

TRAINING MANUALS ON MALARIA

TRAINEE GUIDE: Malaria in Pregnancy



Service
Delivery
Module

5

CONTENTS

The production of this training module would not have been possible without the kind support and contributions of all RBM partners, especially: WHO, SFH, UNICEF, USAID, World Bank and UKaid

Second Publish in Nigeria 2012
Copyright ©National Malaria Control Programme,
Federal Ministry of Health, 2012

Printed in Nigeria
Cover Design & Typeset Amina Gimba

Background	6
Section 1: Getting started - introduction to malaria in pregnancy	8
1.2 What malaria does in pregnancy	
1.3 The role of the antenatal clinic (ANC) in the prevention of malaria in pregnancy	
Section 2: Preventing malaria in pregnancy using Intermittent Preventive Treatment (IPT)	12
2.1 Intermittent Preventive Treatment IPT	
2.2 Using SP for IPT	
2.2.1 Dosage	
2.2.2 Dispensing of SP	
2.2.3 Possible side effects of SP	
2.2.4 What to do in case of side effects	
2.2.5 Contra-indications and special notes on the use of SP	
2.2.6 Revision – role plays	
2.3 Management considerations in dispensing SP through ANCs	
2.3.1 Areas of stable transmission	
2.3.2 In low endemicity situations	
Section 3: Preventing malaria in pregnancy using Long Lasting Insecticidal Nets (LLINs)	17
3.1 Access to LLINs through various distribution channels	
3.2 Types of LLIN	
3.3 How to use and care for an LLIN	
3.4 Common Beliefs, Myths or Misconceptions about LLINs	
3.5 Management issues involved in distributing LLINs through ANCs	
Section 4: Treating malaria in pregnancy	23
Section 5: Follow up	24
Section 6: Overview of malaria control through ANC clinic	25
Section 7: Revision	27
Section 8: Communication	28
8.1 Why is communication important?	
8.2 Understanding and taking notice of community culture and traditions	

- 8.3 Barriers to communication
- 8.4 Active listening
- 8.5 Using cue cards to help communication and health education
- 8.6 More about learning new things
- 8.7 Ways of reaching different audiences

ACRONYMS

ACRONYMS

MEANING

ACT	Artemisinin-based Combination Therapy
ANC	Antenatal Care / Clinic
CHEW	Community Health Extension Worker
JCHEW	Junior Community Health Extension Worker
CHO	Community Health Officer
DOT	Directly Observed Therapy / Treatment
HIV	Human Immunodeficiency Virus
IPT	Intermittent Preventive Treatment
LLIN	Long Lasting Insecticidal Net
RDT	Rapid Diagnostic Test
SP	Sulphadoxine-Pyrimethamine
EPI	Expanded Programme on immunisation

BACKGROUND:

Over 7 million women are pregnant every year in Nigeria. Unfortunately, about 545 women out of every 100,000 die as a result of pregnancy-related complications. Similarly, malaria contributes over 10% of all the deaths recorded during this period. In the past few years, there has been a renewed effort to control malaria in the country. Against this backdrop, several interventions have been introduced amongst which were massive distribution of long lasting insecticidal nets and the introduction of Artemisinin-based combination therapies (ACTs). Pregnant women are particularly vulnerable to malaria, hence the need to give them special attention.

Prevention of malaria during pregnancy is a component of Focused Antenatal Care (FANC), hence the delivery of this intervention is at the Antenatal Care unit of the health facility.

Other components of FANC:

- Early Detection and Treatment of Conditions: Malaria, Severe anaemia, Pre-eclampsia/Eclampsia, HIV/AIDS, Sexually transmitted infections, Tuberculosis etc
- Prevention: Malaria (use of IPT, LLINs), maternal and neonatal tetanus (using Tetanus Toxoid), anaemia (administration of Iron/Folate, Vitamin A & Multivitamin supplements, Anthelmintics), specific interventions as appropriate
- Birth preparedness and complication readiness
- Health education

The malaria preventive intervention / control strategies during pregnancy include the use of Long Lasting Insecticidal Nets, Intermittent Preventive Treatment (IPT) and prompt treatment when malaria is confirmed.

Though malaria is preventable, easily treated and curable, it assumes a deadly dimension when it occurs in pregnancy. To address this, Nigeria has adopted the WHO strategy for malaria prevention and control during pregnancy. Essentially, this consists of the use of long lasting insecticide nets, intermittent preventive treatment with Sulphadoxine-Pyrimethamine, and prompt case management.

This module on malaria in pregnancy has been developed for use in providing orientation for health care providers (doctors, nurses/midwives, community health officers, community health extension workers)as well as programme managers involved in focused antenatal care where control of malaria during pregnancy takes place.

Key Messages in this training:

- Malaria can occur in pregnancy even when the woman does not have malaria symptoms
- Malaria in pregnancy has adverse consequences both to the mother and the foetus
- All pregnant women should receive two doses of Sulphadoxine-Pyrimethamine (SP) as Intermittent Preventive Treatment (IPT).
- All pregnant women should sleep under Long Lasting Insecticide Nets (LLINs). This preventive measure against malaria should be encouraged.
- Pregnant women with symptoms of malaria should be promptly diagnosed and treated.

- *A pregnant woman should be prevented from getting malaria.*
- *Prevention of malaria in pregnancy avoids the adverse consequences of malaria to both mother and foetus.*
- *LLINs are recommended for prevention of malaria in pregnancy, supplemented by IPT in areas with stable malaria transmission.*

Learning Objectives for this Module:

By the end of this module trainees should be able to:

- *Understand why it is important to prevent malaria in pregnancy*
- *Know the recommended approaches used to prevent malaria in pregnancy*
- *Know when to administer IPT*
- *Understand the dosage schedule for SP as IPT*

