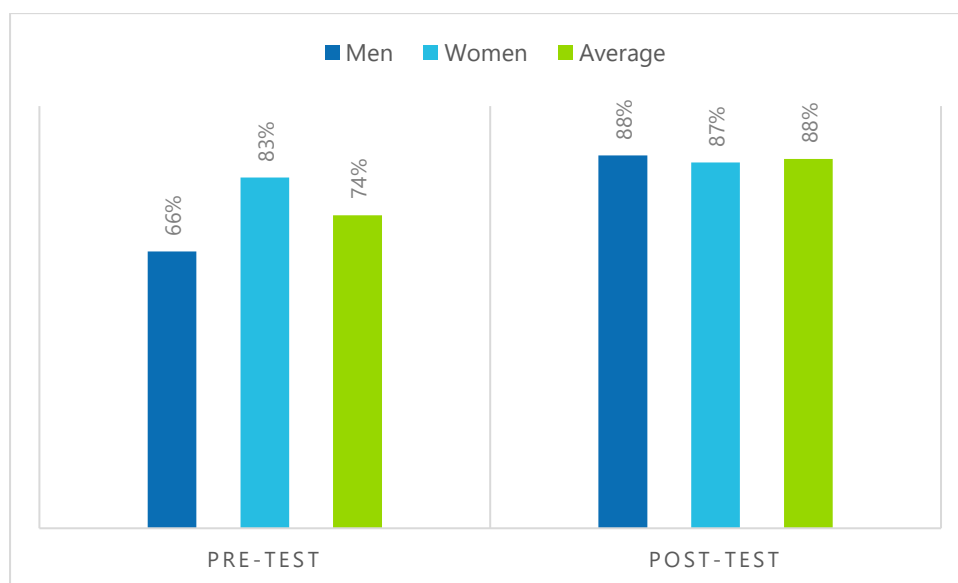


Figure 5: Percentage of caregivers who knew at least three risks of having malaria during pregnancy

The top three risks for a pregnant woman having malaria mentioned by caregivers in the pre-test were that the fetus will not grow strong (73% of caregivers), the baby will be born with a low birth weight (64% of caregivers) and the pregnant woman or baby may die (53% of caregivers). In the post-test, the top two risks recalled were that the fetus will not grow strong (78% of caregivers, a 5% increase from pre-test) and that the pregnant woman or fetus may die (66% of caregivers, a 13% increase from the pre-test). The next highly recalled risks were both mentioned by 58% of caregivers: the baby will be born with low birth weight (a 7% decrease in recall) and the baby may be born stillborn (30% increase in recall from pre-test and the largest percent increase of the risks mentioned from pre- to post-test).

i. Health-seeking behaviour

Caregivers were also asked about their intention to seek healthcare when they suspect themselves or someone in their family has malaria (especially PLW). In the pre-test, 76% of caregivers indicated they intended to seek healthcare (77% of men and 76% of women), surpassing the SMART objective of 75% (see Figure 6). Moreover, 23% of caregivers indicated that they maybe would seek healthcare if they suspect a case of malaria. In the post-test, 92% of caregivers (90% of men and 93% of women) indicated their intention to seek healthcare (with caregivers indicating “maybe seek healthcare” decreasing to eight percent) (see Figure 6).

