

PN-ACR-129
117211

Contract #: 663-C-00-99-00323-00

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Training Materials
“Integrated Refresher Training Curriculum for Frontline Health Workers”

9/2000

Improved Availability and Quality of PPHC Services in Health Facilities
IR 4.1.4

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INTEGRATED REFRESHER TRAINING CURRICULUM

TAB GUIDE

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**Integrated Refresher
Training For Front Line
Health Workers
In The SNNPR**

**A Collaborative Training Activity Jointly Developed by the
Regional Health Bureau, SNNPR and the ESHE Project**

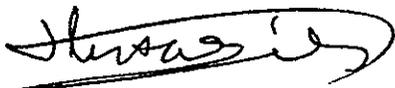
September 2000
Awassa, SNNPR, Ethiopia

Forward by the Head, Regional Health Bureau
SNNPR

The Regional Health Bureau (RHB) is committed to improving health services for the people of the SNNPR. One of our more important strategies to achieve this goal is the improvement of health worker skills and competencies through training opportunities.

The underlying principle behind **Integrated Refresher Training** is that health workers require continual skill development following pre-service training. Additionally, this training is most ideally delivered in an integrated fashion, reflecting all health services that health workers are asked to perform. This initiative would definitely go in line with the vision of the RHB to improve the quality of services as the bureau is diverting its focus from expansion to quality improvement.

While the concept of Integrated Refresher Training has been discussed for some time, the development of such discussions into actions had been sluggish. Accordingly, the RHB would like to thank the cooperative effort of our various Departments for making this training need a reality. Our special thanks goes to the consultancy editor Dr. Solomon Demamu. We would also like to extend our appreciation to the ESHE Project for helping to facilitate and support this undertaking.



Dr. Estifanos Biru
Head, Regional Health Bureau
SNNPR

Acknowledgements

The development of the Integrated Refresher Training (IRT) curriculum was an arduous assignment. Essentially, it required the consolidation and merging of existing in-depth training materials, examination of government standards, and the inclusion of recently developed guidelines into condensed training packages.

Without the joint participation of the Regional Health Bureau (RHB), SNNPR and the ESHE Project, the IRT could not have been accomplished.

Recognizing the importance of and need for a refresher training program for frontline health workers, the RHB formulated a task force to develop the training curriculum. Essentially, each regional department was asked to provide the necessary materials required for the program. Members of the task force undertook this activity and dedicated a great deal of their office and personal time to its completion. In September 2000, a workshop was held in the region to review the materials and comment on the content of the IRT curriculum. The RHB and members of the task force conducted a final review and this document was subsequently produced.

While many people contributed to the IRT concept and curriculum materials, several people were primary contributors and deserve special recognition. These individuals include:

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Abbreviations and Acronyms

AFB	Acid Fast Bacilli
AIDS	Acquired Immune-deficiency Syndrome
An.	Anopheles
ANC	Antenatal care
ARI	Acute Respiratory Infection
ARI	Annual Risk of Infection
A-V	Audio-Visual
BCG	Bacillus – Calmette – Guerrin
C/S	Ceserean section
CNS	Central Nervous System
COC	Combined Oral Contraceptives
DD	Diarrheal diseases
DOTS	Directly Observed Treatment Short course
DPT	Diphtheria –Pertussis-Tetanus
ENL	Erythema Nodosum Leprosum
EPI	Expanded Program of Immunization.
FHR	Fetal heart rate
4Cs	Counseling, Compliance, Condoms, Contact Treatment
GI	Gastro Intestinal
HRD	Human Resource Development
HSDP	Health Sector Development Plan
HIV	Human Immune-deficiency Virus
IDD	Iodine Deficiency Disorder
IE	Information and education
IEC	Information, Education and Communication
IM	Intra Muscular
IMCI	Integrated Management of Childhood Illnesses
IRT	Integrated refresher training
IUD	Intra Uterine Devices
IV	Intra Venous
LBW	Low birth weight
LP	Leprosy
M. leprae	Mycobacterium leprae
MDT	Multiple Drug Therapy
MTCT	Mother-to-child Transmission
NGO	Non Governmental Organization
OH	Overhead Transparency
OHP	Overhead Projector
OPD	Out-Patient Department
OPV	Oral Polio Vaccine
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy

P.F.	Plasmodium falciparum
P.M.	Plasmodium malariae
P.O.	Plasmodium ovale
P.V.	Plasmodium vivax
PB	Pauci Bacillary
PEM	Protein Energy Malnutrition
PID	Pelvic Inflammatory Disease
PNC	Postnatal Care
POP	Progestin Only Pill
RBCs	Red Blood Cells
Rx	Treatment
S/F	Side Effects
SNNPR	Southern Nations, Nationalities and Peoples' Region
STI/D	Sexually Transmitted Infection/Disease
TB	Tuberculosis
TT	Tetanus toxoid
URTI	Upper Respiratory Tract Infection
VAD	Vitamin A Deficiency
VIPP	Visualization in Participatory Program
WFA	Weight for Age
WHO	World Health Organization
WCDC	Woreda Communicable Disease Control
ZHD	Zonal Health Department

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A.
BACKGROUND
AND HOW TO USE
THE TRAINING
MATERIALS

1. Introduction

Human Resource Development (HRD) is one of the eight components of the national Health Sector Development Program (HSDP). A primary objective of HRD is to improve the access and quality of health care provided to the population of Ethiopia through employee training and skills development.

In the Southern Nations and Nationalities and Peoples' Region (SNNPR), the **Integrated Refresher Training (IRT) Program** outlined in this document is a central feature of the region's human resource strategy. However, it should also be understood that IRT is not designed to replace EXISTING forms of training. Rather, it should be viewed as a supplement to vertical training provided by National, Regional Departments, donors, etc.

The need for IRT is based upon several realities:

- Health workers are provided with very few opportunities to receive training beyond basic professional education;
- Health workers, especially those in rural and semi-urban health facilities, are required to provide a full range of health care services. Therefore, these employees need to develop and expand their skills in all health areas.
- An effective health delivery system ensures that its health workers are kept abreast of ongoing changes in disease patterns, management procedures, treatment protocols and approaches in the delivery of health care;
- Periodic training is a means of ensuring that employee skills meet minimum standards and competencies.

It should also be recognized that IRT is more than simply a training program. An important feature of the program is the distribution of **quick reference materials** that are intended for use by health workers on a daily basis. These documents are also intended to be used as a standard for supervisory review and follow-up. The quick reference materials should prove to be of great assistance to health workers in remote health facilities. These locations often have few reference materials and infrequent supervisory visits.

2. Aim of the Training

The IRT is designed to rectify existing problems in updating frontline health worker competence (knowledge, attitude, skill). This is to be accomplished through an integrated refresher training approach- one that incorporates face to face training with the distribution of easy to use reference materials, and follow-up support activities. While the initial goal of this program is the training of frontline health cadre, it is anticipated that this program will ultimately contribute to improved health service for the people of the SNNPR.

3. Target Participants for the Training

Frontline health workers: Health Officers, Nurses, Sanitarians, Health Assistants, Medical Doctors and Primary Health Workers assigned to health centers, health stations, and health posts.

4. Organization Of The Training Material

A modular training system was developed to present the Integrated Refresher Training (IRT) curriculum. Modular training was selected for its simplicity, objectivity and practicability. Essentially, each module in the training package is a “stand alone” training program that can be given singly or in aggregate to a target audience.

The curriculum for the IRT is composed of **6 modules** dealing with 6 different health topics. A task force composed of SNNPR senior officials identified the topics selected for inclusion in the IRT. The modules include:

1. Information, Education & Communication (IEC)
2. Maternal & Child Health (MCH)
3. Family Planning (FP)
4. Sexually Transmitted Infections (STI) and HIV/AIDS
5. Tuberculosis and Leprosy
6. Malaria

It was felt by the region that these topics cover the majority of health activities carried out by most frontline health workers. It should also be noted that a seventh module, Environmental Health, was included in the original list suggested by the SNNPR and will be incorporated into future versions of this document.

Each of the 6 modules has one-page summary containing: 1) the module objective; 2) the number and title of training sessions; 3) the number of learning objectives; 4) allotted training time; 5) required trainer competence; 6) training evaluation methodology; and 7) a list of additional reading sources for the sessions.

The training material has THREE parts:

- a) Part One (Training Guidelines)- This is the central part of the module, bearing the main body of the training curriculum. This section is presented in the form of a table. It carries the learning objectives, the content in brief, learning methods and activities, teaching aids and resources, and allocated time for each objective. This section is intended to establish a basic, standardized teaching format.
- b) Part Two (Handouts)- Accompanying the module are handouts that can be useful for the trainer and the training participants. The handouts expand on the content part of the module by giving in-depth coverage of the subject matter. Handouts should be duplicated and distributed to every trainee for future reading.

- c) Part Three (Quick Reference Material)- This reference guide contains practical, task-oriented, information for FHWs and health centers. This material will be distributed to each training participant for use in the field and at health facilities.

5. Time Allocation

It is anticipated that it will take a total of 5-6 days of daily training to complete the 6 modules. However, this can be modified to suit the needs of the training participants. In some instances, certain subjects may be excluded while others may be expanded. In the end, the modules are meant to be flexible and to meet the priority needs of the users- the health workers and their supervisors.

Module/Session	Title	Total Training Time
Module 1	IEC	6hr 40min
Session 1	Communication and Counseling	3hr 45min
Session 2	Adult Learning	1hr 25min
Session 3	Social Mobilization	1hr 30 min
Module 2	Maternal and Child Health	17hr. 55min
Session 1	Maternal Health	8hr
Topic A	ANC	2hr 50 min
Topic B	Labor and Delivery	3hr 05min
Topic C	PNC	2hr 05 min
Session 2	Child Health	9hr 55 min
Topic A	ARI	2hr 05 min
Topic B	DD	2hr
Topic C	Malnutrition	2hr 40 min
Topic D	EPI	3 hr 10 min
Module 3	Family Planning	6hr 40min
Module 4	STI and HIV/AIDS	6hr 30 min
Session 1	STI	3hr 15 min
Session 2	HIV/AIDS	3hr 15 min
Module 5	TB/Leprosy	7hr 10min
Session 1	TB	4hr and 15min
Session 2	Leprosy	2hr 55min
Module 6	Malaria	4hr 45min

6. How To Use The Training Material

Trainers and training organizers should consider the issues below when planning and conducting the training program.

- ◆ Coordinate all training activities with the respective Zone Health Departments (ZHD). Ensure that there is a close, collaborative and supportive arrangement for the training. This includes the incorporation of key ZHD officials in training planning, zone

familiarity with the modules, and a clear recognition of the training objectives and follow-up support requirements for zone and woreda supervisors.

- ◆ Before starting the training ensure that: 1) trainers and facilitators are familiar with their assignments; 2) the necessary materials have been printed and resources are available; 3) training participants have been selected; and 3) logistical arrangements have been accomplished.
- ◆ Start the training program by clearly presenting the overall training plan to the participants in terms of: 1) the overall aim of training; 2) topics of the training program (modules); 3) training objectives; 4) training strategies/methods; 5) training schedule or agenda; 6) training philosophy: (participatory, practical, experience based, problem solving etc.); and 7) follow-up requirements of the training.
- ◆ Introduce the training staff and facilitators to the participants. At the beginning of each session: 1) outline the learning objectives; 2) indicate the time needed to cover the session; 3) distribute handouts and reference materials to the participants.
- ◆ Conduct a pre-test for each modular session. Note: The same test will be given at the conclusion of each modular session to measure participant progress in the training.
- ◆ Follow the session implementation procedure (learning methods and activities) as closely as possible. Remember, the participants frequently have years of experience in the field and can contribute important examples and lessons learned to class discussions and practicum. Therefore, to the maximum extent possible, the training should be participatory, entertaining and practical.
- ◆ Be time sensitive. Watch the time allotted for each module session and stick within the suggested time guidelines.
- ◆ During the course of each session monitor if participants are grasping the training materials/lessons at about equal pace. If not, devise methods of keeping both the “fast” and “slow” participants involved and interested in the proceedings.
- ◆ Ensure effective use of suggested learning aids and resources. This is best accomplished by being thoroughly familiar with these materials prior to the beginning of training.
- ◆ At the end of each training module, evaluate participant responses to the training and materials presented by distributing a training evaluation form.

B.
TRAINING
MATERIALS

Module:

Information Education and Communication (IEC)

Session 1: Communication and Counseling

Session 2: Adult Learning

Session 3: Social Mobilization

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>1. To define communication and its principles</p>	<p>Communication is establishing common area of understanding.</p> <ul style="list-style-type: none"> ◆ Common communication approaches. <ul style="list-style-type: none"> - Informing - Educating - Persuading - Entertaining ◆ Characteristics of effective communication <ul style="list-style-type: none"> - All barriers are removed. - The proper media are utilized - A good presentation is made - Two-way communication is established 	<p>TRAINER - LED DISCUSSION Ask the trainees what they understand by the term communication. Write the key terms from their responses such as: sharing, commonness, transmission and ideas on the newsprint.</p> <p>LECTURE Using the key terms mentioned by trainees, define communication as dynamic information, knowledge and experiences sharing processes.</p> <p>DISCUSSION</p> <ul style="list-style-type: none"> ◆ Elaborate on the purpose of communication. ◆ Discuss approaches and methods of communication. ◆ Ask trainees what factors influence the process of transmitting information. The following points should come out during the discussion. <ul style="list-style-type: none"> - Knowledge, attitude, beliefs, values, Culture, age, gender, class and/or social status. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Markers ▪ Chalkboard ▪ Chalk 	<p>30 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
To describe types and components of communication	<p>Types of Communication</p> <ul style="list-style-type: none"> ◆ One-way communication ◆ Two-way communication <p>Components of Communication</p> <ul style="list-style-type: none"> ◆ Sender ◆ Channel ◆ Message ◆ Receiver 	<p>MINI LECTURE</p> <p>Describe the four components of communication Discuss the communication process: The sender, the message, the channel and the receiver.</p> <p>BRAINSTORMING</p> <p>Ask trainees to define one-way and two-way communication, information, education, persuasion and entertaining . On the chalkboard, write key words from responses such as feedback, new idea, knowledge, weakness and strength, accept, etc.</p>	<ul style="list-style-type: none"> • Chalkboard • Chalk 	15 min
3. To describe methods of communication	<p>Methods of communication</p> <ul style="list-style-type: none"> ◆ Intra-personal communication ◆ Inter personal communication ◆ Group communication ◆ Mass communication 	<p>MINI LECTURE</p> <p>Discuss the definition and meaning of intra-personal, Interpersonal, group and mass communication with trainees.</p> <p>BRAINSTORMING</p> <p>Ask trainees how they communicate with communities they serve. Elaborate on their responses by explaining the three characters of communication:</p> <ul style="list-style-type: none"> - Understanding - Respect - Honesty 	<ul style="list-style-type: none"> • Newsprint • Marker 	20 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
4. To define counseling and list skills needed for effective counseling	<p>Definition</p> <ul style="list-style-type: none"> ◆ Counseling is helping relationship to help a person help himself/herself. ◆ Why do we offer counseling? ◆ Where, when and how do we counsel? ◆ Types of counseling <ul style="list-style-type: none"> - Preventive counseling - Pre-test counseling - Post-test counseling - Ongoing counseling - Spiritual counseling - Crisis counseling <p>Skills in counseling</p> <ul style="list-style-type: none"> ◆ Listening ◆ Asking ◆ Observing ◆ Answering ◆ Checking 	<p>BRAINSTORMING</p> <p>Ask trainees to define counseling and list different types of counseling. Record responses on newsprint; make sure the following key words are noted on the newsprint.</p> <ul style="list-style-type: none"> ◆ Relationship, self-help, preventive, pre-test and post- test counseling, support, Crisis, Ongoing etc. List the key words on the newsprint and discuss on them. <p>ROLE PLAY</p> <p>Ask one trainee to play as a client and the other as health personnel in any program. Tell the audience to observe the way role players communicate and comment on it. Repeat the role play as much as time allows</p> <p>SUMMARY</p> <p>Ask trainees which method of communication is easier to them to communicate with people they serve and why?</p>	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	90 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
5. To explain the different backgrounds and approaches to be considered during counseling.	<p>Backgrounds</p> <ul style="list-style-type: none"> ◆ Culture ◆ Tradition ◆ Attitudes ◆ Beliefs ◆ Gender <p>Approaches</p> <ul style="list-style-type: none"> ◆ Care ◆ Empathy ◆ Confidentiality ◆ Accepting ◆ Non-judgmental 	<p>MINI LECTURE</p> <ul style="list-style-type: none"> ◆ Tell trainees the important role that culture, tradition, attitude, gender and beliefs play. ◆ Discuss attitude, empathy, care, confidentiality, accepting, non-judgmental with trainees. 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	25 min
6. To identify the different kinds of learning aids.	<p>Learning Aids</p> <ul style="list-style-type: none"> ◆ Printed materials ◆ Audio - Visuals ◆ Media <ul style="list-style-type: none"> - Mass media - Folk media 	<p>TRAINER-LED DISCUSSION</p> <p>Ask trainees to identify some learning aids and discuss the advantages and disadvantages of each. Write their responses on newsprint. Drama, songs, dances may also be listed under entertainment. Now ask some volunteers to come before the class and show how they communicate through drama, songs and dance in their community.</p>	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ Pre-prepared transparency ▪ OHP 	45 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
		<p>Ask trainees to list the characteristics of different media channels and to compare them with communication methods. Explain and outline the strengths and weaknesses of the different forms of learning aids and their effectiveness. Emphasize that mass media are useful to promote awareness and interest to a larger population within shorter time unlike face-to-face channels, which promote trial and adoption of a new practice by individuals.</p> <p>GROUP WORK Divide trainees into three groups to prepare on any relevant topic (e.g. Family planning, immunization and diarrhea). Each group will present its output using any of the following radio, TV, Newspapers, magazines.</p> <p>SUMMARY Ask trainees how they will use what they have practiced and summarize the session by outlining the major points covered in the session.</p>		

NOTE ON HEALTH EDUCATION (IEC)

Definition:

Health education is any influence verbal, visual or practical upon a person, which may lead to healthier living.