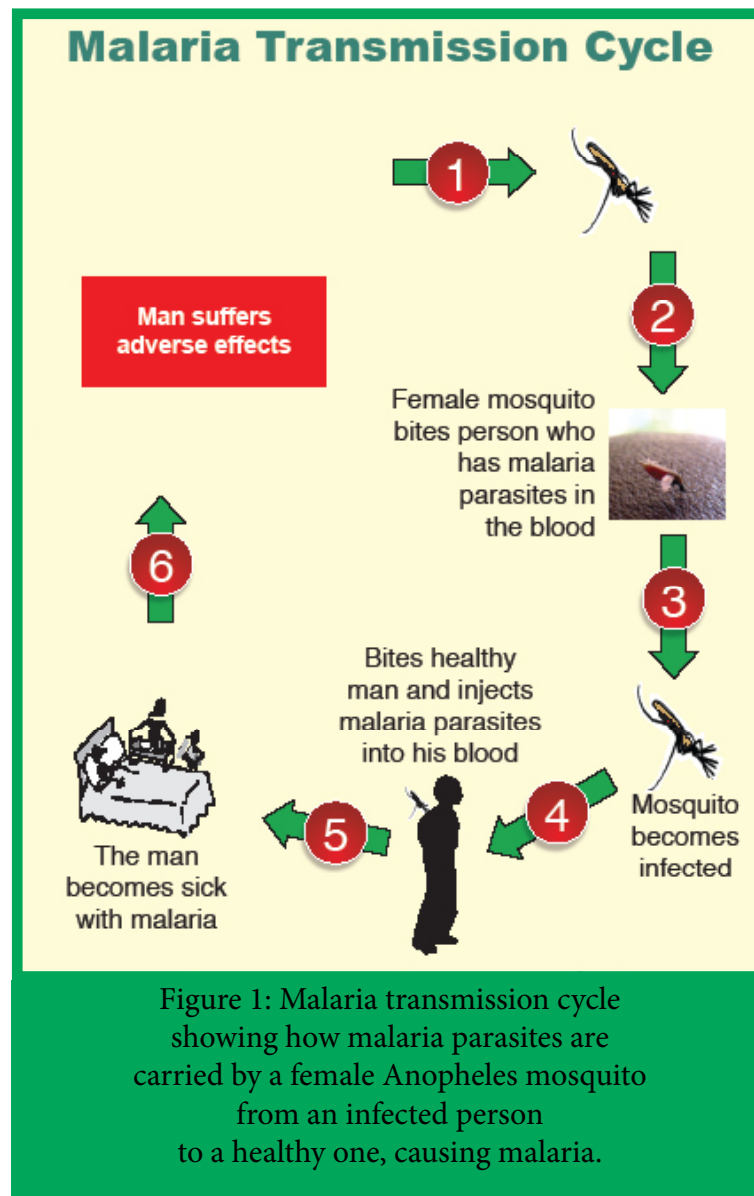
SECTION 1

GETTING STARTED - INTRODUCTION TO MALARIA IN PREGNANCY

Malaria is an infection caused by the parasite of the genus *Plasmodium* and characterized clinically by fever. Other symptoms may include headache, chills, rigors, general weakness, vomiting, loss of appetite and profuse sweating. The clinical features of malaria vary from mild to severe. Malaria can cause very severe and potentially long-lasting problems for mother and foetus and needs to be prevented during pregnancy. The ANC clinic is a critical service delivery point through which prevention of malaria in pregnancy takes place.

1.1 The Malaria Transmission Cycle

Figure 1: Malaria Transmission Cycle (figure missing)

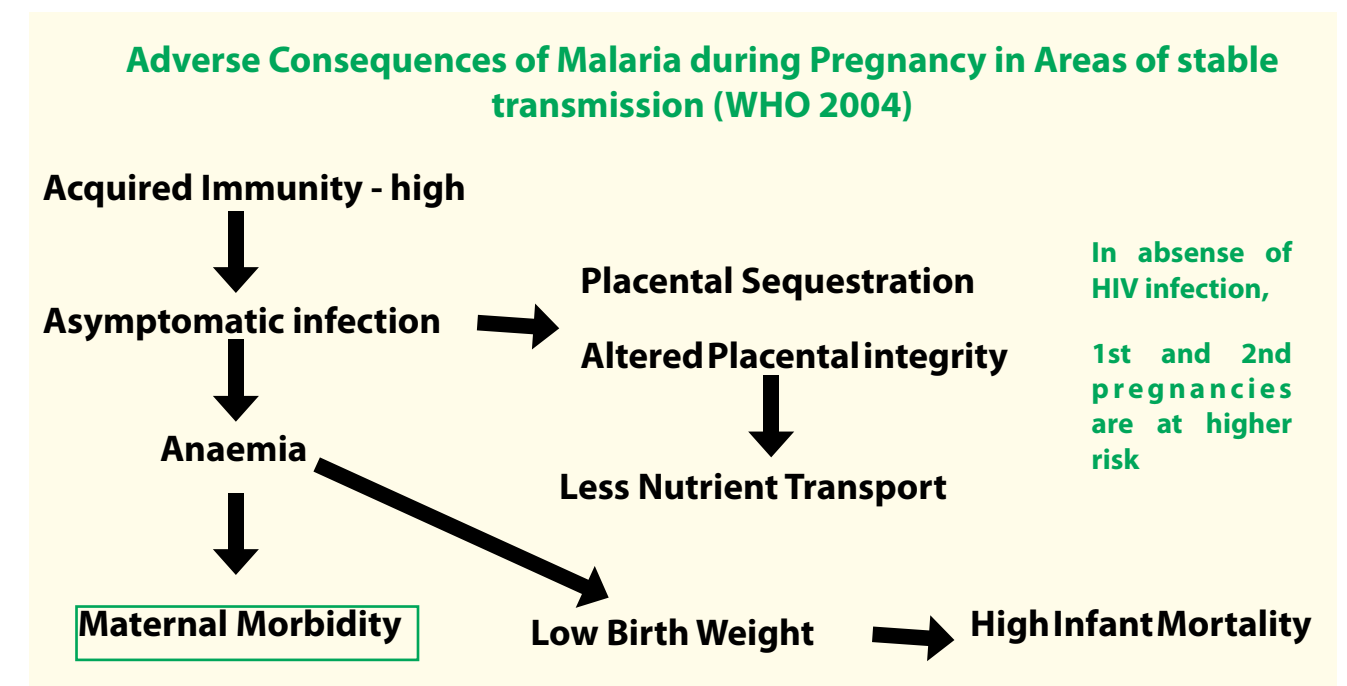


Malaria infection during pregnancy can have adverse effects on both the mother and the foetus. It is a particular problem for women in their first and second pregnancies. It is one of the causes of maternal anaemia, foetal loss, premature delivery, intrauterine growth retardation and delivery of low birth weight infants. It needs to be prevented and, if it occurs, has to be detected and treated effectively.

Malaria parasites attack and destroy red blood cells. Malaria contributes to 15% of anaemia in pregnancy and if untreated can cause severe anaemia. Below are figures that illustrate the possible pathways in which malaria can cause harm to the pregnant woman and foetus in an area of stable malaria transmission.

This diagram summarizes why the ANC has a vital role to play in the control and prevention of malaria in pregnancy.

Figure 2: Adverse consequences of malaria in pregnancy



Parasites hide in the placenta and interfere with the transfer of oxygen and nutrients to the baby. This increases the risk of:

- *Spontaneous abortion*
- *Still birth*
- *Pre-term birth / low birth weight – this is the single greatest risk factor for death during the first month of life*

These personalised visits provide the opportunity for a pregnant woman to be in contact with trained health care providers who can make regular malaria prevention and treatment interventions available to them.

Picture 2: Components for addressing Malaria in Pregnancy using focused antenatal care



In line with WHO recommendations, Focused Antenatal Care (FANC) is the approach used to provide services at the ANC clinic. The FANC approach is a personalised service that emphasises the pregnant woman's overall health, her preparation for childbirth and readiness for complications.