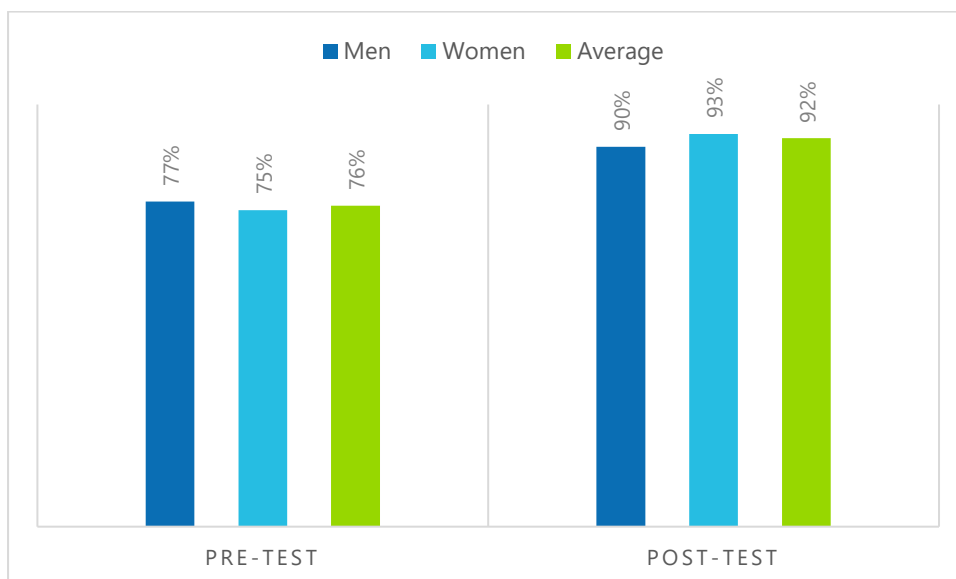


Figure 6: Percentage of caregivers intending to seek health care for family members suspected to have malaria (especially pregnant and lactating women and children)

Anti-malaria mosquito net care and usage

Using an insecticide-treated mosquito net is an effective way to prevent being infected with malaria¹⁰ and the most widely used prevention method used in sub-Saharan Africa.¹¹ When asked on the respondents confidence to properly care for mosquito nets, such as treating, sewing holes and washing, 73% of caregivers indicated they were confident (77% of men and 69% of women) (see Figure 7). Pre-tests results far exceeded the SMART objective of 50% of caregivers. In the post-test, 89% of caregivers indicated they were confident in being able to properly care for mosquito nets (87% men and 92% women) (see Figure 7). In the post-test, 2% of men indicated they had no confidence in properly treating mosquito nets compared to zero percent in the pre-test.

¹⁰ WHO. (2020, November 30). *Malaria*. who.int. Retrieved from: <https://www.who.int/news-room/fact-sheets/detail/malaria>

¹¹ WHO. (2019, December 4). *World malaria report 2019*. Retrieved from: <https://www.who.int/publications/i/item/9789241565721>

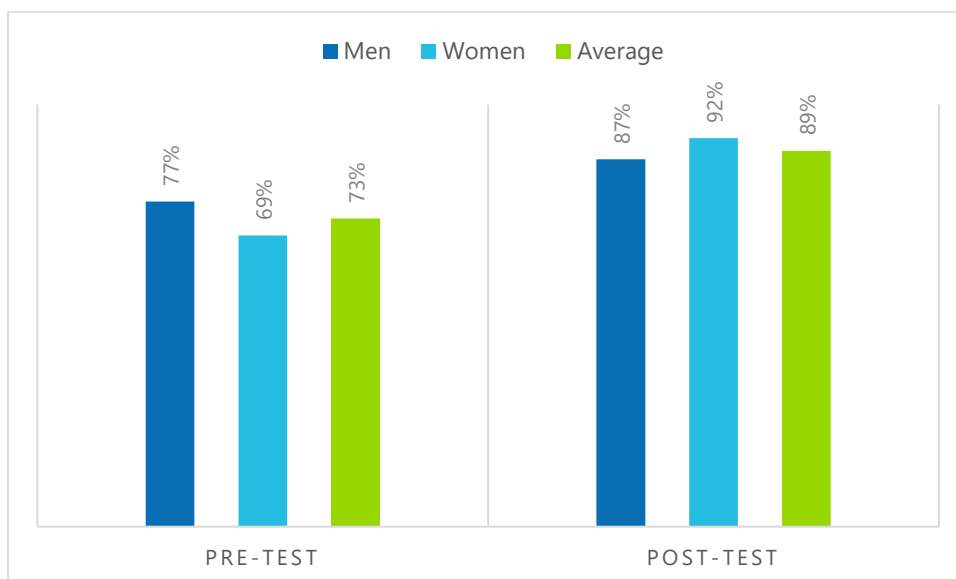


Figure 7: Percentage of caregivers confident in properly caring for mosquito nets

Caregivers were also asked questions on net usage. Pregnant women and young children (CU5) are two groups who are particularly vulnerable to contracting malaria.¹² In the pre-test, 68% of caregivers (67% of men and 69% of women) indicated confidence in prioritising mothers and CU2 to sleep under a mosquito net, just surpassing the SMART objective goal of 66% of caregivers (see Figure 8). Post-test results increased 21 percentage points (89% of caregivers, 87% men and 92% women) (see Figure 8).