Health education is the part of health care that is concerned with promoting healthy behavior.

Through health education we help people to understand health and how their behavior may affect their health. We encourage people to make their own choices for a healthy life.

Health education is central to primary health care, which in turn is the primary means of achieving "health for all". Therefore, health education is a vital duty of health and other community workers who take part in primary health care.

Health education focuses on people's ways of life and behavior.

It explores the relationship between health and the behavior of individuals, groups, and communities. It shows the importance of understanding the many reasons for people's behavior. It involves 'people working with people', establishing good relationships, avoiding prejudice, knowing how to communicate clearly and how to promote partnership with people in achieving their goals. Health education reviews the skill needed for planning community health action. Such skills include collecting information, deciding on priorities, setting objectives, taking action and evaluating results.

Health education is also a process of counseling for individuals families, and groups, including formal and informal community groups, children at school, people in the same workplace, and the health care team itself.

Health education discusses techniques and approaches for working with the community as a whole, focusing on Information, Education and Communication (IEC).

HANDOUT ON COMMUNICATION AND COUNSELING

Communication is the process of sharing ideas, information, knowledge and experience among people. It is the process of sharing information to take action. Communication may take place within a person, between one person and another, between an individual and a group or between two groups. Communication facilitates creation of awareness, acceptance and action at individual, small group and inter-group levels.

Common communication approaches

- Information: the new idea is introduced and made familiar to the target audience.
- Educating: the new idea is explained including its strengths and weaknesses.
- Persuading: the audience is given convincing arguments that motivate them to take an action or accept a new idea.
- Entertaining: the attention of the audience is drawn to the new idea by stimulating the audience's emotions.

Methods of communication

There are several methods of communication. The four major ones are:

- ◆ Intra-personal communication
- ◆ Interpersonal communication
- ◆ Group communication
- ◆ Mass communication

Intra-personal communication: takes place inside a person. It includes the beliefs, feelings, thoughts and justification we make for our actions.

Interpersonal communication: is face-to-face communication between two people. For effective interpersonal communication, a health worker needs to understand very clearly the needs of the client and also appreciates the cultural content in which he/she is operating.

Group communication: involves face-to-face communication with several other people. A small group is considered between three to fifteen people. The members have a common interest and work together for common goal. Groups have an impact on decision-making that should be taken into consideration by a health worker.

Mass communication: is a means of transmitting messages to a large audience that usually reaches a large segment of the population.

Barriers of effective communication

A breakdown can occur at any point in the communication process. Barriers or obstacles can inhibit communication, resulting in misunderstanding, lack of response or motivation and distortion of the message. This can lead to conflicting views, insecurity and the inability to make effective decisions.

The most common barriers of effective communication are:

1. *Competition for attention (noise)*

Noise is obviously a major distraction when you are trying to communicate. It is hard to hold a discussion on anything at all against competing demands for attention.

2. *Language (vocabulary)*

We communicate through the things we say or write, and through the things we do. Everything we “say” has to do with language, whether spoken or written. When we communicate, we try to make sense of each other and the environment in which we are interacting. Difference in language could be an important source of misunderstanding in communication.

3. *Age difference*

Age difference between the sender of the message and receivers is a barrier to effective communication.

4. *Socio-economic gap*

Socio-economic gap between a communicator and receivers of different economic status is another barrier to communication.

5. *Attitudes (beliefs)*

A development or health worker should try to avoid making decisions, which are highly influenced by his/her pre-conceived ideas, or bias towards the target group. On the other hand, the community may be misguided by its expectations on the role of development or health workers. They either think that development and health workers are supposed to do every thing for them or that they (health workers) know too much and do not require services.

Cultural beliefs of people influence the rate at which they accept and adopt new ideas and skills. For this reason it is necessary for development and health workers to be aware of the attitudes of the communities they are working with.

How to overcome barriers of communication

To overcome communication barriers the sender must know his/her audience's background:

- ◆ Age and sex
- ◆ Social status

- ◆ Education
- ◆ Job/work
- ◆ Interests/problems/needs
- ◆ Language
- ◆ Culture and religion

Besides, to minimize communication barriers the messages the sender communicates must be:

- ◆ Timely
- ◆ Meaningful/relevant
- ◆ Applicable to the situation

Characteristics of effective communication

- ◆ All barriers have been removed
- ◆ The proper media has been chosen
- ◆ A good presentation has been made
- ◆ Two-way communication has been established

It is only then that the sender can establish COMMONNESS with the audience.

Listening

Being an effective listener is a skill that can be consciously developed and practiced in each new situation. Listening is not simply a matter of hearing. Hearing is passive, whereas listening is an active psychological process that enables us to attach meaning to the sounds we hear. It requires concentration and effort. You spend a large proportion of your time listening to other people, although the amount obviously depends on how much your job involves interaction with others. The skill of effective listening involves:

- ◆ Listening for message content: the starting point for good listening is obviously to ensure that you hear exactly what is being said. If you don't pay attention to the words, the other aspects of communication will confuse rather than inform.
- ◆ Recognizing any barriers to effective communication, either on your own or the senders part
- ◆ Listening for feeling: these will often be indicated by non-verbal clues accompanying the words, such as the tone of the voice.
- ◆ Responding through your own facial expression or body gestures, such as a nod or smile without interrupting the other persons flow. This shows that you are listening and understanding what they are saying and feeling.
- ◆ Checking whether the verbal and non-verbal clue confirm or contradict each other.
- ◆ Encouraging the speaker to continue or expand. It is helpful to remember the following points.
- ◆ Concentrate! It is very easy to drift away from what is being said. It forces yourself to keep your mind on the words, you can be sure that at the point you turn out, the speaker will say something really important.
- ◆ Ask yourself *What's in it for me?* To help you to concentrate on your own needs rather than on the speaker's, if appropriate.

- ◆ Focus on the general theme and flow of the message as well as the hard data. Isolated facts, taken out of overall context, can distort rather than inform.

Questions

Asking appropriate questions complements the skill of effective listening. Questioning increases your control over the process of gathering information because it enables you to specify precisely what you require. It also helps you clarify responses. To be effective, your question must be systematic, logical and appropriately timed.

The quality of the information you receive however will largely be determined by the quality of your questions. Effective communicators learn to frame their questions in a way that both maximizes the quality of the information they receive and strengthens their relationship with the people they are questioning

In broad terms, questions are either closed or opened although there are variations on each.

Communication using media

The range of media available to health and development workers is wide, but their role is the same: to accelerate social change and development. The choice of medium is more or less determined by the message availability and skill of its use. To be able to use media effectively health and development workers need to know three basic things.

- i) Know the range of media available to them
- ii) Know how they can be used effectively in passing on development messages
- iii) How to produce and use communication materials

Definition of media

Media are means through which health and development workers can convey messages to community or target groups. Mass media are the means through which we can communicate messages to large and often widely diversified audience. Mass media can also be used to create awareness on new developments in health or agriculture. They are also extensively used during emergencies like outbreaks of cholera, meningitis or malaria.

Community and traditional media

Community and traditional media are means of sending messages in given community. These are usually developed over a period of time by the community to help in communication. Community media can either be verbal or non-verbal or symbolic.

Traditional folk media transmit messages and information through songs, dances, drama, puppets, story telling and festivals.

- ◆ Traditional media deals with people's beliefs and values. They have high credibility. This makes them very useful vehicles for passing on health information.

- ◆ Traditional media include a wide range of oral communication and visual aids. Every community has a rich tradition. Thus health and development workers can use these for sending out information.
- ◆ These are easy to interpret as they stem from the community itself.

Counseling

Counseling is HELPING RELATIONSHIP to help a person help himself or herself cope with some aspects of his/her life. Counseling is a problem solving and decision making process, that aims to empower people to understand and face up to their problems and to reduce or solve them. It is designed to:

1. Encourage change when change is needed for prevention or control of health problem.
2. Provide support at times of crisis
3. Propose realistic action adapted to different clients and circumstances.
4. Assist clients to accept and act upon information on health and well being

Counseling is encouraging individuals, couples, families, and groups. Counseling as a service should ensure continuing access to the counselor and consistent support. Counseling is, therefore, usually an ongoing and long-term process.

Why do we counsel?

We offer counseling service in order to:

1. Provide social and psychological support to any one affected
2. Prevent the spread of infection
3. Increase compliance to health care services

Who is a counselor?

A counselor is a person who is able to

- ◆ Help people with health problem, and their families to understand, reduce, or resolve their problems
- ◆ Gain the trust of people who need help
- ◆ Communicate information about the infection in an accurate, consistent and objective manner
- ◆ Understand other people's feelings and concerns
- ◆ Allow clients to make their own decision, not impose own view on the issue

An effective counselor needs to:

- ◆ have understanding and knowledge of the problem/infection
- ◆ have positive attitudes, including acceptance
- ◆ have good communication skills
- ◆ have ability to apply these skills in different counseling situations
- ◆ have confidentiality
- ◆ have adequate time

- ◆ be non-judgmental, i.e. should not hold a pre-formed outlook about client's problem or its cause.

Main communication skills

For effective communication the message must be: - the five C's

- ◆ Clear (simple language)
- ◆ Concise (no unnecessary details)
- ◆ Complete (requiring minimal feedback)
- ◆ Convincing (why it should be done)
- ◆ Capable of being carried out (reasonable)

In order to be an effective counselor, we need to have good communication skills. Communication skills enable the person to share his/her problems and start to consider how he/she might cope with them. Five major communication skills are:

1. Listening
2. Observing (non-verbal language)
3. Checking you have understood what the person said
4. Asking questions
5. Answering questions

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>1. To explain the concepts and principles of adult learning</p>	<ul style="list-style-type: none"> ◆ Adult learning is a learner - centered training process in which the focus is based on the learner's needs and experience. ◆ Who is an adult? <ul style="list-style-type: none"> - Mature person over 18 years of age - A person who has many and varied life experiences. - A person with responsibilities in the home and home community. ◆ Learning is any relatively permanent change in knowledge or behavior, which occurs as the result of information or experience. ◆ Adult learning accommodates the needs and interests of trainees ◆ Adult learning is a process ◆ Adult learning is sharing of opportunities 	<p>TRAINER-LED DISCUSSION</p> <p>Tell trainees the purpose and objectives of adult learning. Ask trainees to define: 1) who is an adult and, 2) what adult learning is.</p> <p>BRAINSTORMING</p> <p>Ask trainees to list different forms of adult learning. Make sure that the following points come out.</p> <ul style="list-style-type: none"> ◆ We learn how to learn. ◆ We learn how to manipulate things. ◆ We learn how to like and dislike things. ◆ We learn facts. ◆ We learn how to solve problems. <p>DISCUSSION</p> <p>Ask trainees to list how they work with community members and advantages of adult learning. Reinforce the following points:</p> <ul style="list-style-type: none"> ◆ Establishing good working relationship ◆ Understanding value and interests of target group ◆ It is participatory 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	<p>25 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
2. To list and discuss the various methods of adult learning	<p>Methods</p> <ul style="list-style-type: none"> ◆ Trainer-led discussion ◆ Brainstorming ◆ Demonstration ◆ Role play ◆ Field visits ◆ Case study ◆ Observations ◆ Debate ◆ Cultural songs and dances 	<p>MINI LECTURE Outline the different methods used in adult learning and arrange participants into groups</p> <p>GROUP WORK</p> <ul style="list-style-type: none"> ◆ Divide the trainees into three groups to discuss different methods of adult learning, and the advantages and disadvantages of each method. <p>GROUP 1: Will discuss Role-play, small focus group discussion and field visit.</p> <p>GROUP 2: Will discuss brainstorming, mini-lecture.</p> <p>GROUP 3: Will discuss Participatory method, case studies and observation.</p> <p>GROUP PRESENTATION</p> <ul style="list-style-type: none"> ◆ Ask each group to present their work in the plenary. Encourage trainees to ask questions about each method and to share their experiences using the methods. Summarize all methods of adult learning. ◆ Emphasize most important points discussed in the session. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk ▪ Newsprint ▪ Marker 	40 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
3. To explain the approaches to adult learning	<p>Approaches to adult learning</p> <ul style="list-style-type: none"> ◆ Good working relationship ◆ Better understanding of targets ◆ Respect values and interests of targets ◆ Consider learners as peers 	<p>TRAINER-LED DISCUSSION Ask trainees to describe different approaches to adult learning. The following points are expected to come out.</p> <ul style="list-style-type: none"> ◆ Community participation. ◆ Intersectoral collaboration. ◆ Community development. ◆ Social action. ◆ Social planning. <p>GROUP DISCUSSION Divide the trainees into groups of four. Each group should discuss how the following approaches contribute to adult learning.</p> <ul style="list-style-type: none"> ◆ Community participation ◆ Intersectoral collaboration ◆ Community development ◆ Social planning and action <p>SUMMARY Summarize the whole unit by reflecting on the most important points discussed on adult learning.</p>	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	20 min

HANDOUT ON ADULT LEARNING

Adult learning is a process where by adults share experiences, knowledge, and skills in a participatory manner so as to improve the quality of life for their families and community. Learning can occur either in conventional, formal classrooms or in a more participatory, informal ways. Adult learning is problem driven rather than rhetoric driven. Teaching subjects and methods help the learner to solve practical problem. The learner plays salient role, in drawing on his/her own knowledge, experience and skill to meet the set objectives.

Concepts, definitions and principles of adult learning

Adult learning is a learner–centered training process in which trainees take responsibility for the quality of their learning. The trainer acts as a facilitator or as a resource person in the process.

An effective adult educator approaches people in the community as peers and establishes a collaborative working relationship with them.