The main principles of Focused Antenatal Care are:

- **Evidence-based**, goal-directed actions
- **Family-centered** care
- **Quality**, rather than quantity of visits
- Care by **skilled providers**

Every pregnant woman should attend at least four scheduled visits to ANC as follows:

- *1st visit: before 16 weeks*
- *2nd visit: 16 to <28 weeks*
- *3rd visit: 28 to <32 weeks*
- *4th visit: 32 to 40 weeks*

SECTION 2

PREVENTING MALARIA IN PREGNANCY USING INTERMITTENT PREVENTIVE TREATMENT

The group that the presence of malaria parasites in the blood (parasitaemia) may not cause symptoms (asymptomatic) in most pregnant women. Malaria parasites are found in placenta where they destroy the red cells and interfere with nutrient transport to the foetus. This may lead to severe starvation in the foetus thereby leading to several problems such as preterm birth, intrauterine growth restriction, low birth weight and ultimately intrauterine death. Malaria prevention strategies therefore assumes that all pregnant women in endemic area have parasite in the placenta.

To prevent possible harmful outcomes of malaria parasitaemia in a vulnerable pregnant woman, it is important to

- Avoid symptomatic disease (severe or uncomplicated malaria) that could arise from the presence of malaria parasites in the blood of the woman
- Avoid adverse effects on the foetus due to the presence of the malaria parasites in the placental

IPT is used to eliminate the malaria parasites in the placenta and the blood.

2.1 What is Intermittent Preventive Treatment?

Intermittent Preventive Treatment (IPT) is the use of antimalarial medicine given in treatment doses at predetermined intervals after quickening and in order to clear a presumed burden of parasites. Currently, the recommended medicine of choice for IPT is Sulphadoxine-Pyrimethamine (SP).

SP, within the context of IPT, has the following benefits:

- A good safety profile in pregnancy
- Effectiveness in administration i.e. one-dose regimen (despite increasing parasite resistance to SP, which undermines SP's efficacy and effectiveness in malaria treatment, it is still recommended for malaria prevention in pregnancy whilst other alternative medicines are being investigated)
- Simple dosage regimen that promotes better treatment completion (treatment adherence and compliance)

SP is effective for IPT despite some recorded failure in some parts of the country, it is still effective in clearing parasites from the placenta.

2.2 Using SP for IPT

- All pregnant women who report to the antenatal clinic should be targeted for IPT.
- SP is given as a single dose of 3 tablets, each containing 500mg Sulphadoxine and 25mg of Pyrimethamine, at scheduled ANC visits after quickening (when the mother can perceive foetal movements) and not less than one month after the first dose
- Pregnant women should receive two complete doses of SP as IPT during a pregnancy carried to term.
- Pregnant women who are HIV positive and on routine (daily) Co-trimoxazole as well as pregnant women who are allergic to Sulpha-containing drugs SHOULD NOT be given SP as IPT.

- Each dose of SP should be given as directly observed therapy (DOT).
- SP should be provided as part of a comprehensive antenatal package with other components such as haematinics and antihelminthics to control maternal anaemia.
- Pregnant women with malaria disease (symptomatic malaria) should be tested and treated according to the national treatment guidelines.

2.3 Dosage of SP dosage

The two doses of SP shall be given at least one month apart.

- 1st Dose: After quickening (first foetal movement usually after sixteen weeks)
- 2nd Dose: At least one month after the first dose.

2.4 Dispensing Sulphadoxine-Pyrimethamine

Dispensing SP:

Step 1

- Remind a pregnant woman who comes to the antenatal clinic before quickening to come for her next regularly scheduled ANC visit. Record the date of her next visit in her ANC card. Counsel her on the benefits of regular ANC visits including those of IPT.
- At the appropriate ANC visit in the second or third trimester, repeat counseling of the pregnant woman on the benefits of IPT using SP. Check that she understands these benefits and address any doubts or misunderstandings that she may have. Confirm that quickening has occurred.
- Ask the pregnant woman for history of allergy to Sulpha-containing drugs and record the information on the ANC Card and health facility register.
- Check the woman's ANC card to see if she has received treatment with SP in the last month. Ask her to confirm what is on the card. If she has received treatment within the last month, schedule her for IPT at her next ANC visit. If she has not had a dose of SP in the past one month, proceed to step 2.

Step 2

- Give the pregnant woman her first dose of SP in the second trimester, i.e., after quickening (16 weeks of pregnancy or later).
- SP should be taken by the pregnant woman in the presence of a skilled health worker (DOT) in the health facility, using safe drinking water.
- Record the administration of SP to the pregnant woman on the ANC card and in the health facility register.
- Schedule the next dose in the third trimester with a minimum period of one month between the two doses.

Step 3

- The second dose of SP should be given during the pregnant woman's scheduled ANC visit in the third trimester, but not sooner than one month after the first dose has been given.
- Record the administration of the SP dose in the ANC card and health facility register. ASK trainees if they are aware of any possible side-effects that may arise when using SP to treat patients.

2.5 Possible Adverse Effects of Sulphadoxine-Pyrimethamine

Sulphadoxine-Pyrimethamine (SP) is generally well tolerated when used at recommended doses. However the following side effects have been documented to occur:

- Gastrointestinal such as nausea, vomiting, abdominal pain, diarrhoea.
- Urticaria, a kind of skin rash consisting of dark, raised, itchy bumps
- Generalised skin rashes
- Pruritus
- Headaches
- Insomnia

In rare cases, more serious adverse effects could also result from the use of SP. An adverse drug reaction is a response to a medicine that is harmful and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis or therapy of disease, or for the modification of physiological function. Possible adverse drug reactions to Sulphadoxine-Pyrimethamine are:

- Stevens Johnson Syndrome. This is a very rare adverse effect that could occur in people that react to Sulpha-containing drugs. It begins with flu-like symptoms, followed by a painful rash that spreads and blisters, eventually causing the top layer of your skin to die and shed.
- Toxic epidermal necrolysis, This is also a very rare adverse effect. It is characterised by the detachment of the top layer of skin (the epidermis) from the lower layers of the skin (the dermis) all over the body.
- When adverse drug reactions occur, they must be promptly identified, evaluated, addressed and reported. This is what is referred to as pharmacovigilance. The aim is to monitor the safety of medicines. There are specific pharmacovigilance reporting forms that are provided by National Pharmacovigilance Centre (NPC), National Agency for Food and Drug Administration and Control (NAFDAC). Processes for reporting are also in place. The case management branch of the National Malaria Control Programme and NPC emphasise the need to report any adverse drug events to antimalaria drugs.
- All health workers in every facility must be committed to the monitoring and reporting of adverse drug reactions, and should be familiar with the use of pharmacovigilance reporting forms and officers who have been designated for the collation and submission of the forms.

2.6 What to do in case of Adverse Effects?

In giving SP or any medication, it is important to explain to the user to watch out for any unusual or uncomfortable reactions that may be due to the medicine. Instruct the pregnant woman that if any such reactions occur that worry her, or make her condition worse, then she should return to the health facility for assessment by a trained health care provider. Most side effects, if any occur, will be mild and require only re-assurance by the health care provider. However, if severe adverse effects occur then:

- ➔ Referral should be made to a higher level of care
- ➔ The next dose of SP should not be given to the woman. She should be encouraged to sleep under a LLIN every night.
- ➔ Record in her ANC card that the woman is allergic to SP.