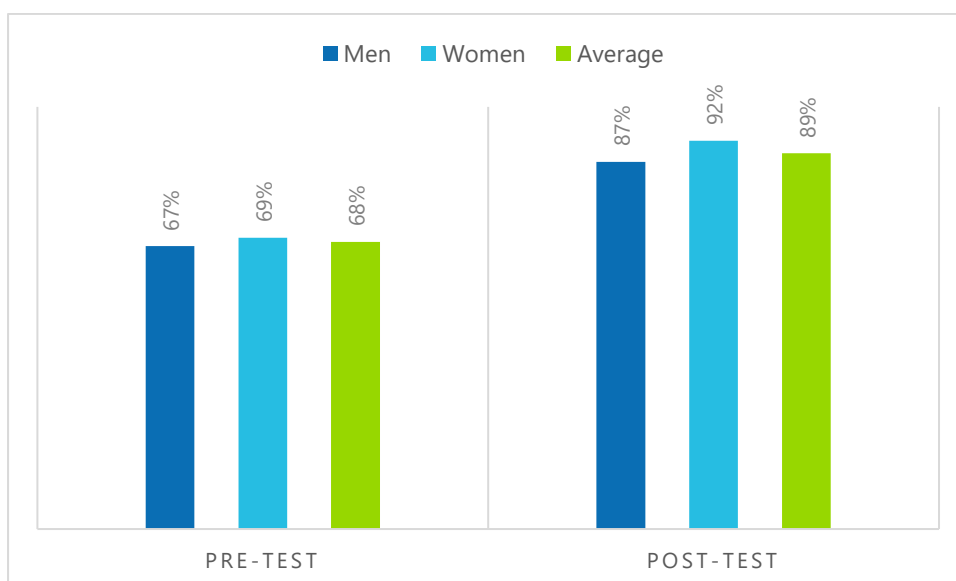


Figure 8: Percentage of caregivers confident they would prioritize mothers and children under 2 to sleep under a mosquito net

Additionally, caregivers were asked to self-report on who in their household actually sleeps under a mosquito net every night. Analysing these results, the vast majority of caregivers reported that at least mothers and young children sleep under the mosquito net every night

¹²See footnote 10.

(98% of men caregivers and 100% of women caregivers) (see Figure 9), far exceeding the SMART objective of 66% of caregivers. Moreover, 97% of caregivers reported that the whole family (including the father, mother and all the children in the household) sleeps under a mosquito net every night.

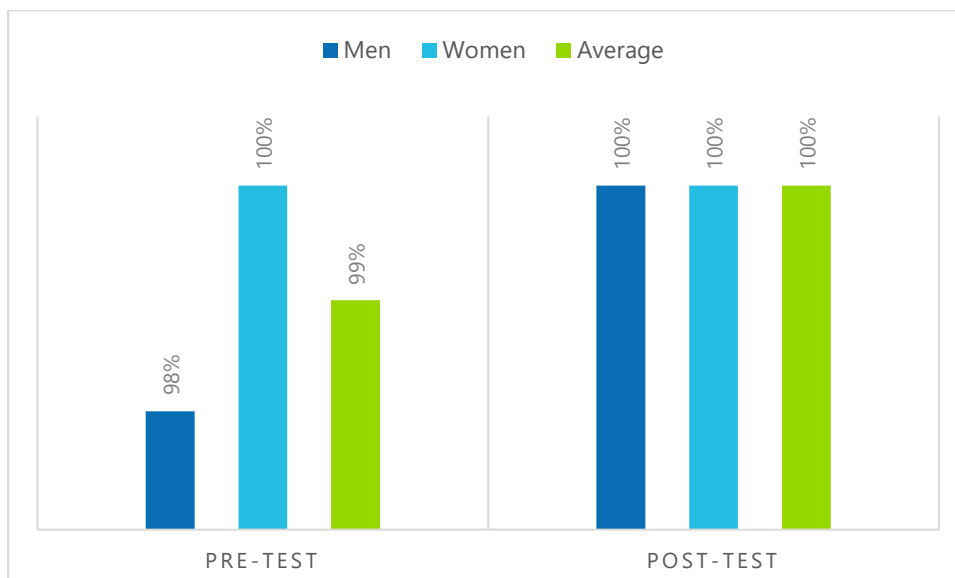


Figure 9: Percentage of caregivers who prioritize mothers and children to sleep under a mosquito net

Enabling environment to decrease exposure to mosquitos

Besides using a mosquito net, the other main recommended method to prevent contracting malaria discussed in the Malaria Prevention topic module is maintaining an enabling environment that decreases exposure to mosquitos by preventing mosquito breeding grounds. Surpassing the SMART objective of 50% of caregivers in the pre-test, 66% of caregivers (69% of men and 63% of women) indicated their intention to adopt practices to be free of mosquitos, such as clean around their house, cover water tanks and remove pools of stagnant water after rains. This number increased to 94% of caregivers (95% of men and 93% of women) in the post-test results, a 28 percentage points increase.