The theme of adult learning is based on a number of assumptions of which the most important ones include:

- ◆ Trainer is not as much a teacher as a facilitator.
- ◆ Facilitator begins with what learner knows already so that they can eagerly participate in the process of learning
- ◆ Every learner has the right and responsibility to bring in any relevant experience to contribute to discussion.
- ◆ Training is planned and implemented in a participatory manner.
- ◆ Learners can with assistance determine their own learning needs and expectation
- ◆ Learning is undertaken in a friendly environment, which learners themselves approve.
- ◆ Learning is not merely meant to acquire knowledge, rather it is a means to share experience and skills.
- ◆ Appropriate technology with local materials and skills is a potential resource for the learning process.

At school children are taught the things which we adults decide they should be taught. But adults are not like children who sit in classrooms and are then taught history, or grammar, or a foreign language. As adults we can try to learn these things. If we wish, we can learn about growing a particular crop, about the government, about housing or building – or about whatever interests us. We can build on the (knowledge) we already have using the tools of literacy ... or if we never went to school, we can start by learning about the things of most immediate importance to us: better farming methods, better child care, better feeding. We don't even have to start by learning to read and write.

Trainers should pay attention to factors that influence the learning process. These include:

- ◆ Involve learners in the learning process and give them the opportunity to reflect on their experiences.
- ◆ Reflect on and observe their experiences from many perspectives.
- ◆ Create concepts that integrate their observations into logical patterns
- ◆ Use these patterns to make decisions and solve problems.

Learning occurs best through active involvement. This implies that the process of learning matters more than the actual subject.

There are several methods that should be applied when working with trainees or adults in the community. The following are brief descriptions of methods to be used in such training:

1. Role-play is an effective method of teaching adults. This is because the method is dramatic and involves the learners directly in the learning event. Role-play involves acting out a story or a real life situation, which all learners can relate to.
2. Field visits should be organized to places of interest as often as the opportunity allows. A field visit gives the trainees the chance to study a real life situation.
3. Demonstration is also a good method for teaching skills. Demonstration demands that you:
 - ◆ Be very clear on what you wish to demonstrate
 - ◆ Take the trainees through the task step by step. Repeat it as often as necessary to ensure that they comprehend what is being done.
 - ◆ Ensure that all trainees can see what you are demonstrating. Give the trainees an opportunity to practice what you have demonstrated to them. It is only after the trainees can do the task or demonstration on their own that you can be sure they know it.
4. Case study is a short written presentation of a real life situation, which trainees read and then respond to. The case study can be used to generate discussion about situations similar to those trainees have experienced in their own communities.
5. Trainees can gather information on what is happening in their communities using observations. Observations along with checklists are important mechanisms of learning.
6. Discussion is one of the most effective methods of teaching adults. This is because it allows the trainees to express themselves and contribute to the learning experience. In order for a discussion to be effective, groups should be small (6-8 people).
7. Brainstorming encourages trainees to sit together in groups of two or three to think through an idea. It is a useful way of generating information and sharing ideas.
8. A mini-lecture is a good way of presenting new information and ideas to the entire group. A mini-lecture helps you to arrange information logically and encourages trainees to participate by posing questions from time to time.
9. A buzz group is a small group of trainees who sit together to discuss an idea and prepare their work to share with a larger group.

10. A focus group is small and limits its discussion to one main idea. There is a facilitator who leads the discussion using a pre-prepared set of questions on a particular topic.
11. Debate involves two individuals, groups or teams who argue on an issue. It is a lively way of getting across information from opposing points of view.

There is no best method (for teaching learning) that applies to all situations. Each method has its own strengths and weaknesses.

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>1 To explain the principles and characteristics of social mobilization</p>	<p>Aims of social mobilization</p> <ul style="list-style-type: none"> ◆ Increase people’s awareness, knowledge, and ability to organize and be self-reliant. ◆ Motivate populations, groups, and communities. <p>Characteristics</p> <ul style="list-style-type: none"> ◆ Self-sustaining process. ◆ Multilevel approach i.e. both bottom up and top down. ◆ Mobilizes all available resources. <p>Principle</p> <ul style="list-style-type: none"> ◆ Comprehensive understanding of a country’s, regions or community’s socio-cultural and politico-economic contents. ◆ Understand and modify people’s ideas and beliefs 	<p>TRAINER-LED DISCUSSION</p> <p>Ask trainees to describe the characteristics, principles and aim of social mobilization.</p> <p>List key words on newsprint such as:</p> <ul style="list-style-type: none"> ◆ Mobilizing available resource. ◆ Motivating people ◆ Understand and modify people’s ideas and beliefs. ◆ Self-sustaining process. ◆ Multi-level approach. ◆ Comprehensive understanding of country’s, region’s or community’s socio-cultural and politico- economic contents. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	<p>30 min</p>
<p>2. To Describe major components of social mobilization</p>	<p>Components of Social Mobilization</p> <ul style="list-style-type: none"> ◆ High-level advocacy. ◆ Organizational motivation and training. ◆ Community-level communication. 	<p>MINI LECTURE</p> <p>Give lecture with special emphasis on community and beneficiary mobilization. Community mobilization is concerned with informing and gaining the commitment of local political, religious, social and traditional leaders as well local government agencies, NGOs, women’s group and cooperatives.</p> <p>QUESTIONS AND ANSWER</p> <p>Invite trainees to ask questions about the aims and characteristics of social mobilization.</p>	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	<p>30 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
3. To explain the process of social mobilization	<p>Process of social mobilization</p> <ul style="list-style-type: none"> ◆ Political commitment. ◆ Government support. ◆ Religious, social, and traditional leaders support ◆ Beneficiaries' motivation. 	<p>TRAINER-LED DISCUSSION</p> <p>Ask trainees to state who their partners are at their place of work. Ask their reasons for considering the people on their list as their partners. As they give their reasons, write the key words they use on the newsprint, some of the words that should be listed include:</p> <ul style="list-style-type: none"> ◆ Allies - Friends - Working together. ◆ Share common interest, etc. <p>MINI LECTURE</p> <p>Ask the trainees to cite some health problems for which social mobilization would help. Then cite your own experience using social mobilization</p> <ul style="list-style-type: none"> ◆ Gather information about the partners who live and work in the community. ◆ Identify leaders, influential persons and groups in the community. Also identify possible adversaries and reasons - for their opposition. ◆ Determine the type of activity/work each person, group or leader is involved in at the community level. ◆ Determine how your interests and those of the group you identified are similar or different and whom you should work with. 	<ul style="list-style-type: none"> ▪ Newsprint Marker 	30 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
		<p>SUMMARY Ask questions about the need to identify partners in the community. Note the following if not stated by trainees:</p> <ul style="list-style-type: none"> ◆ Cost sharing. ◆ Avoidance of opposition. ◆ Facilitating the acceptance of professional ideas through leaders. ◆ Sustainability: Feeling of ownership by community etc. ◆ Summarize the session by reminding trainees about the importance of partners in sustaining community activities. 		

HANDOUT ON SOCIAL MOBILIZATION

Definition

Social mobilization is the process of bringing together all feasible and practical inter-sectional social allies to raise people's awareness and demand for particular development program, to assist in the delivery of resources and services and to strengthen community participation for sustainability and self-reliance.

Another definition of social mobilization is a broad scale movement to engage people's participation in achieving a specific development goal through self-reliant efforts.

Social mobilization involves building of networks. Net working is critical to social mobilization because success depends on making the **correct alliances** among various groups. These groups may include:

- ◆ Formal government agencies and political parties
- ◆ Professional groups
- ◆ Mass organizations
- ◆ Religious groups
- ◆ Non-governmental organization
- ◆ Research and academic institutions
- ◆ Print and electronic media

Allies can be formal or informal, and their existence depends on some level of common interest.

Major components of social mobilization

- ◆ High level advocacy
- ◆ Organizational motivation and training
- ◆ Community level communication

The **process of social mobilization** is concerned with mobilizing human and financial resources through five main approaches:

1. **Political:** aims at winning political and policy commitment for a major goal and the allocation of necessary resource to realize that goal. The targets here are national policy and decision makers
2. **Government:** aims at informing and enlisting the cooperation and help of service providers and other government organizations, which can provide direct or indirect support.
3. **Community:** aims at informing and attaining the support of local political, religious, social and traditional leaders as well as local governmental agencies, NGO's, women's groups and cooperatives.

4. Corporate: aims at securing the support of national or international companies in promoting appropriate goals through the contribution of resources or carrying of appropriate messages as a part of their advertising or product labeling.
5. Beneficiary: aims at informing and motivating the program beneficiaries through training program, the establishment of community groups, and communication through traditional or other media.

Governmental or non-governmental organizations with the same purpose can collaborate toward the attainment of the target aimed by the owner of the program, whereas allies are those who make some cooperation towards the attainment of a program objective

Need for allies or partners

Experiences and studies show that more passive involvement in any of social activities didn't guarantee sustainability of a program. Although campaign and similar social mobilizations may create interest and support, only established systems can ensure long term sustainability. If the system isn't established yet, opportunities to establish should be sought of and one of this is through partners.

The need for an ally is not only to ensure sustainability. The health sector alone can't afford or have a means to reach and fully cover the population at risk. Thus it is important to avoid passive involvement of other sectors and should provide sense of ownership and responsibility to a program at large.

Lastly, to ensure success specific roles or tasks for ally group, organization or individuals should be identified and sorted.

In summary: the process of social mobilization shall involve:

- ◆ Problem analysis based on base line data on problems, resources and options.
- ◆ Presentation and introduction to the community and partner (partners at beneficiary, community, corporate, government and political level)
- ◆ Identification and prioritization of the problem
- ◆ Seek consensus at each level
- ◆ Communication, information, education and persuasion using different methods
- ◆ Set up working committee at each level as indicated
- ◆ Monitor implementation
- ◆ Continue to sensitize

MODULE:

**MOTHER AND CHILD
HEALTH (MCH)**

**SESSION 1: MATERNAL HEALTH
SESSION 2: CHILD HEALTH**

MODULE TITLE: MOTHER AND CHILD HEALTH

MODULE OBJECTIVE: At the end of the refresher training the learner (health worker in services) will be able to provide effective maternal health (antenatal, delivery and post natal care) and child health (CDD, ARI, EPI, Nutrition) services.

NUMBER OF SESSION S: 2

NUMBER OF LEARNING OBJECTIVES: 40

TOTAL TRAINING TIME: 15hr

CHARACTERISTICS IN A SESSION	SESSION 1:	SESSION 2:
	MATERNAL HEALTH	CHILD HEALTH
# OF LEARNING OBJECTIVES	17	27
TRAINING TIME	8hr	9hr 55min
REQUIRED TRAINER COMPETENCE	Qualification as a nurse, health officer, medical doctor with prior training and or work experience on MCH or reproductive health.	
SESSION EVALUATION	Pre- and post test Questioning during sessions	
QUICK REFERENCE	Available	
ADDITIONAL READING MATERIAL ON SESSIONS:		
<ol style="list-style-type: none">1. MOH. Manual on Maternal and Child Health Care, 1995, Addis Ababa.2. MOH. Technical Guidelines in Maternal and Newborn Care, 1998, Addis Ababa, Ethiopia.3. A.A. Arkutu. Healthy Women, Healthy Mothers: An Information- 2nd ed. Family Care International Inc., 1995, U.S.A.,.4. WHO, UNICEF, MOH-Ethiopia. Management of Childhood Illness.5. Ross, Susan Rae. <i>Safe Maternal and Newborn Care</i>. 1998		

MODULE:

MCH

SESSION:

MATERNAL HEALTH ANTENATAL CARE (ANC)

Objective	Content	Learning methods and activities	Materials/ Resources	Time
1. To define and state aim of ANC	<p>Definition Antenatal care is health care and education provided during pregnancy.</p> <p>Aim</p> <ul style="list-style-type: none"> ◆ Ensure that the outcome of pregnancy, i.e., both for the mother and the baby, is favorable (safe). ◆ Recognize first signs of pregnancy complications and manage them before complications become serious (or make arrangements to handle complications safely). 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer gives definition of ANC. 2. Trainer asks participants to name aim and importance of ANC. 3. Trainer lists the responses on chalkboard. 4. Trainer completes the list. 5. Trainer asks if participants have questions and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	20 min
2. To perform antenatal care procedures.	<ul style="list-style-type: none"> ◆ Record pertinent information on the registration book and the antenatal card ◆ Take vital signs and anthropometric measurement. ◆ Take thorough history (past, present medical and obstetric) ◆ Carry - out physical examination. ◆ Order routine and specific laboratory tests. ◆ Determine whether there is pregnancy or not and assess how healthy the pregnancy is. 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks a volunteer to list all the things he/she would do for a pregnant woman <ol style="list-style-type: none"> a. At first, and b. Subsequent visits. 2. Trainer asks participants to critique and complete the activities. 3. Trainer gives additional clarification on important issues and displays the antenatal card 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ Antenatal cards 	40 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>3. To identify health problems and risk factors in pregnancy</p>	<p>Minor discomforts during pregnancy Morning sickness, heartburn, constipation, varicos veins, hemorrhoids, vaginal discharge, backache, leg cramps, swelling in ankles and feet, shortness of breath, abdominal pain, urinary discomfort.</p> <p>Serious complications during pregnancy Fever, sever pain in the abdomen, bleeding from the vagina, blurred vision and headache, smelly vaginal fluid, rupture of membranes jaundice, anaemia, pre-eclampsia, oedema, severe vomiting, too much or too little weight gain.</p> <p>High - risk pregnancies: Adolescent pregnancy, too late, too many and too close pregnancies, multiple gestation, very short stature, abnormal lie/presentation, poor obstetric history, history of:</p> <ul style="list-style-type: none"> - Premature labor - Sever bleeding - Obstructed labor - C/S delivery - Low birth weight - Multiple gestation <p>Current medical problems like malaria, hypertension, diabetes, TB, heart disease, anaemia, and kidney disease.</p>	<p>GROUP WORK</p> <ol style="list-style-type: none"> 1. Trainer arranges participants into three small groups. <ul style="list-style-type: none"> ◆ One group lists minor complications, another major complications and the third group risk factors in pregnancy. 2. Trainer presents pre-written list of complications and risk factors in pregnancy and discusses these issues by comparing the complete list with the lists developed by each group. 3. Trainer asks participants if they have questions, if any, and gives clarification. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ Pre-written note/transparency ▪ OHP 	<p>50min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
4. To plan treatment of problems, following high-risk pregnancies, and conducting IE	<ul style="list-style-type: none"> ◆ Although some discomforts are not dangerous, women have to understand how to tell the difference between those that are normal and those that are dangerous, (Table summarizing symptom and relief). ◆ During pregnancy complications can arise, some of which can be serious and may require medical attention. Peripheral health workers should know what to do when faced with such problems. ◆ Pregnancies with high - risk factors should be given extra care. Women with high risk pregnancies should: <ul style="list-style-type: none"> - Be encouraged to go for ANC early and more frequently. - Be seen by a doctor, nurse or midwife and follow their advice. ◆ Health workers should advise clients on what to do during pregnancy and where to deliver. ◆ Health workers should educate pregnant women on self - care. (Box on Do's and Don'ts. See Handout) 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer presents and discusses a table summarizing relief for problems in pregnancy. 2. Trainer asks participants to name things to be done for women with high-risk factors. 3. Trainer asks one participants each to give points of advice on Dos and Don't Dos during pregnancy 	<ul style="list-style-type: none"> ▪ Prewritten tables to be distributed to each participant ▪ chalk ▪ board ▪ chalk 	40 min
6. To discuss traditional practices that effect pregnancy	<p>Harmful Practices</p> <ul style="list-style-type: none"> ◆ Food taboos ◆ Taking traditional medicines like kosso for purging 	<p>DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks each participant to name one harmful practice and one beneficial practice he/she knows and explain the health dangers or benefits of the practice. 2. Trainer writes each point on news print 3. Participants discuss ways and means of changing the practices. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	20 min

HANDOUT ON ANTENATAL CARE

ANTENATAL CARE is health care and education provided to pregnant women from conception to the onset of labor.