SP should not be given in the situations listed below.

2.2.5 Contra-Indications and Special Notes on the Use of SP

Contra-indications

- ➔ Known allergy to Sulphonamides.
- ➔ HIV positive pregnant women on Co-trimoxazole preventive therapy.
- ➔ The use of any other sulphonamides in less than 1 month

Important notes

- ➔ SP is not recommended for use before quickening.
- ➔ SP is an anti-folate and should not be given in combination with folates, e.g. folic acid. Folates should be withheld for seven days after taking SP.
- ➔ SP should not be given to women who have received recent treatment with SP (less than 1 month ago) because of its long half life, hence possible cumulative effect.

2.8 Revision

REVISION: Role Plays

Scenario one:

The pregnant woman is aged 17 years. She is pregnant for the first time, is at 20 weeks of gestation and is attending ANC for the first time. She is unsure about ANC and IPT. She is inquisitive about IPT but worried that it will have side effects or harm her unborn child.

The health care provider is working in a government-owned primary health care facility. This person is very supportive and gives clear explanations to encourage the pregnant woman on ANC and IPT.

Scenario two:

The pregnant woman is aged 35 years. She has been pregnant six times, is at 14 weeks of gestation and is familiar with ANC. She should appear to be overconfident that she does not need IPT.

The health care provider is working in a private hospital. This person should politely address the client's overconfidence and convince her to complete 2 doses of IPT.

2.9 Management Considerations in Dispensing Sulphadoxine-Pyrimethamine Through ANCs

Delivering IPT through ANC services is recommended in areas with stable transmission. For the purpose of malaria control in Nigeria, the whole of the country is considered a stable transmission zone. As such, implementation of routine IPT services through ANC requires:

- Ensuring continuous and adequate supply of SP through a well organized system,
- Strengthening the capacity of staff to carry out the required activities through training,
- Developing a strong information system for programme monitoring and evaluation as well as for keeping and easy retrieval of accurate individual records,
- Putting in place regular supportive supervision,
- Implementing an effective communication/health education programme targeting pregnant women to increase the use of the IPT services.

These management requirements need to be fulfilled at the various levels of the health services. Developing and sustaining effective IPT services requires active engagement on the part of health management teams at different levels and in different health facilities. Expansion of the services requires developing or strengthening all the supportive programme activities, not just ensuring adequate supply of SP doses.

SECTION 3

PREVENTING MALARIA IN PREGNANCY USING LONG LASTING INSECTICIDE TREATED NETS (LLINs)

3.1 Effectiveness of LLIN in preventing malaria

1. What is LLIN?

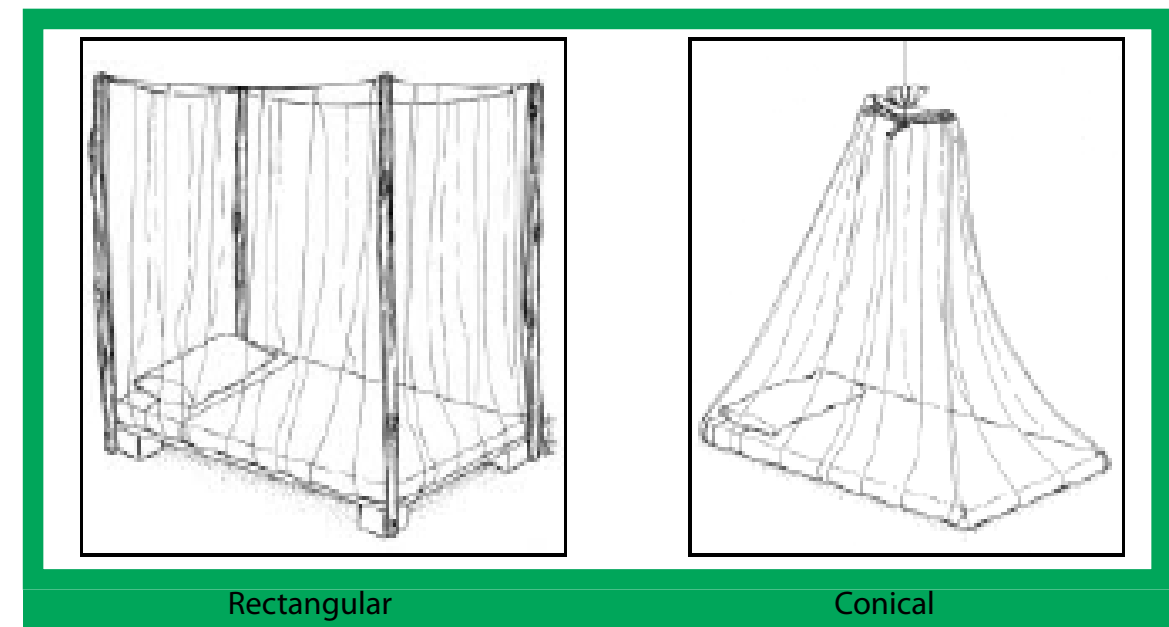
A LLIN is a type of net with insecticide embedded into the fibre of the net in such a way that the insecticide is able to maintain its effect on average for about three years or following 20 washes.

2 Types of LLIN

If at all possible, demonstrate to trainees how to put up an LLIN (see 3.2.2 below) but first *EXPLAIN* the basics by referring them to the illustrations below (in trainee materials). In particular:

LLINs can be of different shapes, sizes and colours. Most likely only one type of LLIN will be available via the ANC. This is because they will have been bought centrally in bulk and then supplied to health facilities. A variety of designs is available in the private sector and pregnant women who have preferences for designs other than those provided by the ANC should be encouraged to get them from the private sector.

Figure 3: Illustrations of conical and rectangular LLINs



NOTE: The use of bed nets that are not impregnated with insecticide is no longer encouraged. This is because LLINs have more advantages than untreated nets. See the table below for details

Table 1: Advantages of LLINs over untreated nets

Action	Untreated Nets	LLINs
Protection against malaria	Provide some limited protection	Provide high levels of protection
Kill and repel mosquitoes	No	Yes
Reduce number of mosquitoes in/outside net	No	Yes
Kill other insects e.g. lice, roaches, bedbugs	No	Yes
Safe for pregnant women, young children and infants	Yes	Yes

The regular and appropriate use of LLINs is a very effective method of reducing human-vector contact by

- Creating a physical barrier,
- Killing vector mosquitoes if they land on LLINs,
- Repelling them.

This is a very effective measure because the majority of anopheles mosquitoes that carry the malaria parasite feed at night and indoors.

By using an LLIN regularly and appropriately one is able to reduce the chances of getting infective bites. The beneficial effect of LLINs is supported by ample evidence from several studies showing that use of LLIN reduces malaria-related illness and death.