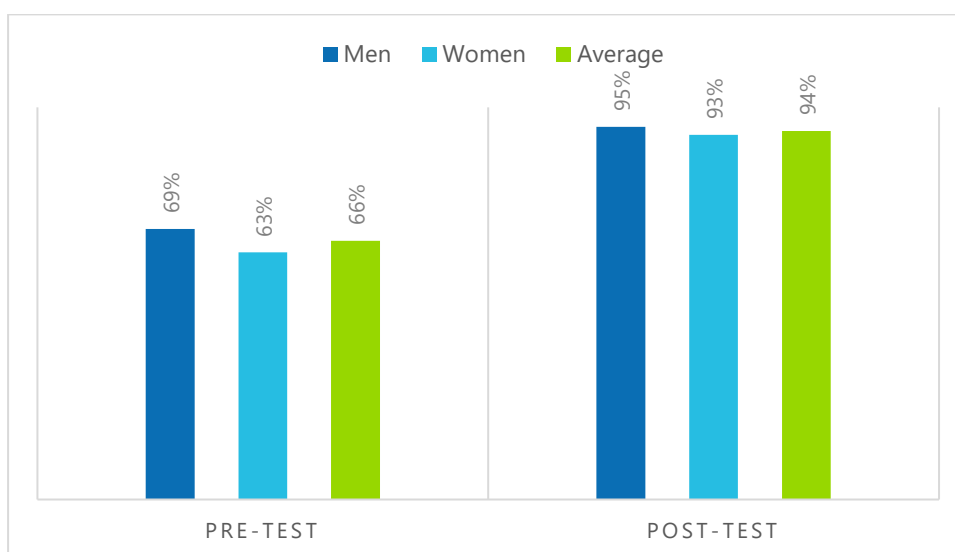


Figure 10: Percentage of caregivers intending to adopt practices that lead to an environment with less mosquitos

VI. Discussion

While project beneficiaries displayed existing knowledge, positive attitudes and good practices on malaria prevention in pre-test results, the post-test results suggest that the topic module sessions have positively influenced caregivers in all areas: key message recall, identifying and seeking health care for malaria, using and caring for a net and creating an enabling environment to decrease exposure to mosquitos.

Similar to the IYCF topic module, SMART objectives were underestimated for all indicators in the Malaria Prevention topic module and results far exceeded the objectives. Six of the indicators reached their SMART objectives in the pre-test (knowing the signs and symptoms of malaria; intending to seek healthcare for a suspected case of malaria; confidence in properly caring for a mosquito net; confidence in prioritizing mothers and children to sleep under a net; reporting at least mothers and children sleep under a mosquito net; and intending to prevent mosquito breeding grounds). An additional indicator reached the SMART objective in the pre-test when disaggregated by gender (women's knowledge on the risks of a pregnant woman being infected with malaria) and both men and women surpassed the SMART objective in the post-test. The final and eighth indicator nearly reached the SMART objective in the pre-test and far exceeded it by reaching 100% of caregivers in the post-test (recalling key malaria-related messages). In fact, three indicators in total resulted in 100% of caregivers able to reach their respective SMART objective in the post-test (recalling key malaria-related messages; knowing signs and symptoms of malaria; and self-reported behaviour to prioritize mothers and children to sleep under a mosquito net).

Men and women caregivers significantly increased their knowledge around malaria-related key messages from the topic module sessions. Some key recall messages that were barely mentioned by caregivers in the pre-test, such as insecticides are only harmful to bugs/insects and mosquito nests should be handwashed with bar soap, were recalled more by caregivers in the post-test. These findings show that the Malaria Prevention sessions were successful in teaching, or in some cases reminding, caregivers of the key malaria-related messages around understanding, preventing, recognising and treating malaria.