Aim of antenatal care

- ◆ Ensure maternal health and normal fetal development
- ◆ Recognize deviations from normal health status and provide management as required
- ◆ Ensure that pregnant women reach the end of pregnancy or term
- ◆ Offer counseling on parenthood as planned program and family planning
- ◆ Build a trusting relationship with health care providers
- ◆ Promote breast-feeding and healthy living habits

Frequency and timing

Women should be encouraged to begin ANC early in pregnancy for the purpose of detecting and treating anemia, STD etc. According to the WHO recommendation the minimum number of visits needed during pregnancy is four times.

- ◆ First visit- 16 weeks
- ◆ Second visit- 24-28 weeks
- ◆ Third visit- 32 weeks
- ◆ Fourth visit- 36 weeks

Women with problems or risk factors should be advised to have ANC early and more often. Regular visits to an antenatal clinic enable health workers to recognize the first signs of pregnancy complications and to treat these symptoms before they become serious.

Steps in doing history taking and physical examination should be demonstrated. During the first visit, thorough history, physical examination and laboratory tests will have to be done with the view to assessing the patient's health during her pregnancy.

- ◆ Screen and treat anemia and syphilis
- ◆ Screen for risk factors and medical conditions Initiate prophylaxis

During second visit

- ◆ Do follow up

During the third visit

- ◆ Screen for pre-eclampsia
- ◆ Screen for multiple gestation
- ◆ Screen for anemia

During fourth visit

- ◆ Check for fetal lie/presentation
- ◆ Screen for and treat anemia

Information from the personal history, physical examination and laboratory tests can be used as the basis for a discussion about what the women can and should do to stay in good health. It is especially important to explain any danger signs or complications the woman may have, and what should be done about them. Basic information should also be offered on nutrition, danger signs, personal hygiene, typical discomforts and what to do about them, and the baby's state of development.

Care provision during pregnancy

- ◆ TT immunization
- ◆ Iron and folic acid supplementation
- ◆ Maternal record at first and each subsequent visits
- ◆ Treatment of endemic conditions such as malaria and intestinal parasites
- ◆ Psychological support
- ◆ Timing of next antenatal visits
- ◆ Educate women on self-care, including nutrition education (see box)

Some women are more likely than others to suffer a complication because of their age and the number of times they have been pregnant, because they have had problems with past pregnancies or their general health is not good (hypertension, diabetes, heart disease, tuberculosis, kidney disease, obesity and severe anemia). Even if a woman falls into one of these groups, she is still likely to have a healthy pregnancy and delivery. She should, however, be treated with extra care, be encouraged to go for antenatal care early and often, and to follow the advice of the health workers about what to do during pregnancy and where to deliver.

Risk factors during pregnancy

- ◆ Very short stature (<150cm)
- ◆ Very young maternal age (<15years)
- ◆ Elder primigravida; (>35years)
- ◆ Size date discrepancy
- ◆ Unwanted pregnancy
- ◆ Multiple gestation
- ◆ Abnormal lie/presentation
- ◆ Poor obstetric history
- ◆ Preterm labor in previous pregnancy
- ◆ Existing medical problems like diabetes, hypertension, heart and kidney diseases, tuberculosis, etc.

Traditional Practices

Every society has beliefs, traditions and taboos that influence the behavior of the people within the society. These beliefs, traditions and taboos also influence treatment of the body, ideas about illness and well being, and other health practices.

All communities have customary practices that impact the health and well-being of community members, either in positive or negative ways. When it comes to reproductive health, harmful practices are discussed in relation to pregnancy, childbirth, the postnatal period (care of the mother and newborn), and family planning.

Harmful traditional practices during pregnancy

- ◆ Food taboos include abstaining from milk, meat, and eggs to prevent an overweight baby, causing malnutrition in the mother.
- ◆ Use of traditional medicines such as kosso for purging, which may damage the liver and/or G.I. system.
- ◆ In some areas women are expected to deliver out of doors unassisted.

Common discomforts and when to expect them

First trimester

- ◆ Morning sickness or nausea and vomiting
- ◆ Tiredness or dizziness
- ◆ Tenderness in the breasts
- ◆ Frequent urination

Second trimester

- ◆ Tiredness
- ◆ Backache
- ◆ Changes in the color of the skin
- ◆ Increased fluid from the vagina
- ◆ Increased saliva in the mouth
- ◆ Heartburn

Third trimester

- ◆ Tiredness
- ◆ Backache
- ◆ Pressure in the pelvis
- ◆ Increased fluid from the vagina
- ◆ Contraction in the womb that are irregular and do not cause any pain
- ◆ Muscle cramps, especially in the legs
- ◆ Frequent urination
- ◆ Heartburn and gas
- ◆ Constipation
- ◆ Increased varicose veins
- ◆ Colostrums (yellowish liquid) from the breasts
- ◆ Stretch marks on the skin of the abdomen
- ◆ Shortness of breath
- ◆ Swelling in the ankles and feet

Minor discomforts during pregnancy

There are a number of minor problems that a woman can have during pregnancy. Most of them can be taken care of within the home; none of them is life threatening. The most common complications, and what to do about them, are:

MORNING SICKNESS: Eat smaller meals more frequently, instead of several big meals.

HEARTBURN: Avoid spicy foods and eat frequent, small meals. Do not lie down immediately after eating.

CONSTIPATION: Drink more water; eat vegetables and fruits.

VARICOSE VEINS: Prop up feet when sitting; avoid standing for long periods of time.

HAEMORRHOIDS: Avoid sitting for long periods. Eat fruits and vegetables.

VAGINAL DISCHARGE: If it is green or yellow and has an unpleasant odor, seek treatment at a clinic.

BACKACHE: Keep back straight when sitting and standing; do exercises.

LEG CRAMPS: Stretch the muscle out slowly by straightening the leg and pointing the toe back.

SWELLING IN THE ANKLES AND FEET: Avoid tight clothing, shoes, and jewelry. If the swelling is sudden, go to a clinic.

SHORTNESS OF BREATH: If prolonged, go to a health facility.

ABDOMINAL PAIN: drink fluids to prevent the pain. Sit or lie down when the pain strikes. If it is prolonged, go to a clinic.

URINARY DISCOMFORT: Drink lots of water and urinate often. If there is pain, go to a health facility.

Serious Complications During Pregnancy

Some serious complications can be caused by pregnancy. In other cases, a woman may have had a condition or disease, which is made worse by pregnancy. It is important for women and their families to know the signs of serious complications, and to know what to do if they acquire symptoms of serious problems.

If a woman develops any of the following signs, she should go to a hospital or health center IMMEDIATELY:

- High fever
- Sever pain in the abdomen
- Bleeding from the vagina
- Very bad headaches, blurred vision, spots before the eyes, or fits
- Fluid from the vagina that smells bad, is greenish in color, or looks like foam
- Contractions or rupture of the membranes that occur three weeks or more before the due date (before 37th week of pregnancy)
- Severe jaundice (yellow discoloration of the eyes)

If a woman develops any of the following signs, she should visit a health center as soon as possible because a serious complication may be developing:

- Pale eyelids, tongue, gums, or palms; always feeling tired and short of breath (anemia)
- Swollen hands, ankles, and especially face (pre-eclampsia)
- Sever vomiting or vomiting that does not stop
- Too much weight gain
- Not enough weight gain

N.B. Families need to be advised to plan for referral to a designated obstetric care facility. Money will have to be set aside for transport and hospital/treatment fees.

Early Pregnancy and Self-Care

DOS:

PREGNANT WOMEN SHOULD:

- ◆ Go for antenatal care as soon as they know they are pregnant and at least three or four times during pregnancy
- ◆ Sleep 6-10 hours each night
- ◆ Rest as much as possible; for example, lie down for one hour every day
- ◆ Keep your personal cleanliness
- ◆ Get regular exercise, for example by walking for half an hour every day
- ◆ Wear loose, comfortable clothing and low-heeled shoes that support the feet
- ◆ Continue to have sexual relations as long as they want to, unless there is bleeding from the vagina, contractions have started, or the bag of water has broken
- ◆ Drink plenty of liquids and eat enough food, especially the right kinds of food (energy-giving, body-building, and Protective)

DO NOTS:

PREGNANT WOMEN SHOULD NOT:

- ◆ Lift or carry heavy loads
- ◆ Smoke- smoking cigarettes or marijuana can harm the baby
- ◆ Take medicines, drugs, or herbs unless a doctor or nurse who knows about pregnancy says it is all right
- ◆ Be exposed to chemicals such as hair dyes, pesticides to kill insects, or herbicides to destroy weeds

Objective	Content	Learning methods and activities	Material/ resources	Time
1. To define normal labor and delivery	DEFINITION: Normal labor and delivery is the process by which the fetus, placenta and membrane are expelled through the birth canal.	BRAINSTORMING <ul style="list-style-type: none"> ◆ Trainer asks participants to brainstorm the definition of normal labor and delivery and comment on the state of the service in their own area ◆ Trainer presents the formal definition of normal labor and delivery and discusses the organization and utilization of delivery services in Ethiopia. 	<ul style="list-style-type: none"> ▪ Pre-prepared Transparency ▪ OHP 	15 min
2. To state aim of health care during labor and delivery	AIM <ul style="list-style-type: none"> ◆ Health care during labor and delivery aims to achieve a healthy mother and baby with as little intervention as possible by: <ul style="list-style-type: none"> - Supporting the physical and emotional needs of the woman. - Conducting close observation of the laboring mother and assessing risk factors. - Performing minor intervention. - Care of the infant after birth - Referring pregnancies with complications to a higher level. 	MINI-LECTURE <ul style="list-style-type: none"> ◆ Trainer outlines aim and importance of care during labor and delivery from a pre-prepared transparency. ◆ Trainer entertains questions of clarification 	<ul style="list-style-type: none"> ▪ Pre-prepared Transparency ▪ OHP 	10 min
3. To explain the stages of labor	There are three stages of labor 1. First stage of labor <ul style="list-style-type: none"> ◆ Show ◆ Contractions ◆ Rupture of membrane and then 	TRAINER-LED DISCUSSION Aided by an A-V (film) , the trainer discusses the different stages of labor. <ul style="list-style-type: none"> ◆ Trainer asks participants to list the signs of the first 	<ul style="list-style-type: none"> ▪ Audiovisual aid ▪ Newsprint ▪ Marker 	25 min

Objective	Content	Learning methods and activities	Material/ resources	Time
	dilation of the cervix. 2. Second stage of labour ♦ Expulsion of the fetus. 3. Third stage of labour Separation and expulsion of placenta.	stage of labor and define the difference between true and false labor ♦ Trainer writes responses on newsprint ♦ Trainer provides a complete account of the topic from a pre-prepared transparency.	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	
To assess the condition of woman in labor.	<ul style="list-style-type: none"> ♦ History taking. ♦ Conduct physical examination <ul style="list-style-type: none"> - Conduct pelvic examination ♦ Monitor the progress of labor with the help of the Partograph. <ul style="list-style-type: none"> - Fetal condition. - Maternal condition. ♦ Preparation of mother in labor. <ul style="list-style-type: none"> - Cleanliness and comfort. - Change of clothing - Emotional support - Bladder care ♦ Close observation of second stage of labor. <ul style="list-style-type: none"> - Uterine contraction - Progress of descent - Pushing - Position of the mother during delivery. 	<ol style="list-style-type: none"> 1. Question and answer 2. Demonstration of history taking and physical examination. Trainer demonstrates history taking and physical examination using a volunteer as a patient. The rest of the class observes. Sensitive parts of the physical examination should be performed on the adult female doll. 	<ul style="list-style-type: none"> ▪ Adult female doll ▪ Fetoscope ▪ Delivery card 	40 min
5. To list the basic equipment needed for care during delivery	Preparation of equipment for delivery; the delivery set.	QUESTION AND ANSWER <ol style="list-style-type: none"> 1. Trainer picks one instrument at a time and asks participants to name the instrument and tell its use. 2. Trainer reinforces right and corrects wrong answers 	<ul style="list-style-type: none"> ▪ Basic set for delivery 	20 min
6. To demonstrate the procedure for	List procedures for the management of normal delivery.	DEMONSTRATION Trainer demonstrates how to manage normal delivery	<ul style="list-style-type: none"> ▪ Female pelvic model 	40 min

Objective	Content	Learning methods and activities	Material/ resources	Time
managing normal delivery.		with child birth simulator	<ul style="list-style-type: none"> ▪ Newborn with its placenta model 	
7. To Describe complications that may arise during delivery	<p>Complications Of Delivery</p> <ul style="list-style-type: none"> ◆ Perineal lacerations ◆ Postpartum hemorrhage ◆ Retained placenta ◆ Adherent placenta ◆ Inversion of the uterus ◆ Hypovolemic shock ◆ Amniotic fluid embolism <p>Women with complications should be sent to the hospital or a well equipped health center for better care</p>	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> a. Trainer displays and explains each complication of delivery and what to do when it happens. b. Trainer entertains questions from participants. 	<ul style="list-style-type: none"> ▪ Pre-written list of complications of delivery ▪ Newsprint ▪ Marker 	15 min
8. To discuss traditional practices during labor and delivery	<p>Harmful Traditional Practices</p> <ul style="list-style-type: none"> ◆ Massaging the uterus to hasten delivery ◆ Delivering out of doors unassisted 	<p>DISCUSSION</p> <p>Trainer asks each participant to name one harmful and one beneficial practice he/she knows and explain its dangers or benefits to health</p> <ol style="list-style-type: none"> 1. Trainer writes each point on news print 2. Participants discuss ways and means of changing harmful practices and reinforcing beneficial practices. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	20 min

HANDOUT ON LABOR AND DELIVERY

"THE SUN SHOULD NOT SET TWICE ON A WOMAN IN LABOR"

Definition

Normal labor: is the process by which the fetus, placenta and membranes are expelled through the birth canal.

- ◆ Occurs at term and is spontaneous in onset with the fetus presenting by vertex
- ◆ The process is completed within 18 hours and no complications arise.

Aims of care during labor and delivery

To achieve a healthy mother and baby with little intervention as possible by:

- ◆ Supporting the physical and emotional needs of the woman.
- ◆ Close observation of the laboring mother and assessing risk factors and early detection of problems.
- ◆ Performing minor intervention such as episiotomy
- ◆ Care of the infant after birth
- ◆ Referral to a higher level of care if risk factors become apparent.

Stages of labor

- a. The first stage - dilation of the cervix
- b. The second stage - expulsion of the fetus
- c. The third stage - separation of and expulsion of placenta.

a. The first stage of labor

Use partograph to follow the progress of labor and delivery

Duration:

- In primigravida - it will be completed with in 12 hours.
- In Multigravida - it will be competed with in 6 hours.

Uterine contraction

Each uterine contraction starts in the funds near one of the cornua and spreads across and downwards.

Recognition of first stage of labor by the mother

- ◆ Show
- ◆ Contractions
- ◆ Rupture of the membrane

Differentiation of true and false labor

Factors	True labor	False labor
♦ Contractions	Regular intervals	Irregular intervals
♦ Interval between contractions	♦ Gradually shortens	♦ Remains long
♦ Intensity of contraction	♦ Gradually increases	♦ Remains same
♦ Location of pain	♦ In back and abdomen	♦ Mostly in lower abdomen
♦ Effect of analgesics	♦ Not terminated by sedation	♦ Frequently stopped by sedation
♦ Cervical change	♦ Progressive effacement and dilation	♦ No change
♦ Dilation of the cervix	♦ Progressively dilating	♦ No increase in dilation
♦ Show	♦ Usually present	♦ No show

b. The second stage of laborDuration:

- In multipara - it may last as little as 5 minutes
- In Primigravida - the process may take 2 hours.

Signs of second stage of labor

- ♦ Expulsive uterine contraction
- ♦ Dilation and gaping of the anus
- ♦ Rupture of the fore water
- ♦ Appearance of the presenting part
- ♦ Congestion of the vulva.