3.2 Use of LLIN in Pregnancy

1. Benefits of use of LLIN.

The use of an LLIN by a pregnant woman benefits the woman as well as her family. Studies indicate that women who were protected by LLINs every night in their first four pregnancies delivered approximately 25% fewer babies who were either small for gestational age or born prematurely than women who were not protected by LLINs.

Some other important points:

- Use of LLINs lessens the risk for low birth weight and maternal anaemia.
- The infant who sleeps under the net with the mother will also have marked benefits: reduced malaria exposure, decreased incidence of anaemia, decreased risk of death, and enhanced development.
- Research shows that insecticide treated materials can reduce childhood mortality by 17-33%.

It is for these reasons that:

- ☞ LLINs should be provided to pregnant women as early in pregnancy as possible.

- ☞ Their use should be encouraged throughout pregnancy, during the postpartum period and beyond for both mother and child.
- ☞ The current national recommendation is for all Nigerians to sleep under a LLIN every night.
- ☞ If a mother has missed her LLIN during her pregnancy, she should be given the net at the first contact with EPI.

2. How to use and take care of LLINs

- ☞ Before using a new LLIN for the first time, it is important to hang it the air in the shade for about 24 hours.
- ☞ The LLIN should be hung above the bed or sleeping mat, attached firmly above using a nail or hook and string.
- ☞ The distance above the bed or mat should allow all edges of the LLIN to be comfortably tucked in underneath the mattress or mat.
- ☞ The inlet (opening) of the LLIN should be positioned to allow user(s) to get into the LLIN comfortably and easily.
- ☞ When inside, all edges of the LLIN should be tucked underneath the mattress or mat. There should be no opening for mosquitoes to find a way into the LLIN.
- ☞ Any tears to the net should be repaired as soon as possible. Otherwise the holes will make the net less effective.

Remember: Replace an LLIN when torn beyond repair or after about 3 years of use.



Picture 4: Illustration of a well hung conical LLIN

When the LLIN is dirty it should be washed as follows:

- ☞ Wash only when dirty, not more than 5 times a year.
- ☞ Use a mild soap and cold water. Avoid detergents.
- ☞ Dry in a shade. Do not dry in direct sunlight.

3.3 Access to LLINs Through Various Distribution Channels

1.) Mass distribution of nets

There are various ways of distributing LLINs to those that should access them. One route is to distribute them through mass campaigns either alone or in combination with other public health interventions like immunisation. The purpose of campaign distribution is to reach as many people as possible in a very short time. The frequency can vary according to needs of replacement and varying levels of other distribution methods.

2.) ANC distribution of nets

Another way of distributing LLINs is through ANC clinics. This distribution channel targets pregnant women, especially those who do not have a net already. It is also a useful way of replacing old or torn LLINs between campaign distributions. Although mass campaigns have achieved a rapid increase in coverage, a decrease ranging from 5% to 13% has been observed during each of the two years following the campaign. The reasons for the decrease include nets being lost or removed for various reasons (including wear and tear), and population increase.

NOTE:

- *It is essential to establish systems for continuous and operationally sustainable LLIN distribution.*
- *Routine distribution of LLINs through ANC clinics is believed to contribute significantly to maintaining the coverage achieved by campaigns.*
- *This system helps to make nets available on a continuous basis to vulnerable groups.*
- *Although distribution through ANC and routine immunisation services limits the beneficiaries to pregnant women and young children, data from post distribution surveys strongly suggests that considerable re-distribution of nets occurs within extended families and communities.*

3.) Retail sector distribution

Distribution through the retail sector is another major system implemented in a number of countries. The commercial deliveries are continuous and target everyone. Nets may be sold at full price or at subsidized price when supported by the private sector. The private sector is an important route to get LLINs when one does not have access through other channels. Pregnant women can buy LLINs from commercial outlets as there are a variety of brands with different colours, sizes and shapes sold in pharmacies, drug shops, general merchandise shops, supermarkets and other kinds of outlets.

NOTE: LLINs distributed through ANC clinics or other units in a health facility should be accompanied by effective communication on the benefits of the nets and how to use them.

3.4 Common Beliefs, Myths or Misconceptions about LLINs

Table 2: Responses to Misconceptions

Belief or Myth or Misconception	Response or Explanation
Sleeping under an LLIN causes rashes	<ul style="list-style-type: none"> ● Correct use of LLIN does not cause illness. However, to avoid any discomfort, air the net under a shade for 24 hours before first use to prevent any itching and rashes. ● If any itching or rashes occur they will be transient and should not stop one from using an LLIN. ● Do not use the net as cover cloth or wrapper/blanket. ● The concentration of insecticide in a LLIN is sufficient to cause harm to the mosquito but too little to cause harm to humans.
The user will be hot and uncomfortable inside an LLIN	Keep your windows open for fresh air to reduce heat. The feeling of discomfort will reduce, as one gets familiar with continued use of the net.
The smell of the insecticide of the LLIN is harmful	The smell is not harmful. To reduce this sensation when using a new LLIN for the first time, one is advised to air the net under the shade for 24 hrs before use. The smell will stop after few days of use. One can keep windows open for fresh air to reduce the smell.
Use of an LLIN is not effective because one will get bitten before one goes to bed	<ul style="list-style-type: none"> ● Not all mosquitoes that bite carry malaria parasites. ● Before one goes to bed, one might be exposed to infective bites but these are not as many as the infective bites that one is exposed to later in the night. ● The regular use of LLINs by each member of the household and by each household in a community helps to reduce the density of infective mosquitoes in the house or community.
The insecticide in the LLIN fades rapidly	The insecticide is embedded into the fibre of the net depending on the brand of the net. The insecticide is released slowly to the surface. If the LLIN is cared for as recommended it should remain effective for about three years.
Mosquitoes can get through the mesh in the net	<ul style="list-style-type: none"> ● The holes in the mesh are too small for mosquitoes to pass through. ● Once the mosquito comes into contact with the fibre of the net impregnated with insecticide the killing effect will start to act. ● The mesh of the net is for ventilation. It is important to tuck the edges of the net properly when inside to prevent mosquitoes from getting inside. ● Inspect your net regularly for holes/tears and mend them

3.5 Management Issues Involved in Distributing LLINs through ANC

There are a number of management issues involved in setting up an effective LLIN distribution system through ANC clinics. In addition to ensuring a continuous supply of LLINs all other supporting systems should be in place for the programme to run efficiently:

- At the health facility or the ANC clinic, there should be a **storage facility** for the nets. As the nets are insecticidal, they should be stored separately away from other commodities such as medicines.
- There must be a **system of stock control** for accountability and for monitoring the re-order level. The re-order level is the minimum number of LLINs left in the store that would adequately cover a period until a new stock can be received following a request.
- The LLIN requirements at an ANC clinic should be quantified as realistically as possible to avoid stock-outs while saving storage space. The storage capacity, the expected number of new pregnant women in a particular time period and the time it would take to receive stock after sending a request should be used to determine both the number to request and the re-order levels.
- **Accurate records** should be kept, including a list of pregnant women who received the nets together with their addresses and the date and at what stage in their pregnancy they received the nets. When a pregnant woman receives an LLIN, this should be noted on her card together with the date.
- An effective and regular **communication strategy** is required to increase the use of the routine LLIN distribution through the ANC clinics. Messages targeting pregnant women should be broadcast as much as possible within available resources through locally available media.