Malaria is curable, but it requires treatment at the health facility. It is crucial that community members first know how to recognize signs and symptoms of malaria in order to make the decision to get treatment at a health facility. Identifying a potential case of malaria was well-understood by caregivers, as shown in the results of both the pre- and post-test by being able to recognize at least three signs or symptoms. There are many non-specific signs and symptoms of malaria, and post-test results showed that caregivers were able to recall more of the less common ones after six weeks of participating in the topic module, such as loss of appetite, convulsions and unconsciousness.

After identifying a potential case of malaria, community members need to go to a health facility to receive treatment (as opposed to home remedies or traditional healer services). There is mixed evidence on health seeking behaviour in Chemba District.¹³ Based on this pre-

¹³ The project baseline report (2020) and KAP Study report (2020) find different evidence in health-seeking behaviour.

and post-test comparative analysis, most caregivers reported they were confident they would seek healthcare if they suspect themselves or a family member have been infected with malaria, especially PLW and children. This aligns with the project baseline report, but the line of questioning in the pre- post-testing did not allow for space to clarify if certain symptoms would prompt caregivers to seek home remedies or traditional healer services as found in the Knowledge, Attitudes and Practices (KAP) Study report.¹⁴¹⁵ Based on the mixed evidence, there should potentially be a more qualitative segment included in the end line evaluation of the project to clarify health seeking behaviour in regards to a suspected case of malaria.

According to the World health Organization, malaria is one of the leading causes of death for children under 5 (CU5) and 67% of worldwide deaths attributed to malaria were CU5.¹⁶ Investing in prevention is clear. Caregivers are confident in being able to prioritize the mothers and young children and results showed that all caregivers reported that the whole family sleeps under a mosquito net every night. Caregivers also expressed confidence in being able to properly care for their mosquito nets. It is promising that the universal mosquito net distribution organized by local government authorities during the Malaria Prevention topic module will result in proper long-term use and care. As aforementioned, mosquito nets are the main method of prevention in Sub-Saharan Africa, but they are not the only method. Another way to prevent malaria is to foster an enabling environment that decreases one's chances of being infected. This can be done by reducing exposure to mosquitos and areas where they breed. More caregivers on average indicated their intention to adopt practices to prevent mosquito breeding grounds, such as covering water tanks and cleaning around their houses, when comparing pre- and post-test results. Adopting these practices, coupled with properly using a net, indicates a strong commitment in prevention among community members, promising for reducing harmful impacts of malaria on the nutrition of mothers and their babies.

Besides young children, pregnant women are also a high-risk group of contracting malaria.¹⁷ While men caregivers trailed behind women caregivers in mentioning risks of a pregnant woman contracting malaria, they increased their recall in the post-test by 22 percentage points. Women's recall also increased after participating in the sessions but not as significantly as men but considering the high score in the pre-test this is not concerning. The notable difference between men and women's pre-test knowledge around risks might be attributed to women usually attending ante-natal care visits alone without their husbands.¹⁸ After the topic module, men caregivers recalled more known risks, such as the fact that pregnant women can become severely anaemic and fetus development can be disrupted, or one of them could die. Over the course of the Malaria Prevention module, men showed improvement in knowing how the women in their lives are particularly vulnerable when pregnant or lactating in regard to

¹⁴ WFP; International Centre for Research in Agroforestry/ World Agroforestry (ICRAF). (2020). *Baseline Report of the WFP Mozambique Gender Transformative and Nutrition Sensitive (GTNS) Programme (2019 to 2021)*. Maputo: WFP.

¹⁵ WFP. (forthcoming 2021). *Knowledge, Attitudes and Practices (KAP) study on maternal nutrition, infant and young child feeding, sanitation and hygiene and sexual and reproductive health, including obstetric fistula, in Chemba District, Sofala*. Maputo: WFP.

¹⁶ See footnote 10.

¹⁷ See footnote 10.

¹⁸ Evidence provided by the project KAP Study conducted in 2020 (forthcoming 2021).

malaria. Understanding the risks of malaria for PLW and prioritizing PLW and young children in prevention methods will lead to better family nutrition and overall health.

Overall, men scored similarly to women in pre-test results and, in some cases, scored higher than women (recalling key malaria-related messages; intending to seek healthcare for a suspected case of malaria; confidence in properly caring for a mosquito net; and intending to prevent mosquito breeding grounds). However, women generally increased their knowledge and attitudes slightly more in the post-test results compared to men. Comparing pre- and post-test results of men and women, the gap between knowledge, attitudes and practices across the two genders was significantly reduced in the post-test results with range of scores being much lower. Nutrition sessions are a vehicle for change, providing safe spaces for household members to discuss and reflect on relevant topics with a trained community-based facilitator. The findings in this comparative analysis show the potential of Malaria Prevention sessions to help lessen the gap between men and women in knowledge on, positive attitudes towards and good practices with preventing malaria.