Clean and safe delivery practices are essential to protect both the mother and baby from infection. Clean and safe delivery practices include:

- ♦ Clean environment
- ♦ Sterile glove
- ♦ Clean delivery surface
- ♦ Clean perineum
- ♦ Sterile cord cutting instrument.

Assessment and care of a woman in labor

- ♦ Welcoming by the care taker
- ♦ Arrange comfortable environment
- ♦ Make immediate assessment of the mother in labor

- History taking
 - Details of the present labor
 - Past medical and labor history
- Physical examination
- Pelvic examination
- Monitoring progress of laboring mother with partograph
 - Fetal condition
 - Maternal condition
- Preparation of a mother in labor
 - Cleanliness and comfort
 - Bowel preparation
 - Hot bath helps to relieve pain
 - Change of clothing
 - Emotional support
 - Explanation of every step of the procedure

Observation of the second stage of labor with the help of partograph

- ◆ Uterine contraction
- ◆ The progress of descent
- ◆ Fetal condition
- ◆ Pushing
- ◆ Bladder care
- ◆ Position of the mother during labor
 - Semi recumbent (half sitting)
 - Squatting, kneeling or standing
 - Left lateral
 - Hand and knee

Preparation of equipment

Sterile delivery set:

- ◆ 2 artery forceps
- ◆ 1 scissor
- ◆ Needle holder
- ◆ Suturing needle
- ◆ Cat gut
- ◆ Cord tie
- ◆ Kidney dish
- ◆ Gloves
- ◆ Ergometrine
- ◆ Antiseptic solution
- ◆ Cotton and cotton pad
- ◆ Clothes for the newborn baby

Procedure of conducting normal delivery

- ◆ Put on gown and gloves
- ◆ Prepare sterile delivery kit
- ◆ Clean the perineum
- ◆ Put clean cloth under the mothers buttocks
- ◆ Prepare clean cotton and cotton pads if possible
- ◆ Antiseptic solution should be ready
- ◆ Check the fetal heart rate in between the contraction
- ◆ Encourage and reassure the mother
- ◆ Explain to the mother what is happening and every step you do
- ◆ Position the mother in an appropriate position
- ◆ Observe the perineum closely
- ◆ When the baby descends the perineum distends, and becomes very tight, then perform episiotomy to prevent perineal laceration if indicated
- ◆ Reassure the mother
- ◆ Once the head is crowned, place the left hand to control it.
- ◆ The right hand is on a pad or gauze over the anus to keep away stool
- ◆ After head is born, check for cord around the neck
- ◆ If it is loosened, gently slip the cord over the infant's head.
- ◆ If it is not possible, double clamp the cord with forceps 3 cm apart and cut between the forceps.
- ◆ Wipe the eyes and the mouth with dry swab.
- ◆ The delivery of the shoulder by downward traction releases anterior shoulder and an upward curve allows the posterior shoulder to escape
- ◆ Deliver the body
- ◆ Clean the air way
- ◆ Clamp the cord when it turns white and stops pulsating
- ◆ To cut the cord
 - Measure 2 fingers width from the baby's navels and clean
 - Cut the cord between the two clamps
 - Leave the cord clean until it falls
- ◆ Dry and take care a of the newborn and put him on his mother's breast.
- ◆ Make the mother comfortable.

Management of third stage of labor

- ◆ Starts immediately after the baby is born and lasts until the placenta is born
- ◆ It is the shortest, easiest and the most dangerous stage
- ◆ It takes 5-15 minutes
- ◆ It should not take longer than 30 minutes
- ◆ Watch the signs of placental separation
 - Uterus becomes hard round and movable
 - The uterus rises to the level of the umbilicus
 - The cord seems to lengthen

- There is a gush of blood
- Placenta can be flat on vaginal examination
- ◆ If you see the above signs push downward and backwards to the sacrum (by controlled cord traction)
- ◆ The right hand receives the placenta and when it is almost out both hands are used.
- ◆ Massage the uterus to contract and give ergometrine 0.5 mg IM after checking the uterus
- ◆ Examine the vulva
- ◆ Clean the mother and make her comfortable.
- ◆ Show the mother her baby, check sex and identification
- ◆ Examine the placenta, membrane
- ◆ Remove clots if any
- ◆ Make sure the uterus is contracted
- ◆ Check vital signs

Complications arising during labor and delivery

- ◆ Perennial laceration
- ◆ Inversion of the uterus

Most women go through labor and delivery with no complications. Sometimes, however, complications can arise. This can happen even if there were no warning signs during pregnancy. Women with the following signs should be taken to a hospital or well-equipped health center for proper care:

- ◆ Strong labor (contractions) that lasts for 12 hours without the baby being delivered
- ◆ The baby is not coming out head first; for example, an arm or foot can be seen coming out of the birth canal
- ◆ The woman loses more than two cupfuls of blood from the vagina
- ◆ The placenta (after birth) does not come out of the vagina within 30 minutes of the birth of the baby
- ◆ The woman has lost consciousness (faints)
- ◆ The bag of water breaks but labor does not start within 12 hours
- ◆ Meconium, a green or brown fluid, is seen after the bag of water breaks.

Traditional Practices

Every society has beliefs, traditions and taboos that influence the behavior of the people within the society. These beliefs, traditions and taboos also influence treatment of the body, ideas about illness and well-being, and other health practices.

All communities have customary practices that impact the health and well-being of community members, either in positive or negative ways. When it comes to reproductive health, harmful practices are discussed in relation to pregnancy, childbirth, postnatal period and family planning.

Harmful traditional practices during labor and delivery

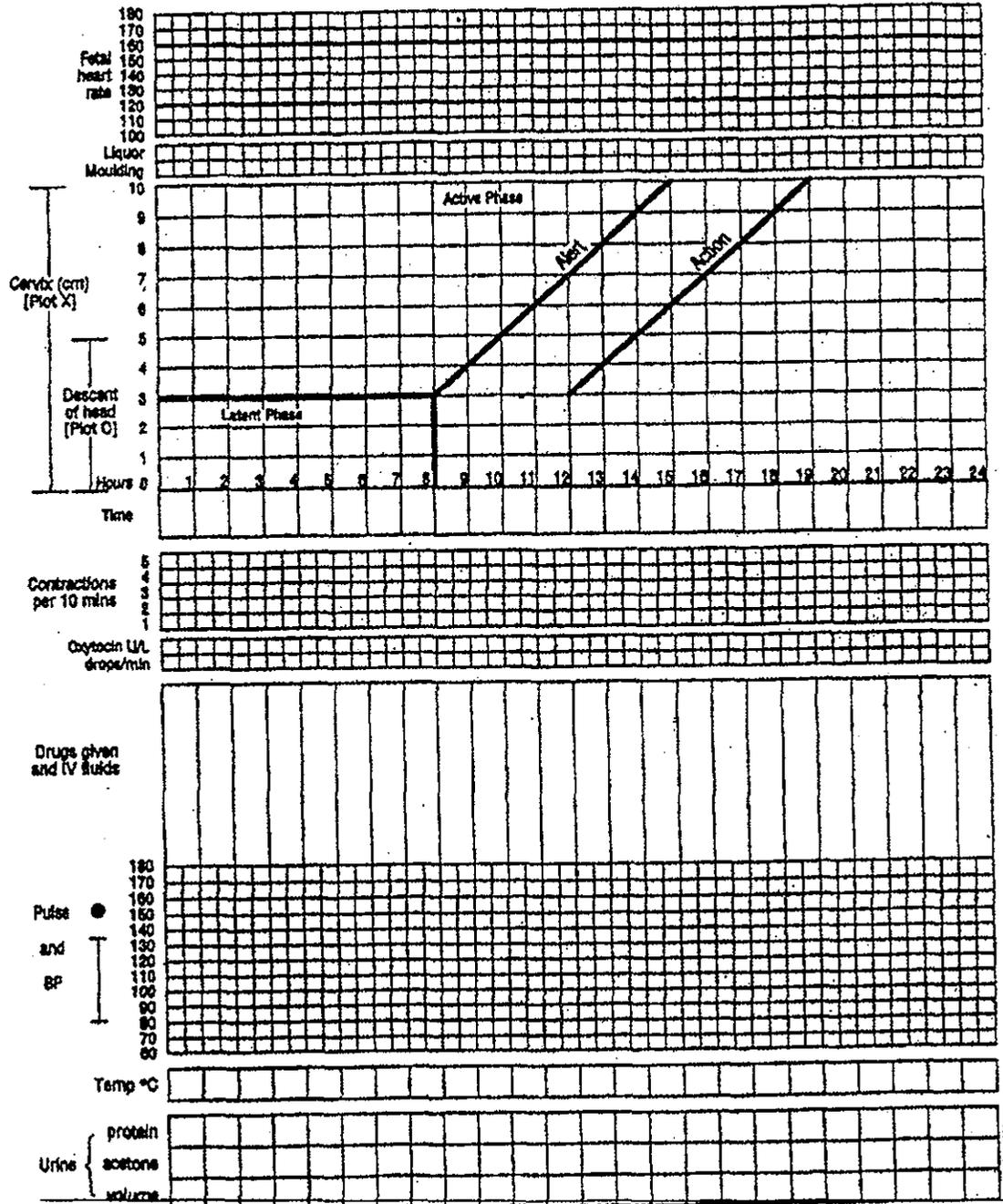
- ◆ Massaging the uterus to hasten delivery
- ◆ Delivering out of doors unassisted

Procedure for conducting normal labor	Management of third stage of labor
<ul style="list-style-type: none"> - Put on gown and gloves - Prepare sterile delivery kit and antiseptic solutions - Clean the perineum - Put clean cloth under the mother's buttock - Prepare clean cotton and cotton pads if possible - Check FHR between contractions - Encourage and reassure the mother - Position the mother an appropriate position - Observe the perineum closely - When the perineum distends and becomes very tight perform episitomy, if indicated - Once the head is crowned, place the left hand to control it - Put the right hand on a pad or gauze over the anus to keep away stool - After head is born check for cord around the neck - If the cord is loosened, gently slip it over the baby's head - If it is not possible, double clamp the cord with forceps 3 cm apart and cut between the forceps - Wipe the eyes and the mouth with dry swab - The delivery of the shoulder by downward traction releases anterior shoulder and an upward curve allows the posterior shoulder to escape - Deliver the body - Clean the airway - Clamp the cord when it turns white and stops pulsating - To cut the cord <ul style="list-style-type: none"> • Measure 2 fingers width from the baby's navels and clean • Cut the cord between the two clamps • Leave the cord clean until it falls - Dry and take care of the newborn and put him on his mother's breast - Make the mother comfortable. 	<ul style="list-style-type: none"> - Starts immediately after the baby is born and lasts until the placenta is born - It is the shortest, easiest and the most dangerous stage - Watch the sign of placental separation <ul style="list-style-type: none"> • uterus becomes hard, round and movable • the uterus rises to the level of umbilicus • the cord seems to lengthen • there is a gush of blood • placenta can be flat on vaginal examination - If you see the above signs, push downward and backwards to the sacrum (by controlled cord traction) - The right hand receives the placenta and when it is almost out, use both hands - Massage the uterus to contract and give ergometrine 0.5 mg IM after checking the uterus - Examine the vulva - Clean the mother and make her comfortable - Show the mother her baby, check sex and identification - Examine the placenta, membrane - Remove clots if any - Make sure the uterus is contracted - Check vital signs.

	First stage	Second stage	Third stage
1. What is it?	Dilation of the cervix	Expulsion of the fetus	Separation and expulsion of the placenta
2. Duration	In primi= completed in 12 hrs In multi= completed in 6 hrs	<ul style="list-style-type: none"> ▪ May take 2 hrs ▪ As little as 5 minutes 	<ul style="list-style-type: none"> ▪ 5 to 15 minutes ▪ Should not take >30 minutes
3. Recognize signs	<ul style="list-style-type: none"> ▪ Show Contractions ▪ Rupture of membranes 	<ul style="list-style-type: none"> ▪ Explosive uterine contraction ▪ Dilation and gaping of the anus ▪ Rupture of the fore water ▪ Appearance of the presenting part ▪ Congestion of the vulva 	<p><u>Signs of placental separation</u></p> <ul style="list-style-type: none"> ▪ Uterus becomes hard, round and movable ▪ Uterus rises to the level of the umbilicus ▪ Cord seems to lengthen ▪ Gush of blood ▪ Placenta can be felt on vaginal examination

PARTOGRAPH

Name _____ Gravida _____ Para _____ Hospital no. _____
 Date of admission _____ Time of admission _____ Ruptured membranes _____ hours



WFO 82007

MODULE: **MCH**

SESSION: **MATERNAL HEALTH (PNC)**

Objective	Content	Learning methods and activities	Materials/ resources	Time
1. To define and state importance of postnatal care (PNC)	<p>Definition The PNC is health care and education given for women after childbirth .</p> <ul style="list-style-type: none"> ◆ The period from delivery up to six weeks after delivery is called the post partum period. <p>Postnatal care is divided into two periods.</p> <ol style="list-style-type: none"> 1. The first day (24 hrs.). 2. After the first day to 6 weeks. <p>Postnatal care helps women return to normal strength and health, treat complications, care for the newborn baby and obtain advice about the future.</p>	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer asks participants to discuss what PNC is and its importance. 2. Trainer gives definition and summary about PNC. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	50 min
2. To list possible complications that could develop during the postnatal period	<p>Common complications are</p> <ol style="list-style-type: none"> 1. Bleeding 2. Infection 3. Anemia 4. Fistulae <p>Health workers need to know post partum (postnatal) danger signs and what to do about them.</p>	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer presents the major complications on OHP. 2. Trainer asks participants to name danger signs and actions corresponding to each complication. 3. Trainer gives synthesis of the presentation. 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	25 min

Objective	Content	Learning methods and activities	Materials/ resources	Time
3. To describe care given during the postnatal visit.	<p>The first postnatal visit should be done within the 7 - 10 days of delivery. The second visit should be done about six weeks after delivery</p> <p>Measures to be taken:</p> <ol style="list-style-type: none"> 1. Prevent further loss of blood. 2. Prevent infection 3. Advise mother /family on <ul style="list-style-type: none"> ◆ Family planning ◆ Breast feeding ◆ Immunization ◆ Child nutrition and care ◆ Sexual relations ◆ Resumption of work 	<p>TRAINER LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer explains the aim and type of care during the PN visit. 2. Trainer asks participants to list the type of IE to impart to clients using the opportunity (visit). 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	20 min
4. To Identify common harmful practices that may occur during the postnatal period	Harmful Practices	<p>DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks each participant to name one harmful practice and one beneficial practice he/she knows and explain its health dangers or benefits. 2. Trainer writes each point on news print 3. Participants discuss ways and means of changing the practices and reinforcing beneficial practices. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	30 min
	a. On the newborn			

Objective	Content		Learning methods and activities	Materials/ resources	Time
	b. On a child	<ul style="list-style-type: none"> ◆ Keeping baby away from sun exposure ◆ Scrapping the tonsils with finger nails ◆ Gum drilling and milk teeth extraction ◆ Incision of the eye-lid for some problems ◆ Cauterizing the site of pain with hot iron ◆ Blood letting (wagemt) for fever ◆ Early childhood marriage ◆ Deprivation of and aggression against female children. 	beneficial practices.		

HANDOUT ON POSTNATAL CARE

Definition: Postnatal care is health care provided to the woman and her baby during the six-week period immediately following delivery. Postnatal care in practice may be divided in two phases:

- 1) The care during the first day after delivery, and
- 2) The care from the first day up to 6 weeks postpartum.