At the higher levels of the health service, the distribution of LLIN through the ANC clinic system requires a thorough planning in terms of logistics, stock management and programme monitoring and evaluation. Moreover, supportive supervision is essential to maintain the quality of the service and to help health facilities in local planning, implementation and monitoring and evaluation of the programme.

SECTION 4 TREATING MALARIA IN PREGNANCY

- Pregnant women who complain of any illness should have a thorough clinical assessment: history taking and physical examination.
- They should be tested for malaria among any other laboratory investigations that are relevant in order to make a definitive diagnosis.
- It is important to note that pregnant women are susceptible to malaria in addition to other infections such as urinary tract infections. Therefore, avoid presumptive treatment of any kind unless there are no diagnostic or laboratory facilities in your health facility.
- If feasible refer an ill pregnant woman to a facility with diagnostic or laboratory services.

A pregnant woman with malaria that has been confirmed with a parasitological test, such as microscopy or RDT, should be treated in line with the national treatment policy.

Confirmed malaria in a pregnant woman should be treated as outlined below

The recommended treatment for confirmed malaria in a pregnant woman is **Quinine**:

- Quinine is safe and recommended for use during the first, second and third trimesters of pregnancy.
- Quinine is administered orally as 10mg/kg body weight to a maximum dose of 60kg body weight, every 8 hours for seven days.
- ACTs can be given in the second and third trimester (check case management modules).
- In the absence of quinine, an ACT may be given in the first trimester. Refer to the National Guidelines for Diagnosis and Treatment of Malaria for the dosage regimen of the recommended ACT.

SECTION 5

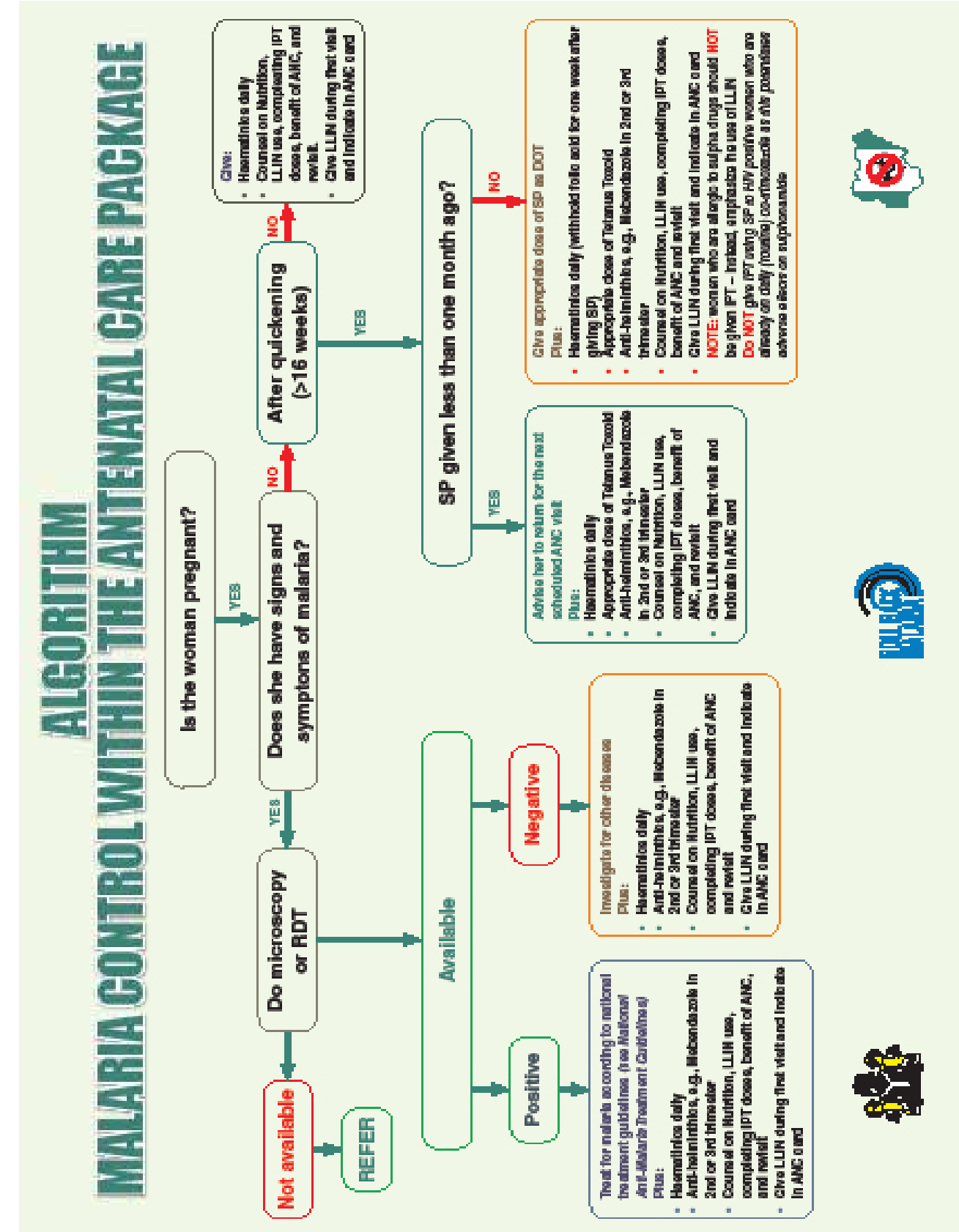
FOLLOW UP

Pregnant women attending ANC should be scheduled to attend the clinic in line with national recommendations. The two doses of IPT should be given during these visits as outlined in this module. Women should be advised to return to the clinic for assessment if they feel ill. They should be encouraged to prepare for delivery in a safe place (e.g. nearby health facility) and to plan for their baby.

SECTION 6

OVERVIEW OF MALARIA CONTROL THROUGH ANC CLINIC

The chart below gives an overview of malaria control using ANC clinics to target pregnant women.



Scenarios for Role Play: Using the malaria control through the ANC diagram to help diagnosis

Scenario 1:

Juliana Onoja is 32 years old and a school teacher. She has reported at the antenatal clinic for the first time. On taking the history and examination, she is seven months pregnant has slight oedema of both feet and is moderately pale. She has not taken any medication. On examination the gestation period is 30 weeks.

If you are acting the role of a health worker you should demonstrate the use of the flowchart by interviewing and examining the pregnant women and then following the direction arrows on the diagram, according to the responses the woman gives you, in order to decide what to do next.

Questions for Discussion:

1. What questions would you ask her to get a better sense of her condition and that of the foetus?
2. What investigations would you request?
3. What medicines would you prescribe to her?
4. How would you want to follow her up?

Scenario 2:

Amina Abubakar is a shop keeper. She is 18 years old. She has had a fever for three days and has no appetite. She has not felt foetal movements. She does not use a bed net and this is her first visit to ANC.