VII. Conclusion

Project beneficiaries in Chemba District have been exposed to national anti-malaria campaigns and pre-test results reflect this effort whereby there exists a fair amount of knowledge, favourable attitudes and good practices around malaria, its prevention and seeking treatment. Nevertheless, findings have shown clear positive influence across all of the eight indicators when comparing pre- and post-test results for Malaria prevention, particularly understanding the importance of protecting vulnerable groups like PLW and young children.

It is recommended that the GTNS M&E team revisit the topic module Indicator and SMART Objectives Matrix and consider re-evaluating certain SMART objectives for the remaining two topics under the Nutrition theme (Maternal Nutrition and S&H) based on strong performance from project beneficiaries across knowledge, attitudes and practices in the two Nutrition sessions implemented thus far (IYCF and Malaria Prevention) and findings from the project KAP Study.

Routine monitoring of SBCC by assessing psychosocial and behavioural indicators, such as this pre-and post-test comparative analysis, provide information that can support field implementation by revealing necessary adaptations to better reach programme objectives, and to increase nutrition and health outcomes. Notwithstanding positive findings from the pre-and post-test analysis, revisiting malaria prevention concepts, such as recognizing lesser known signs and symptoms of malaria and proper net care techniques, into any planned refresher trainings would be useful to catalyse sustainable behaviour change among community members in Chemba.

Acronyms



ADA	Austrian Development Agency
CU2	Children Under 2 (years)
CU5	Children Under 5 (years)
GTNS	Gender Transformative and Nutrition-sensitive (project)
GDC	Gender Dialogue Club
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitude and Practices (Study)
MUAC	Mid-Upper Arm Circumference
ODK	Open Data Kit
PLW	Pregnant and Lactating Women
SBCC	Social and Behaviour Change Communication
SDSMAS	District Services of Health, Women & Social Action
SMART	Specific, Measurable, Achievable, Relevant and Timebound
SRH	Sexual and Reproductive Health
S&H	Sanitation & Hygiene
WFP	United Nations World Food Programme

Annex 1: Malaria Prevention Indicators and SMART Objectives

#	Indicator detail	SMART Objective	Respondent	Behavioural domain	Psychosocial indicators	Reference (template question)
1. Nutrition - Malaria Prevention						
1.1	Increased percentage of malaria-related messages recalled by caregivers	After complete SBCC topic area is conducted [6 weeks], 75% of caregivers partaking in the SBCC sessions, will be able to recall 3 key malaria-related messages (causes, transmission, signs, symptoms, testing, prevention, treatment, vulnerable groups, and eliminating mosquitos)	WOMAN/MAN	MALARIA (GENERAL)	KNOWLEDGE	2.1
1.2	Increased percentage of caregivers who know at least 3 signs and symptoms of malaria	After complete SBCC topic area is conducted [6 weeks], 75% of caregivers partaking in the SBCC sessions, know at least 3 signs and symptoms of malaria	WOMAN/MAN	MALARIA (SIGNS & SYMPTOMS)	KNOWLEDGE	2.2
1.3	Increased percentage of caregivers intend to seek health care when they suspect a family member has malaria, especially pregnant and lactating women and children	After complete SBCC topic area is conducted [6 weeks], 50% of caregivers partaking in the SBCC sessions, intend to seek health care when they suspect a family member has malaria, especially pregnant and lactating women and children	WOMAN/MAN	MALARIA (HEALTH SEEKING FOR CHILD)	INTENTION	2.3
1.4	Increased percentage of caregivers are confident they prioritize mothers and children under two to sleep under a mosquito net	After complete SBCC topic area is conducted [6 weeks], 66% of caregivers partaking in the SBCC sessions, are confident they will prioritize mothers and children under two to sleep under a mosquito net	WOMAN/MAN	USE OF NETS	CONFIDENCE	2.4