1. Care during the immediate postnatal period

For mothers during the first 24 hours after delivery measures should be taken to:

- ◆ Prevent further loss of blood
- ◆ Prevent infection
- ◆ Support the mother in establishing successful breast feeding
- ◆ Advise on family planning
- ◆ Tell the mother to report if there are any problems
- ◆ Provide information, screening and management of STI and HIV/AIDS

Frequency and timing of postnatal visits

Women should be encouraged to seek postnatal care early so that problems can be recognized and managed early. The minimum schedule of visits is as follows:

First visit

Should be during the first week postpartum, and where possible an in-home PNC shall be conducted. Check for:

- hypertension
- puerperal infection
- thromboembolic disorder
- urinary system and perineal and vulval complications
- establishment of lactation
- discuss family planning

Second visit

Usually in six weeks postpartum. Maintain care given during first visit.

Postpartum danger signs

If a woman has any of the following danger signs after she has delivered her baby, she should seek care immediately.

- | | |
|---|---|
| - Fainting | - Sever chest pain/ shortness of breath |
| - Bleeding that increases rather than decreases | - Pain /swelling in the leg/breast |
| - Fever | - Redness and discharge at the site of and incision |
| - Vomiting and diarrhea | - Urine/feces leaking out of vagina |
| - Vaginal discharge | - Pain when urinating |
| - Paleness | |

Health promotion activities during the postnatal visits

- Nutrition and diet
- Adequate rest
- Breast feeding
- Personal and perineal hygiene
- Family planning
- Sexual relations
- STI/HIV/AIDS prevention
- Immunization of the baby
- Care of the baby

Care Provision During the postnatal visits

- Treatment of anemia
- Treatment of infection
- Immunization of the baby
- Psychological support
- Referral for major complications
- STD/HIV/AIDS management
- Provision of Vitamin A for breast feeding mother

Traditional Practices

Every society has beliefs, traditions and taboos that influence the behavior of the people within the society. These beliefs, traditions and taboos also influence treatment of the body, ideas about illness and well-being, and other health practices.

All communities have customary practices that impact the health and well-being of community members, either in positive or negative ways. When it comes to reproductive health, harmful practices are discussed in relation to pregnancy, childbirth, postnatal period and family planning.

Harmful traditional practices during the postnatal period and later include:**a. On the newborn:**

- ◆ Putting cow dung, butter or mud on the umbilical stump
- ◆ Forcing butter through the nose and mouth
- ◆ Uvulolectomy
- ◆ Female circumcision

b. On the child:

- ◆ Keeping baby away from sun exposure
- ◆ Scrapping the tonsils with finger nails
- ◆ Gum drilling and milk teeth extraction
- ◆ Incision of the eye-lid for some problems
- ◆ Cauterizing the site of pain with hot iron
- ◆ Blood letting (wagemt) for fever
- ◆ Early childhood marriage
- ◆ Societal deprivation and aggression on the female child starting early in life.

Objective	Content	Learning methods and activities	Materials/ Resources	Time
1. To define ARI (Acute Respiratory Tract Infection) and state its epidemiology in children.	<p>Definition ARI is an infection in any area of the respiratory tract including the nose, ears, throat (pharynx), larynx, trachea, bronchi, bronchioles or lungs.</p> <p>Most children have about 4-6 acute respiratory tract infections each year. A large portion of patients seen in health centers have ARI. Most have mild infections, but a few children have pneumonia, which is one of two most common causes of death in developing countries (diarrhea being the second most common).</p>	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer starts this topic by asking participants to brainstorm the definition of ARI and discuss the extent of the problem in their own areas. 2. Trainer presents a definition of ARI on chalkboard, correcting and reinforcing participants' comments. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard 	15 min
2. To list the common causative agents and risk factors of ARI in children	<ul style="list-style-type: none"> ◆ Microorganisms are the causative agents, bacteria and virus. ◆ Risks factors <ul style="list-style-type: none"> - Malnutrition - No immunization - Prematurity/LBW - No breast feeding - Suffocated housing - Lack of access to medical care 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Using an overhead transparency, the trainer outlines the different causative agents according to age levels. 2. Trainer discusses risk factors for ARI 3. Trainer answers questions to clarify participants' understanding 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	20 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
3. To diagnose ARI in Children	<ul style="list-style-type: none"> ◆ Assess a child's condition by <ul style="list-style-type: none"> a. Asking the mother (need to specify what to ask) b. Looking and/or listening for <ul style="list-style-type: none"> - Number of breaths per minute - Chest indrawing - Stridor - Sleepiness, fever, malnutrition ◆ Classify illness in a child as: <ul style="list-style-type: none"> a. Very severe disease (ARI?) b. Severe pneumonia c. Pneumonia (not severe) d. No pneumonia: cough or cold ◆ Assessment and classification varies by age <ul style="list-style-type: none"> a. Age two months up to five years b. Age less than two months 	<p>PRACTICE</p> <ol style="list-style-type: none"> 1. Trainer demonstrates the steps of assessing a child with ARI in a clinic 2. Selected participants conduct the assessment on another child with ARI 3. Other participants and the trainer observe the conduct of their assessment and take note 4. The assessment by the participants is commented on 5. Trainer summarizes the session using IMCI 	<ul style="list-style-type: none"> ▪ Sick children at OPD ▪ Examination set ▪ Chalk ▪ Chalkboard 	60 min
4. To discuss treatment of ARI in children	<ul style="list-style-type: none"> ◆ Treatment of ARI depends on the classification of illness after assessment: Classifications and location of treatment include: <ul style="list-style-type: none"> a. Urgent referral to hospital <ul style="list-style-type: none"> - Very severe disease - Severe pneumonia b. Home treatment with antibiotic <ul style="list-style-type: none"> - Simple pneumonia c. Home care without antibiotics <ul style="list-style-type: none"> - Cough or cold 	<p>TRAINER-LED DISCUSSION</p> <ul style="list-style-type: none"> ◆ Trainer outlines principles and modalities of ARI treatment using the IMCI chart. (Principles and modalities need to be outlined in this section) ◆ Trainer invites participants to ask questions and involve them in giving answers themselves. ◆ Trainer reinforces participants' correct responses, clarifies information and summarizes the session. 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP ▪ IMCI chart 	30 min

HANDOUT ON ACUTE RESPIRATORY TRACT INFECTION (ARI)

Most children have about four to six episodes of acute respiratory tract infection each year: mainly it is the infection of air passages and lung. About one fourth of all children less than 5 years of age who die in developing countries die of pneumonia. By carefully assessing a child you will take the first important step towards preventing unnecessary deaths from pneumonia and several other diseases.

Assess and classify the illness of a child 2 years up to 5 years

Before beginning the assessment ask the mother:

- ◆ Not to wake up the child, if the child is asleep
- ◆ Not to undress or disturb the child; then start the assessment

Steps for assessing a sick child

Ask the mother (or care taker)

- ◆ How old is the child?
- ◆ Is the child coughing? For how long?
- ◆ Is the child able to drink? This includes the child who is too weak to drink when offered fluids, is not able to suck or swallow, or who repeatedly vomits and keeps nothing down.
- ◆ Has the child had fever? For how long?
- ◆ Has the child had convulsions during the current illness?

Look, listen

Look at and listen to a child to find out whether the child has signs of difficult breathing such as chest in-drawing, fast breathing, stridor wheeze. It is important to look and listen to the child's breathing only when the child is quiet and calm.

Count the breaths in one minute

Look for breathing movement anywhere on the child's chest or abdomen. As children get older, their breathing rate slows down. Therefore, the cut-off point you will use to determine if a child has fast breathing will depend on the age of the child.

IF THE CHILD IS	THEN HE/SHE HAS FAST BREATHING IF YOU COUNT
Age less than 2 months	60 breaths per minute or more
Age 2 months up to 12 months	50 breaths per minute or more
Age 12 months up to 5 years	40 breaths per minute or more

Repeat the count of a child age 2 months up to 5 years if you are unsure of the count. However, repeat the count of a young infant every time you count 60 breaths or more, because the breathing rate of a young infant is often erratic. The young infant will occasionally stop breathing for a few seconds followed by a period of very rapid breathing

Look for chest in drawing

Look for chest in drawing when the child breathes in. The child has chest in-drawing if the lower chest wall goes in when the child breathes in. Chest in-drawing occurs when the effort required to breath in is much greater than normal. In normal breathing, when the child breathes in, the whole chest wall (upper, and lower) and the abdomen move out. With chest in-drawing when the child breathes in the lower chest wall moves in while the upper chest wall and abdomen move out.

It is only the soft tissue between the ribs or above the clavicle that goes in when the child breathes in (intercostals retraction) this is not chest in drawing. Chest in drawing is only important if it is present all the time and definitely visible. If you see it only when the child is upset or crying but not when resting peacefully, do not count this as chest in-drawing.

Look and listen for stridor

Look to see when the child is breathing in. Stridor is a harsh noise made when the child breathes in. Listen to the stridor by holding your ear near the child's mouth, since the noise may be difficult to hear.

Stridor occurs when there is a narrowing of the larynx, trachea, or swelling of the epiglottis which interferes with air entering the lung. These conditions are often called croup. Sometimes you will hear wet noise if the nose is blocked. Clear the nose and listen again.

Look and listen for wheeze

Look to see when the child is breathing out. A child with wheezing makes a soft musical noise or shows signs that breathing out is difficult to listen for the wheezing noise by holding your ear near the child's mouth, since the noise may be difficult to hear. Narrowing of the air passages in the lung causes wheezing. Breathing out takes longer than normal and requires effort. A child with "recurrent wheeze" has had more than one episode of wheeze in a 12-month period. You should also look at and listen to the child for other signs of the child's general condition.

- ◆ See if the child is abnormally sleepy or difficult to wake.
- ◆ An abnormally sleepy child is drowsy most of the time when the child should be awake and alert. This sick child often will not look at the mother or watch your face when you talk. The child may stare blankly and may not appear to see. Even a very young baby, who sleeps a lot, should waken naturally when the mother talks or when you clap your hands.
- ◆ Feel for fever or low body temperature, a temperature of 38^oc degree or more is a fever

- ◆ Temperature less than 35.5^oc degrees is low temperature (hypothermia)
- ◆ Check for severe malnutrition (marasmus, kwashiorkor)

Classify the illness of the child age 2 month up to 5 years

“Classify the illness,” means making decisions about the type and severity of disease.

There are four classes of disease:

1. Very severe disease
2. Severe pneumonia
3. Pneumonia (not severe)
4. No pneumonia: cough or cold

1. Very severe disease

The first step is to decide if the child should be classified as having very severe disease

Does the child have danger signs?

A child who has any danger sign is classified as having very severe disease.

Danger signs for the child age 2 months up to 5 years of age are: not able to drink, convulse, abnormally sleeps or difficult to wake, stridor when calm, or severe malnutrition. The possible causes of these signs are many. However, the health worker is not required to diagnose their special cause. He/she must only recognize the danger signs and know that the child may be at high risk of dying.

Danger Signs in Children 2 months to 5 years:

Not able to drink: A child who is not able to drink could have severe pneumonia, sepsis, meningitis cerebral malaria, throat abscess. Antibiotics and oxygen are life saving.

Convulsions, abnormally sleepy or difficult to wake: A child may have severe pneumonia, sepsis, cerebral malaria, meningitis.

Stridor in calm child: The child may be in danger of a life threatening airway obstruction from swelling of the larynx, trachea or epiglottis.

Severe malnutrition: A child has an increased risk of developing and dying from pneumonia (the child may not show typical signs of illness).

Treatment

A child who is classified as having very severe disease is VERY ill, and should be referred urgently to hospital.

Before the child leaves the health center:

- ◆ give pre-referral treatment (first dose of antibiotic)
- ◆ write referral note

- ◆ make sure the mother (care taker) is able to take the child immediately to the hospital
- ◆ in a falciparum malaria area, give anti malaria medication
- ◆ if referral is not feasible, do your best to save the life of the child
- ◆ treat fever, if present, with Paracetamol
- ◆ treat wheezing, if present, with broncho-dilator (salbutamol, epinephrine)

2. Severe pneumonia

A child with chest in-drawing is classified as having SEVERE PNEUMONIA. Chest in-drawing occurs when the lungs become stiff and the effort required to breath in is much greater than normal. Children with chest in-drawing may not have fast breathing. The child breathes slower because he is tired. A child with chest in-drawing is at higher risk of death from pneumonia than the child with fast breathing without chest in drawing. A child classified as having severe pneumonia might have:

- ◆ Nasal flaring: when the nose widens as the child breathes in
- ◆ Grunting: the short sounds made with the voice when the child has difficulty in breathing
- ◆ Cyanosis: a blue skin color, caused by hypoxia. A child with a cyanosed tongue needs oxygen.
- ◆ Wheezing

Many children with chest in-drawing and recurrent wheezing do not have severe pneumonia; chest in-drawing is often caused by recurrent wheezing (asthma) rather than severe pneumonia. Therefore, children with chest in-drawing must be managed somewhat differently and must be further assessed before one can decide what kind of treatment is needed.

A child who is classified as having severe pneumonia should be urgently referred to hospital.

- ◆ Give the child a first dose of antibiotic Ampicillin, Amoxicillin, PPF, Benzathin penicillin according to weight/age
- ◆ Treat fever and wheezing if present
- ◆ If referral is not feasible treat with antibiotic and follow closely

3. Pneumonia (not severe)

A child who has no chest in-drawing and has fast breathing is classified as having pneumonia:

- ◆ The child with pneumonia should be treated at home with an antibiotic
- ◆ Infection is caused by virus/bacteria
- ◆ Antibiotic kills bacteria but not viruses
- ◆ It is necessary to give the child an antibiotic whenever the child has signs of pneumonia. Cotrimexazole, Ampicillin, Amoxicillin, PPF, Benzathin penicillin according to weight/age

Treatment can be given at home without antibiotic

- ◆ advice mother on how to take care at home
- ◆ keep the young infant warm
- ◆ continue to breast feed
- ◆ clear the nose if it interferes with feeding

A young infant can become very sick very quickly, advise the mother to return immediately if:

- ◆ Breathing becomes difficult
- ◆ Breathing becomes fast
- ◆ Feeding becomes a problem, or
- ◆ The young infant becomes sicker