If you are acting the role of a health worker you should demonstrate the use of the flowchart by interviewing and examining the pregnant women and then following the direction arrows on the diagram, according to the responses the woman gives you, in order to decide what to do next.

Questions for Discussion:

1. What could be the likely causes of her complaints?
2. What investigations would you request to confirm the cause of her complaints?
3. If her urinalysis results are normal but she has a positive malaria RDT, what treatment is suitable for her condition?
4. How would you want to follow her up?
5. What advice will you give her to keep her and her foetus healthy?

Once each group has completed their first role play and discussed the associated questions ask them to do the second role play but make sure they change roles amongst members of the group. Members of the group who are not acting the roles should support those who are with ideas and experiences in order to see that the questions are appropriately answered

SECTION 7

REVISION

Read through the scenarios below and think about the appropriateness of the advice given.

What are your conclusions about:

- The appropriateness of the advice
 - Anything else that might be added to the advice
- a. **A pregnant woman comes for the 1ST VISIT during the 1ST TRIMESTER:**
 - *SP should NOT be given*
 - *Counsel on benefits of ANC*
 - *Counsel on benefits of IPT and the recommended schedule*
 - *Counsel on the benefits and use of LLIN*
 - *Schedule for next visit*
 - b. **A pregnant woman attends ANC for the 1ST VISIT during the 2ND TRIMESTER:**
 - *Counsel on benefits of ANC*
 - *Counsel on benefits of IPT and the recommended schedule*
 - *Counsel on benefits and use of LLIN*
 - *Give the 1st dose and schedule the next visit for the 2nd dose*
 - c. **A pregnant woman comes for the 1ST VISIT during the 3RD TRIMESTER:**
 - *Counsel as above*
 - *Give the 1st dose of IPT*
 - *Schedule for the 2nd dose of IPT one month later .*
 - d. **A pregnant woman who received 2 doses during the 2nd trimester**
 - *Encourage regular and appropriate use of LLIN*
 - e. **Woman who vomits within 30 minutes of taking SP dose**
 - *Repeat SP dose after 30 minutes*

SECTION 8

COMMUNICATION¹

What is Communication?

Any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other mode from Latin "communis", meaning to share is the activity of conveying information through the exchange of thoughts, messages, or information, as by speech, visuals, signals, writing, or behavior.

Communication requires a sender, a message and a recipient, although the receiver need not be present or aware of the sender's intent to communicate at the time of communication; thus communication can occur across vast distances in time and space. Communication requires that the communicating parties share an area of communicative commonality. The communication process is complete once the receiver has understood the message of the sender.

Who is a Sender?

The individual who passes an information through the dispatcher.

Who is a Receiver?

The recipient of an information.

Medium?

A tool used to store and deliver information.

Message?

A message in its most general meaning is an object of communication. It can also be this information.

What is a Message Medium?

The vessel in which an information is carried .

8.1 Why is Communication important?

Key Point: *Malaria is an issue that affects the whole community. It requires good communication between all in order to improve the health and wellbeing for everyone.*

Being a health worker means:

- You are a trusted member of the community
- People in the community know they can come to you for help and guidance because you are a role model and authority on health issues
- You are up-to-date on information that is important for the community's health and wellbeing

¹This section on communication is modified from the stand-alone Communication module.

- You can assist people to make informed decisions about their health, and act as an advocate for them when necessary

To be an effective health worker you need to be able to talk to other community members about many things and convince them that you know what needs to be done.

You will need to:

- Respect others no matter their social status. Respect towards people often earns respect in return.
- Listen to others without judging or criticising.
- Have good habits that can inspire others to change and improve their lives. For example, if you use an LLIN every night to prevent malaria, you can say from experience and with authority that the nets are effective in preventing malaria. If you use only ACTs to treat malaria, you can speak from experience and with authority when you tell community members to use only ACTs and not other less effective drugs.

REMEMBER: *Changing attitudes about malaria prevention and treatment will positively alter the lives of community members by helping them stay healthy.*

8.2 Understanding and Taking Notice of Community Culture and Traditions

It is important to understand the community culture and traditions. These are the basis of community members' values, which shape community members' attitudes on topics like malaria control. Often, these local beliefs influence community members' actions (or in-actions) more than any other source of information. Community members are likely to trust what they hear from family, friends and community leaders. Often they hear a mix of information, including local beliefs and messages that are passed down from health clinics. This mix of messages can be very confusing.

It is therefore important that the health worker be seen as a role model, someone who can be trusted to provide the correct information. Someone who is trusted, respected and seen as a role model will be more likely to dispel rumours and myths, and more likely to inspire confidence and successfully promote use/adoption of healthy behaviours.

8.3 Barriers to Communication

There are three main kinds of barriers you may encounter in your work:

- **Physical Barriers:** Includes physical distance, being distracted, and physical disability, e.g., being visually or hearing impaired, sleepy, tired, stammering or ill.
- **Personal Barriers:** Includes social and psychological factors, which involve judgments, emotions, and values held by both sender and receiver. Also, suspicion, rumours, customs and taboos.

- **Language Barriers:** Can come from different meanings and uses of words, symbols, images, and gestures, also from the kinds of words used. Try to avoid medical jargons.

They Are Significant Because:

Barriers may lead to:

- Poor and wrong feedback
- Conflicts or misunderstanding
- Misinformation, misinterpretation and misconception

But these can be overcome by:

- Using simple language
- Knowing your audience
- Using appropriate messages
- Giving the audience your full attention
- Using an appropriate channel / medium for your messages

Good communication skills can encourage the person(s) you are talking with to think about their health behaviours, and how they might change them. Good communication also encourages the person(s) you are speaking with to open up to you and share their personal thoughts and feelings.

A good communicator is someone who is:

- Kind, understanding and supportive
- A good listener
- Responsible
- Easy to talk to
- Open and non-judgemental
- Always available
- Trustworthy
- Able to understand a community member's concerns and needs
- Helpful and caring
- Respectful of other people
- Able to exercise confidentiality
- Aware of when to speak and when to listen
- Keenly aware of the topics being discussed

8.4 Active Listening

Of course, communication is a two-way process. You need to be able to present information to the community as well hear a response. There are different ways of showing your listener that you are actively listening to them and hearing their point of view these include not just the words you use but also the gestures you make:

Non-verbal (the gestures that you use):

- Be attentive
- Concentrate on and look at the community member
- Don't interrupt
- Nod, smile, lean forward

Verbal (the words that you say)

- Make some sounds (prompts):mm hmm..... to indicate you are listening and following along.
- Ask questions for clarification if there's something you don't understand.
- Summarize to ensure the community member understands the information you are providing.

What makes for good listening?

Listening is a skill that requires constant practice. Paraphrasing, repeating back to people what you heard them say, in a short form, is important for making sure you understood them, to show them you are listening and to help them clarify their feelings. This is most needed when trying to get information from them, e.g., during history taking or when they seem concerned about an issue. Misunderstanding can happen very easily when two people discuss something. A community member may tell you something that you understand in quite a different way from the way he/she meant it. To prevent misunderstanding when listening to a community member's problem or when sharing information with a community member, it is useful to summarise or paraphrase what has been said.