1.5	Increased percentage of caregivers confident how to properly care for their mosquito nets	After complete SBCC topic area is conducted [6 weeks], 50% of caregivers partaking in the SBCC sessions, are confident on how to properly care for their mosquito nets [sewing, treating, washing]	WOMAN/MAN	NET CARE	CONFIDENCE	2.5
1.6	Increased percentage of caregivers ensures at least mothers and children sleep under a mosquito net every night	After complete SBCC topic area is conducted [6 weeks], 66% of caregivers partaking in the SBCC sessions ensures at least mothers and children sleep under a mosquito net every night	WOMAN/MAN	NET USAGE	SELF-REPORTED BEHAVIOUR	2.6
1.7	Increased percentage of caregivers will know at least 3 risks of malaria during pregnancy	After complete SBCC topic area is conducted [6 weeks], 75% of caregivers partaking in the SBCC sessions, will know at least 3 risks of malaria during pregnancy	WOMAN/MAN	MALARIA (RISKS)	KNOWLEDGE	2.7
1.8	Increased percentage of caregivers intend to prevent mosquito breeding grounds	After complete SBCC topic area is conducted [6 weeks], 50% of caregivers partaking in the SBCC sessions, intend to prevent mosquito breeding grounds	WOMAN/MAN	ENABLING ENVIRONMENT	INTENTION	2.8

Annex 2: Malaria Prevention Questionnaire

	<p>SBC Monitoring Questionnaire - Malaria Prevention To be filled in by: Beneficiaries - Interviewed by Pathfinder Staff Version 2 - August 2020</p>	<p>Moçambique GTNS Project</p> 
<p>Introduction</p>		
<p>Read introduction to beneficiary</p> <p>Hello, My name is _____. I work for the local organization Pathfinder, supporting the Ministry of Health and WFP. You have been selected by chance within the GTNS (Khaliro Adidi) project beneficiaries at this site for this interview. You will gain no material benefit from agreeing to conduct this interview. You will not receive any extra assistance than you would otherwise have received. The survey is voluntary and you can choose not to take part.</p> <p>The purpose of this interview is to obtain information about the health behaviours of community members. It helps us understand whether we are implementing our program properly and whether we are addressing the needs of the population we serve. The information that you give will be confidential. The information will be used to prepare reports, but all information will be confidentially and no names will be shared.</p> <p>This interview will only take about 20 minutes.</p> <p>Please provide the most accurate answer that you can to best inform and improve the program.</p> <p>If you agree, we will now start the questions.</p> <p>If respondent says 'Yes' – start the data collection. If respondent says 'No' – thank you for his/her time and end the interview.</p>		
<p>1. General information - INTERVIEWER TO FILL IN</p>		
<p>1.1 . Name of community [drop down list]: Andrassone, Arnelo, Bangwe, Bhaumbha, Bucha, Candima, Cassume, Castela, Deve, Dzunga 1, Dzunga 2, Fernando, Francalino, Fumbe 1, Fumbe 2, Macendua, Mandue, Mapata, Mateus, Melo 1, Melo 2, Muandinhoza, Mulima-sede, Nhacagulagua 1, Nhacagulagua 2, Nhacavunvu, Nhalunga, Nhamaliwa, Nhamazonde, Nhambhandha, Nhamingale, Nhancaca, Nhangué, Nhapwete, Nharugue, Nhasulu, Nhatsete, Nhakuiyoyo, Niquice, Ofece, Shonsua, Thenda, Tomucene 1, Tomucene 2, Tsera, Xavier, Zenguerere, Zomdane 1, Zomdane 2</p>		
<p>1.2. Beneficiary is a <input type="checkbox"/> Man <input type="checkbox"/> Woman [ALL RESPONDENTS SHOULD RESPOND TO ALL QUESTIONS]</p>		<p>1.3. Date __ / __ / ____ dd mm yyyy</p>
<p>2. Questions for men and women</p>		
<p>2.1</p>	<p>Can you please recall key messages from the malaria prevention topic messages?</p>	<p>Do not read options to beneficiary. Mark each option that the caregiver mentions.</p> <ul style="list-style-type: none"> •A person can only be infected with malaria if they are bitten by a mosquito infected with malaria. •Flies, garbage and dirt cannot infect a person with malaria but can create an environment for mosquitos to reproduce. •I should take my baby/child to the health unit as soon as I see signs of malaria. •If I suspect someone in my family has malaria, I should take them to the health unit, especially pregnant and lactating women and children. •Malaria is treatable when I go immediately to the health unit for treatment. •The Health Unit is the only place where malaria can be treated. •Malaria treatment given by a doctor should be finished in it entirety.