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Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>1. To define diarrhea and explain why it is dangerous</p>	<p>Definition Diarrhea is the passing of loose watery stools three or more times in 24 hours. Diarrhea is dangerous because:</p> <ul style="list-style-type: none"> ◆ Loss of too much water and salt through diarrhea causes dehydration. ◆ Dehydration if not treated on time causes death. ◆ Diarrhea causes malnutrition. ◆ Diarrhea is worse with malnutrition 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer asks participants to form small groups. Each group will define diarrhea and discuss what the danger of diarrhea is, and the extent of diarrhea that occurs among the populations they serve. 2. Each group prepares a list of the issues they discuss on newsprint and presents their findings to the class. 3. Trainer gives definition, extent and danger of diarrhea. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ Pre-written note 	<p>20 min</p>
<p>2. To describe the important signs of dehydration in children</p>	<p>Signs of dehydration</p> <ul style="list-style-type: none"> ◆ Sunken tearless eyes. ◆ Loss of skin turgor. ◆ Sunken fontanel (in < 2 year old children) ◆ Severe thirst. ◆ Dry mouth and tongue. ◆ Little urine, dark urine, or no urine. ◆ State of consciousness <ul style="list-style-type: none"> - lethargic - irritable - comatose 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks a participant to volunteer to come before the class and list signs of dehydration on newsprint. 2. Trainer asks other participants to add to or correct the volunteer's list. 3. Trainer reinforces correct items on list fills gaps and answers participants' questions. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	<p>15 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
3. To describe home treatment of diarrhea	<p>Three rules for home treatment</p> <ul style="list-style-type: none"> ◆ Give the child more fluid than usual ◆ Give the child plenty of food. Breast milk should be continued for young babies. ◆ Take child to health facility if child does not get better in days or develops any of the following. 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer explains principle of home treatment of diarrhea. 2. Trainer invites participants to ask questions and clarifies issues as necessary. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard 	20 min
4. To outline approaches to prevention of diarrhea in children	<p>Approaches to prevention</p> <ul style="list-style-type: none"> ◆ Wash hands after visiting toilet and before preparing and eating food. ◆ Give only breast milk to infants for the first 4- 6 months. ◆ Give freshly prepared foods and clean water to children ◆ Give milk and other fluids by cup and spoon instead of bottle-feeding. ◆ All families use latrine ◆ Immunize children against measles <p><u>N.B</u> For all children with diarrhea check for their Vitamin A and immunization status and act</p>	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer outlines and explains approaches to prevention of diarrhea. 2. Trainer entertains questions from participants and provides clarification where needed. <p>SUMMARY</p> <p>Trainer summarizes important points on diarrhea, its home management and prevention.</p>	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	15 min
5. To demonstrate preparation of ORS solution	<p>Preparation of ORS solution</p> <ul style="list-style-type: none"> ◆ Collect measuring jugs of 1000 cc, and locally available utensils like beer bottle, cups, etc. (These should be sterilized) ◆ Put amount of clean water equal to 1000cc using utensils familiar to the mother. ◆ Mix one sachet of ORS into the jug of water ◆ Using a cup and spoon let mother give the ORS solution to the child. 	<p>DEMONSTRATION</p> <ol style="list-style-type: none"> 1. Trainer takes learners to the ORT- corner of the health institution and demonstrates preparation of ORS solution. 2. Trainer asks participants to make their own ORS solution and explain the steps to be followed. 3. Where there are dehydrated children, the group observes administration of the ORS solution to children. 	<ul style="list-style-type: none"> ▪ ORS sachets ▪ Beer or other Bottle ▪ Measuring jug ▪ Spoon ▪ Cup ▪ Water 	20 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
6. To list at least 3 basic necessary materials to prepare food based ORT(Atmit) and demonstrate how to make food-based ORT.	<p>Three basic necessary materials to prepare home made food-based ORT (Atmit)</p> <ul style="list-style-type: none"> ◆ One finger pinch of cooking salt. ◆ One liter of boiled and cooled water (boiled for a minimum of 10 minutes). ◆ Two palms of any flour. 	<p>DEMONSTRATION</p> <p>Trainer demonstrates preparation of homemade cereal-based fluid (ATMIT) and requires each participant to prepare his/her own solution</p> <ol style="list-style-type: none"> 1. Boil 1000cc plus one coffee cup of clean water in a clean cooking pot. Water should boil for at least 10 minutes. 2. Add two palms of any kind of flour (wheat, barley, maize, teff, etc) to cooled boiled water. 3. Add one finger pinch of coarse cooking salt to water and flour mixture (avoid large lumps). 	<ul style="list-style-type: none"> ▪ Cooking utensils ▪ Measuring Utensils ▪ Flour, salt ▪ Stove 	30 min

HANDOUT ON DIARRHEA

Diarrheal diseases are among the leading cause of morbidity and mortality among children < 5 years of age in Ethiopia. An average of 5 episodes of diarrhea per child per year and a diarrheal death ratio of 46% (number of deaths due to diarrhea/number of deaths for all reasons) have been reported.

What is diarrhea?

The number of stools normally passed a day varies with the diet and the age of the person. Diarrhea means passing THREE or more loose or watery stools in a day. Frequent passing of normal stool is not diarrhea. Diarrhea is most common in children, especially those between 6 months and 2 years of age. It is also common in babies under 6 months who are not breast-fed. Diarrhea can be classified by its duration as acute or persistent and by its causative micro-organisms – watery diarrhea is mostly viral and bloody diarrhea is usually bacillary dysentery.

- ◆ Acute diarrhea starts suddenly and may continue for several days but less than 14 days.
- ◆ Persistent diarrhea - last more than 14 days and may vary from day to day. If the stool contains blood it is called dysentery.

Why is diarrhea dangerous?

- ◆ Death from acute diarrhea is most often caused by the loss of a large amount of water and salts from the body.
- ◆ A number of severe and potentially fatal complications can occur during dysentery.
 - ◆ Intestinal perforation.
 - Rectal prolapse
 - Convulsions
 - Septicemia
 - Prolonged hyponatremia
 - ◆ Diarrhea is worse in patients with malnutrition.
 - ◆ Diarrhea can also cause and intensify malnutrition because:
 - Nutrients are lost from the body during diarrhea.
 - A person with diarrhea may not be hungry.
 - Mothers may not feed children normally.
 - There is increased body need
 - ◆ Dehydration occurs faster in infants and young children in hot, dry climates and when there is fever.

Treatment of diarrhea

- ◆ The most important measures in treating diarrhea are to:
 - Prevent dehydration from occurring.
 - Treat dehydration quickly.
 - Feed the child.
- ◆ If dehydration occurs the child should be brought to a health institution for treatment.
- ◆ The best treatment is ORS or homemade food based oral rehydration therapy.
- ◆ For patients with severe dehydration, treat with IV fluids at first and as soon as the patient can drink, ORS alone or home made food based oral rehydration fluid should be used.
- ◆ Feeding during the diarrhea episode provides nutrients that the child needs to be strong and grow.
- ◆ Breast-fed children should be offered the breast frequently. Non breast-fed children should be offered their milk or formula frequently.
- ◆ After the diarrhea has stopped an extra meal each day for 2 weeks helps the child to regain his weight loss.
- ◆ For all children with diarrhea check for their Vitamin A and immunization status and act.

There are no drugs that safely and effectively help to stop diarrhea. Antibiotics are not effective against most diarrhea causing organisms. Their indiscriminate use may increase resistance of some organisms to antibiotics. In addition, antibiotics are costly. They are appropriate to use for dysentery and cholera. Antidiarrheals and antiemetics should never be given to children and infants.

Basic diarrhea prevention methods

You can prevent diarrhea by:

- ◆ Giving only breast milk for the first 4 - 6 months.
- ◆ Starting weaning food at age 4 - 6 months.
- ◆ Giving freshly prepared foods and clean drinking water.
- ◆ Giving milk and other fluids by cup and spoon instead of feeding bottles.
- ◆ Wash hands after visiting latrine and before preparing or eating food.
- ◆ Having all family members use a clean and well maintained latrine.
- ◆ Putting child's stools in a latrine or burying them.
- ◆ Having the child immunized against measles at the recommended age.

The three rules for home treatment of diarrhea

1. Give the child more fluids than usual.
 - ◆ If the child is < 2 years old give 50-100ml of fluid after each loose stool.

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- ◆ If the child is > 2 and up to 10 years give 100 - 200 ml after each loose stool.
 - 2. Give the child plenty of food. Breast milk is the best food for young babies continue to breast - feed frequently. If the child is not breast fed, give the usual milk or formula / food.
 - 3. Take the child to health facilities if the child does not get better in days or develops any of the following:
 - ◆ Many watery stools
 - ◆ Eating/drinking poorly
 - ◆ Repeated vomiting
 - ◆ Fever
 - ◆ Marked thirst
 - ◆ Blood in the stool

Preparation of homemade food based oral rehydration therapy (ATMIT)

- ◆ Collect cooking pot, cooking spoon, local water containers (beer bottle, jug, etc..) small cup, stirring stick.
- ◆ Collect any type of flour (wheat, barley, maize teff etc.), salt and water.
- ◆ Make fire or boiling stove.
- ◆ Measure how many containers equals 1000 cc.
- ◆ Put amount of water equal to 1000 cc in to cooking pot (e.g. 3 beer bottles).
- ◆ Add one coffee cup of water to cooking pot for evaporation.
- ◆ Put 2 palms level (which is not full) of flour of any kind.
- ◆ Add 1 - 3 finger pinch of coarse cooking salt (avoid large lumps).
- ◆ Put cooking pot on stove or fire to cook.
- ◆ Should boil between 10 - 20 minutes.
- ◆ Stir it frequently.
- ◆ After 10 - 20 minutes take off fire, let stop boiling and cool to room temperature.
- ◆ Taste yourself.
- ◆ Feed the sick child using small coffee cup frequently.
- ◆ Continue until diarrhea stops.

Objective	Content	Learning methods and activities	Materials / Resources	Time
1. To define proper nutrition	<p>Definition of proper nutrition Proper nutrition is having a balanced diet that consists of the 3 food groups Energy giving foods (e.g. bread, rice, potato, banana, sugar)</p> <ul style="list-style-type: none"> ◆ Body building foods (e.g. egg, milk, fish, meat, bean) ◆ Protective foods (e.g. green vegetables, carrots, oranges, tomatoes) 	<p>BRAINSTORMING</p> <ul style="list-style-type: none"> ◆ Trainer asks participants to define proper nutrition and to list the categories and elements of the three food groups. ◆ Participants are asked to comment on the problem of malnutrition in their own area ◆ Trainer summarizes the concept of proper nutrition and some of the obstacles to proper nutrition in Ethiopia 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalk board 	20 min
2. To list main forms of malnutrition	<p>Forms of malnutrition Protein-Energy Malnutrition</p> <ol style="list-style-type: none"> a. Marasmus b. Kwashiorkor c. Marasmic-kwashi <p>Vitamin and Mineral Deficiencies</p> <ol style="list-style-type: none"> a. Vitamin A deficiency (VAD) b. Nutritional Anemia c. Endemic Goiter and Cretinism 	<p>TRAINER LED DISCUSSION</p> <ul style="list-style-type: none"> ◆ Trainer asks participants to name the different types of nutritional deficiencies; macro and micro nutrient ◆ Trainer lists responses on flip chart and describes the main forms briefly. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	20 min
3. To describe Causes of Malnutrition	<p>Causes of malnutrition Poverty, which leads to a lack of means to acquire food, food scarcity, over crowded, and unsanitary living condition, and improper childcare. Infection accompanies malnutrition and vice versa</p>	<p>DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks participants to name some of the underlying causes of malnutrition 2. Trainer writes points on newsprint 3. Trainer summarizes discussion by adding causes left out by participants or filling in other gaps in participant knowledge. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	20 min
4. To assess nutritional status of and diagnose malnutrition in	<p>Diagnose malnutrition <u>Marasmus:</u></p> <ul style="list-style-type: none"> ◆ Visible severe wastage. The child is very thin has no fat and looks like skin and bone. 	<p>MINI-LECTURE</p> <ul style="list-style-type: none"> ◆ Trainer discusses clinical presentation of malnutrition in children using posters and color plates 	<ul style="list-style-type: none"> ▪ Posters ▪ Color plates ▪ OHP 	40 min

Objective	Content	Learning methods and activities	Materials / Resources	Time
children.	<ul style="list-style-type: none"> ◆ Has weight < 60% of expected weight for age <u>Kwashiorkor</u> ◆ Edema of face and feet ◆ Brown-red sparse, dry and brittle hair ◆ Has weight between 60% - 80% of expected weight for age (WFA) <u>Nutritional Anaemia</u> - Pallor - Palpitation - Tiredness - Breathlessness - Oedema on chronic and severe cases - Low level of hemoglobin 	<ul style="list-style-type: none"> ◆ Participants are asked to freely discuss classification of PEM. 		
5. To discuss treatment of malnourished children.	<p>Treatment of children with malnutrition</p> <ul style="list-style-type: none"> ◆ For severe PEM <ul style="list-style-type: none"> - Give one dose of vitamin A - Urgently refer to hospital ◆ Vitamin A deficiency <ul style="list-style-type: none"> - Day 1: 200,000 IU Vitamin A oral capsule - Day 2: 200,000 IU Vitamin A oral capsule - Day 7 or later: 200,000 IU Vitamin A oral capsule 	<p>MINI LECTURE</p> <ul style="list-style-type: none"> ◆ Trainer using pre-written note discusses what one can do to help malnourished children with mild to severe PEM and mineral and vitamin deficiency states ◆ Trainer entertains question of clarification 	<ul style="list-style-type: none"> ▪ Pre-written transparencies (note) ▪ OHP 	20 min
6. To conduct IE with parent on healthy feeding and growth monitoring	<p>Health Education with parents on healthy feeding and growth monitoring</p> <ul style="list-style-type: none"> ◆ Give balanced diet for the child that contains adequate : <ul style="list-style-type: none"> - Building foods - Energy foods and - Protective foods ◆ Give only breast milk up to 4 months ◆ Start complementary food when the child is 4 to 6 months old 	<p>QUESTION AND ANSWER</p> <ul style="list-style-type: none"> ◆ Trainer asks each participant to name one nutrition message for individualized or group education. ◆ Trainer lists messages on chalk board ◆ Trainer fills in gaps, allows trainees to ask questions, and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalk board 	40 min

Objective	Content	Learning methods and activities	Materials / Resources	Time
	<ul style="list-style-type: none"> ◆ Give complementary foods with spoon or cup; do not use bottle. ◆ Add some butter and oil to the food ◆ Feed as much as possible ◆ Take the child to health facility to monitor the growth until 3 years old ◆ Expose the child to sunshine ◆ Treat common medical problems early <p><u>N.B.</u> For every child check his/her immunization status and act.</p>			

HANDOUT ON NUTRITION

Definition of proper nutrition

Proper nutrition is having a balanced diet that consists of the three food groups.

- ◆ Body building foods (e.g. eggs, milk, fish, meat, beans, etc.)
- ◆ Energy giving foods (e.g.. bread, rice, potatoes, bananas, sugar, etc.)
- ◆ Protective foods (e.g.. green vegetables, carrots, oranges, tomatoes, etc.)

Malnutrition is, therefore, lack of adequate energy, protein and micronutrients to meet basic requirements for body maintenance, growth and development.

Causes of malnutrition: Inadequate dietary intake, diseases particularly infection, inappropriate childcare and weaning practice, inappropriate use of infant formula in place of breast-feeding.

Protein energy malnutrition (PEM)

Develops when the child is not getting enough energy or protein from his food to meet his nutritional needs. A child who has had frequent illness can also develop protein - energy malnutrition. The child's appetite decreases, and the food that the child eats is not used efficiently. When the child has protein - energy malnutrition.

- ◆ The child may become severely wasted: a sign of Marasmus.
- ◆ The child may develop edema: a sign of Kwashiorkor.
- ◆ The child may not grow well and become stunted (too short).

Assess and classify malnutrition

Look for visible severe wastage

A child with visible severe wastage has Marasmus. A child with Marasmus is very thin, has no fat, and looks like skin and bones. When wasting is extreme, there are many folds of skin on the buttocks and thigh. Such children need urgent treatment and referral to a hospital.

Look and feel for edema of both feet

A child with Edema of both feet may have Kwashiorkor, another form of severe malnutrition. Edema is when an unusually large amount of fluid gathers in the child's tissues. The tissues become filled with fluid and looks swollen or puffed up. Look and feel to determine if the child has edema on both feet. Use your thumb to press gently for a few seconds on the topside of each foot. If the child has edema, a dent remains in the child's foot when you lift your thumb.

Growth monitoring (determine weight for age)

A normal growth indicates that a child's nutrition and environment is appropriate for its age. When a child is not growing well, he/she is probably not healthy. The causes for his/her ill health could be infection or inadequate food intake. Thus, measuring the growth of a child helps to understand if the child is healthy or not, it is particularly important to follow up with children under 3 years of age. Weighing a child regularly, plotting the weights on a growth chart and understanding the direction of the growth line are the most important steps in detection of early malnutrition.

Simple classification of PEM

<i>Weight for age reference weight</i>	<i>Edema present</i>	<i>Edema absent</i>
60 - 80%	Kwashiorkor	Under weight
< 60%	Marasmic Kwash	Marasmus

Treatment

Children classified as having **severe malnutrition** (marasmus/kwashiorkor) are at risk of death from pneumonia, diarrhea, measles and other severe diseases. These children need urgent referral to hospital where their treatment can be carefully monitored. They may need special feeding and antibiotics. Before the child leaves for hospital, give the child a dose of vitamin A.

A child classified as having very low weight (< 60%), has a higher risk of severe disease. Assess the child's feeding and give advice to the mother to give the child locally available foods.