Do you agree? Think about why. Are there local habits and customs that interfere with listening and hearing? Could any of this advice cause problems in your community? How would you deal with any such issues?

Getting communications right involves a number of skills and an awareness and understanding of how to communicate messages so that listeners will hear and understand them. There are tools available to help you. These include the set of cue cards you have been given.

8.5 Using Cue Cards² to Help Communication and Health Education

The cue cards you have received have been designed to help communication in your community. Each card has a picture on one side and writing on the other. Both the picture and the writing are related to the topic covered in that cue card. For example, cue card 1 is designed to help explain how you get malaria.

Four key types of information are printed on the back of each card. These are:

- Cue card number and title at the top
- Specific questions to ask community members, along with desired responses
- Key message to be communicated to community members
- Some cue cards also have other important information in a box at the bottom

These cue cards can be used by all of us, even if we find reading difficult, because the pictures on the cards are a helpful tool for communicating with community members. In pairs, have participants look at the cards and PRACTISE what they might say when using them in the facility.

An example of using cue cards with community members for malaria prevention

- ☞ **Greet** the person(s) warmly and introduce yourself. Give them your full attention as soon as you meet them. Be polite, friendly, and respectful. Ask why they have come to the clinic, what concerns they have, and then explain what will happen during the visit.
- ☞ **Ask** the person(s) questions about themselves and their family. Ask them about their experience with malaria, its prevention, and treatment. Find out whether there is a pregnant woman or child under five years in their household, whether they have a bed net, what kind of bed net they have (treated or untreated?), who sleeps under it, etc.
- ☞ **Choose and use the cue card(s)** that best addresses their situation. For example, if the community member is a pregnant woman, you may want to use cue card 2 on prevention of malaria in high risk groups and also cue card 4 on use of IPT in pregnancy.
- ☞ **Hold** the cue card so the community member can see the picture on the front and you can see the writing on the back. **Focus on the dialogue** using the card and explain what the picture depicts in the context of malaria prevention or treatment.
- ☞ **Ask about current practices** related to malaria prevention and treatment in the household or community and determine whether there are behaviours that need to be changed.
- ☞ **Respond to these beliefs and concerns** as best as you can by providing correct information on, for example, the benefits of net use. Use the cue cards and your personal experiences with malaria as well as those of others you know to help you.
- ☞ **Recommend a doable action(s)**, such as using an insecticide-treated net to prevent malaria.
- ☞ **Encourage the community member to use medication correctly and set up a return visit if needed.**

²The discussion on cue cards, as well as the cue cards, are adapted from the IFRC manual, Towards a Malaria Free Community: IFRC Keep Up Programme Trainer's Guide, 2008

8.6 More about learning new things

Understanding how people learn new things also helps to get communication right and messages delivered. Empowering community members to change their behaviour and/or adopt healthier behaviours is not always easy and it is helpful to remember that adults learn in a different way from the way school children learn. Helping adults learn new behaviours involves also acknowledging and appreciating their previous experience. Thinking about the ways we like to learn new things may help us to guide others to learn new health behaviours and practices.

Generally adults learn best when the learning:

- **Shows respect for the person.** Mutual respect and trust between you and your community members will help the learning process. It is important to show appreciation of each other's feelings and thoughts without making a judgment or showing any bias.
- **Is relevant to them.** An adult learns best by building on what he or she already knows. Learning must meet their real-life needs.
- **Fills an immediate need.** People are most motivated to learn when they can make use of new information right away.
- **Involves two-way communication.** Learning activities must allow the learners to enter into a conversation with the teacher and with other people.
- **Engages them - adult learners need to be encouraged to take an active part in their own learning.** Get them involved through discussion, small groups, and learning from other adults.
- **Provides feedback and praise.** Give praise to learners even for small attempts. You need to correct ideas and behaviors that are not right but you also need to be supportive and encourage your learners as they get used to new ideas.
- **Uses visual materials and offer the chance to put into practice new skills.** Generally people remember more when visuals are used to support what is being said and they remember new skills best when they have the chance to practice them.
- **Is introduced in a safe atmosphere.** A cheerful, relaxed person learns more easily than one who is afraid, embarrassed or angry. Your learners need to feel that their ideas and contributions are valued—that they will not be made fun of or made to feel stupid.
- **Occurs in a comfortable environment.** Learners will learn best when they are physically comfortable and at ease.

8.7 Ways of Reaching Different Audiences

You need to provide or create the right environment for your clients. Consider, where would be the most appropriate place to talk to them? - in a private office, perhaps? - a private room in the home? Should it be a one-on-one discussion or is a group setting better? Choosing the right environment will help you ensure that your client is most comfortable and able to learn.

Some final guidance:

To ensure that community members understand the information they are receiving, it is important to use the simplest language possible, especially:

- Avoid medical terms where possible
- Use the local language, or the language the community member is using
- Stress key messages to summarise the discussion (e.g., you can protect yourself, use LLINs regularly, etc.)
- Use visual aids to emphasise the message
- Use an interpreter if necessary

8.8 Communication Issues in Malaria

It is important for the health staff to be able to communicate the need for

- Confirmatory malaria diagnosis before treatment
- Compliance with antimalarial treatment
- Use of long lasting insecticidal nets

Health staff need to have problem solving skills to effectively engage with patient and diagnose malaria.

8.9. The Health Worker-Patient Relationship

REMEMBER the roleplay you did:

Cameo one: Ask for a volunteer from the group to pretend to be a health worker. Ask another volunteer to pretend to be a caregiver with a child aged 8 months. Ask the health worker to take a history from the caregiver to find out the “child’s” symptoms. You are a health worker who sits across a desk and asks brisk questions, is impatient and cross, doesn’t listen well to what the patient is saying, doesn’t make eye contact and spends their time writing in a book.

Cameo two: Ask for a volunteer from the group to pretend to be a health worker. Ask another volunteer to pretend to be a caregiver with a child aged 8 months. Ask them to dialogue with the caregiver and find out the “child’s” symptoms. You are a health worker who sits near the patient and asks careful questions, listens intently and puts the patient and caregiver at ease.

Discussion points:

What would the patient/caregiver be feeling in each of these situations?

Why is good communication between patient and provider important for quality care?

REFLECTION: Think about the topics you have just been discussing. How will you use the new knowledge you have gained when you go back to your workplace? Use the questions in the boxes to help you reflect on this. When you are ready, record your thoughts in the boxes below.

What three important things can I do to improve the relationships I have with patients? a) b) c)	What am I going to have to do to put this into practice when I get home?
---	--



FEDERAL MINISTRY OF HEALTH
National Malaria Control Programme Abuja, Nigeria

The production of this training module would not have been possible without the kind support and contributions of all RBM partners, especially: **WHO, SFH, UNICEF, USAID, World Bank** and **UKaid**