Recommendations for age

Up to 4 months of age

- ◆ Give breast milk as often as the child wants, day and night.
- ◆ Do not give other foods or fluids.
- ◆ Expose child to sunlight for 20 to 30 min/day.

4 months up to 6 months

Complementary foods are energy rich, nutrient rich and locally affordable.

- ◆ Give breast milk as often as the child wants day or night.

- ◆ Add complementary foods like mashed potatoes (softened with milk), cereal + legumes mixed with milk.
- ◆ Spoon-feed these foods to the child spoon 1 or 2 times per day.
- ◆ Expose the child to sunshine (more specific time).

6 months up to 12 months

- ◆ Breastfeed as often as the child wants.
- ◆ Give adequate serving of: Shiro fitfit, Merek fitfit. Porridge made of cereal and legume mixes, mashed potatoes and Carrot, mashed gommen, egg, and fruits.
- ◆ Add some butter/oil to child's food.
- ◆ Expose child to sunshine for 15-30 minutes every morning

12 months up to 2 years

- ◆ Breast-feed as often as the child wants.
- ◆ Give adequate serving of all foods mentioned for children 6 – 12 months , plus undiluted milk, fruits.
- ◆ Add some butter/oil to foods.
- ◆ Give the food about 5 times per day

2 years and older

- ◆ Give family food at least 3 meals each day. Also twice daily, give nutritious food between meals, such as egg, milk, fruits, kitta, dabo, etc.
- ◆ Advise mothers of children with very low weight for age ratio to return after one month for follow-up.

3. Micro-nutrient deficiency

A child whose diet lacks the recommended amount of essential vitamins and minerals could develop micronutrient malnutrition.

The three main forms of micronutrient deficiency are:

- a. Vitamin A deficiency
- b. Nutritional anemia
- c. Endemic goiter and cretinism

Vitamin A deficiency

Vitamin A deficiency results from not eating foods that contain Vitamin A. In particular, vitamin A deficiency results from a lack of dietary fat and foods of animal origin that contain beta-carotene (e.g. fish, liver and egg) and the unavailability of many beta-carotene-rich vegetables and fruits. Children with vitamin A deficiency are at risk of death from infections such as measles and diarrhea, and are also at risk of nutritional blindness.

Clinical features

Night blindness: is often the first evidence of vitamin A deficiency. The child cannot see in the dim light of evening (dusk).

Bilots' spot: Cheesy and foamy material on conjunctiva and sclera.

Corneal xerosis: Surface of the cornea is cloudy and dry.

Corneal ulcers: If xerosis is not treated early enough, ulcers (holes) may form on the surface of the cornea.

Keratomalacia: The cornea may burst and part of the inside of the eye may come out.

Corneal scars: The cornea is white, and the person can see little through it.

Treatment of vitamin A deficiency

- ◆ Depends on early diagnosis, immediate dosing with vitamin A and proper treatment of other illness such as PEM, TB, infections and dehydration.
- ◆ Give 200,000 I.U oral capsule of vitamin A on day 1, day 2 and day 7. For children less than 1 year of age, give half dose (100,000 I.U.).
- ◆ For children with severe PEM and measles but no sign of xerophthalmia, give single dose of oral vitamin A capsules as above.

Approaches to prevention

- ◆ Production and consumption of foods rich in vitamin A by general population and population at risk.
- ◆ Supplementation with high doses of vitamin A every 4 to 6 months
- ◆ Food fortification
- ◆ Nutrition education
- ◆ Screening and supplementation of population at risk (those coming to health institutions with other problems like PEM, measles, diarrhea) with oral capsules of vitamin A.

Nutritional anemia

The groups most at risk of anemia are women and children.

Causes of anemia are related to:

- low level and type of iron intake from diet,
- poor absorption or utilization of iron from diet
- loss of iron from the body e.g. blood loss, parasite infection like hook worm, malaria, etc.

Clinical presentation of anemia

- pallor
- palpitation
- dizziness
- tiredness and fatigue
- breathlessness
- edema on chronic and severe cases

Hemoglobin levels in anemia

Group	Hg in g/100ml			
	Normal Hg in g/100ml	Mild Anemia	Moderate Anemia	Severe Anemia
Children 6 months to 5 years	11	10	7-10	<7
Children 6 to 14 years	12	10	7-10	<7
Men	13	10	7-10	<7
Non-pregnant women	12	10	7-10	<7
Pregnant women	11	10	7-10	<7

Treatment of anemia

- Ferrous sulphate is cheap and effective for correcting anemia
- Educating caretakers to provide patients with foods rich in iron, folate and vitamin C.

Strategies to prevent and control iron deficiency anemia

1. Nutrition and health education on:
 - Improved dietary intake of foods rich in iron and folate
 - Support for breast-feeding and preparation of weaning foods.
2. Provision of medicinal iron to at risk individuals such as pregnant and lactating women, children or occasionally laborers.
3. Fortification of suitable foods with iron and ascorbic acid.
4. Parasite control
 - Treatment of those infected with hookworms, schistosomes, malaria, etc.
 - Control of infections through appropriate measures like improved sanitation

Iodine deficiency disorder (IDD)

A dietary shortage of iodine may lead to enlargement of the thyroid gland (goiter). Iodine deficiency in newborns (born to deficient mother) can lead to cretinism, a condition characterized by mental retardation, stunted growth and coarse facial features in infants.

Cause of IDD

IDD is caused by a deficiency of iodine in the local soil on which vegetation grows, animals graze and crops are cultivated, thereby, reducing the amount of iodine we get from the foods we eat.

Clinical diagnosis

- Based on measuring the size of the thyroid gland (enlarged mass on the neck)
- Measuring mean level of urinary iodine.

Treatment

For simple goiter that is not very large, either potassium iodide (6 mg daily) or Lugol's iodine (one drop daily for ten days, then one drop weekly) lead to fairly rapid reduction in the size of the goiter.

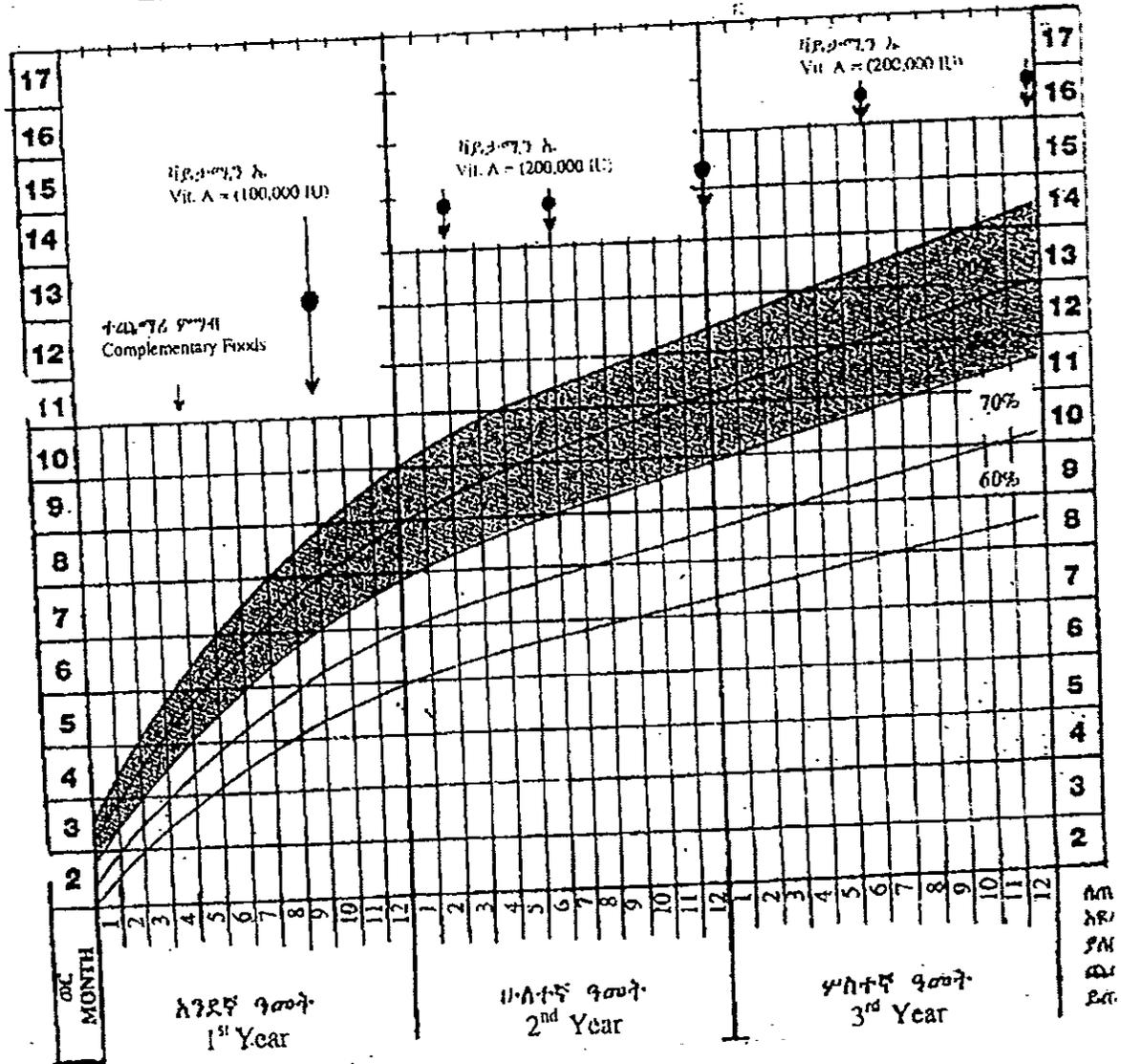
Intervention of the control of IDD

Depends on: increasing the intake of iodine in the affected population by

- medicinal supplementation, or
- fortification of component of diet (usually salt)

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GROWTH MONITORING AND PROMOTION CHART



Objective	Content	Learning methods and activities	Materials/ Resources	Time
1. To define immunity and to discuss types of immunization.	<p>Immunity: is the human body's ability to fight microorganisms (foreign bodies) that cause disease.</p> <p>Immunization can be</p> <ul style="list-style-type: none"> ◆ Active: by natural infection or artificial introduction of micrograms or their products into the body, or ◆ Passive: introduction of antibodies into the body 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Participants define immunity and discuss the present status of the EPI program in their areas 2. Trainer invites participants to ask questions and responds to issues in need of clarification. 3. Trainer summarizes key points. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard 	20 min
2. To list and describe the 6 vaccine preventable diseases affecting children under 5	<p>The six target diseases affecting children under 5 years of age include:</p> <ol style="list-style-type: none"> 1. Poliomyelitis 2. Diphtheria 3. Whooping cough 4. Measles 5. Tuberculosis 6. Tetanus 	<p>MINI LECTURE</p> <ol style="list-style-type: none"> 1. Trainer gives description of each disease, its magnitude and available vaccines using pre-written notes and pictures 2. Trainees are invited to ask questions and encouraged to answer their peers' questions. 3. Trainer fills gaps, reinforces and corrects answers and summarizes discussion. 	<ul style="list-style-type: none"> ▪ OHP ▪ Pre-prepared transparency ▪ Disease posters 	40 min
3. To outline the schedule for the immunization of children and women (EPI)	<p>Immunization schedule:</p> <p>Children</p> <p>BCG at birth or any time later</p> <p>Polio at birth, at 10 and 14 weeks</p> <p>DPT at 6,10,14 weeks</p> <p>Measles at 9 months or soon after.</p> <p>Women</p> <p>Tetanus toxoid is given for pregnant and non-pregnant women to protect against tetanus and neonatal tetanus.</p>	<p>QUESTION AND ANSWER</p> <ol style="list-style-type: none"> 1. Trainer asks a volunteer to come before the class and outline two immunization schedules, one for children and another for women. 2. Participants comment on the outline, correct, and fill in gaps where needed. Trainees are encouraged to answer each other's questions. 3. Trainer presents pre-written schedule both for children and women. Trainer adds or corrects information discussed by participants as needed. 	<ul style="list-style-type: none"> ▪ OHP ▪ Pre-prepared transparency ▪ Newsprint ▪ Marker 	20 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time															
4. To demonstrate the administration and doses for the different vaccines.	<p>Route and dose of vaccines</p> <table border="0"> <tr> <td>BCG</td> <td>0.05 ml</td> <td>intradermal</td> </tr> <tr> <td>OPV</td> <td>2 drop/dose</td> <td>oral</td> </tr> <tr> <td>DPT</td> <td>0.5ml/dose</td> <td>IM</td> </tr> <tr> <td>Measles</td> <td>0.5 ml</td> <td>subcutaneous</td> </tr> <tr> <td>TT</td> <td>0.5 ml</td> <td>IM</td> </tr> </table>	BCG	0.05 ml	intradermal	OPV	2 drop/dose	oral	DPT	0.5ml/dose	IM	Measles	0.5 ml	subcutaneous	TT	0.5 ml	IM	<p>EXERCISE</p> <ol style="list-style-type: none"> 1. Trainer asks each participant to complete a table on dose and administration for five major vaccines on a piece of paper 2. Trainer collects completed papers and tallies responses on a newsprint with the participants 4. Trainer displays the correct information for vaccine administration and dosage from a pre-prepared transparency 	<ul style="list-style-type: none"> ▪ News print ▪ Marker ▪ Pre-written note on route and schedule 	20 min
BCG	0.05 ml	intradermal																	
OPV	2 drop/dose	oral																	
DPT	0.5ml/dose	IM																	
Measles	0.5 ml	subcutaneous																	
TT	0.5 ml	IM																	
5. To explain the cold chain and its purpose	<p>Definition: The cold chain is the people and equipment that keep a vaccine in a cold environment, from the manufacturer until it reaches the child or woman.</p> <p>Keeping vaccines cold</p> <ol style="list-style-type: none"> 1. Keep vaccines at correct temperature in the refrigerator 2. Carry vaccines to sessions in a vaccine carrier with ice 3. Stand vaccines on ice while you immunize 	<p>DEMONSTRATION</p> <ol style="list-style-type: none"> 1. Trainer takes all participants to an immunization session to observe clinic organization and activities 2. Trainer asks clinic staff to show the group the refrigerator, temperature record, immunization cards and registries etc, and explain how each is maintained, used and discuss common problems encountered. 3. Trainer demonstrates drawing the right doses of each vaccine into the right syringe/needle, and techniques of administration at the right site. 4. Participants are encouraged to practice by participating in the clinic's activity that session. 	<ul style="list-style-type: none"> ▪ Clinic with EPI sessions ▪ Refrigerator full of vaccines ▪ Immunization cards and registries ▪ Syringes and needles ▪ Ice carrier/bag ▪ Cotton, alcohol, etc 	45 min															
6. To list the factors that damage vaccines	<p>What damages vaccines?</p> <ol style="list-style-type: none"> 1. Heat, 2. Chemicals, 3. Sunlight, 4. Extreme freezing, 5. Soap 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer asks participants to name environmental factors that damage vaccines and discuss what their institutions do to prevent vaccines from damage. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk ▪ Pre-prepared transparency ▪ OHP 	15 min															
7. To name common contraindications	<p>Contraindications</p> <p>There are almost no contraindications to</p>	<p>DISCUSSION</p> <ul style="list-style-type: none"> ◆ Trainer asks participants if they have 	<ul style="list-style-type: none"> ▪ Chalkboard 																

Objective	Content	Learning methods and activities	Materials/ Resources	Time
for the use of vaccines	immunization however, <ul style="list-style-type: none"> ◆ Do not give second or third doses of DPT to children who had severe reactions to previous doses, especially if there was convulsion or shock within 3 days of injection ◆ Do not give BCG to HIV symptomatically positive children 	encountered any adverse reaction to vaccinations in their practice, including injection abscess. <ul style="list-style-type: none"> ◆ Participants discuss the implication of side effects and what to do if side effects occur 	<ul style="list-style-type: none"> ▪ Chalk 	10 min
8. To describe the strategies for the delivery of immunization services	Service delivery strategies <ul style="list-style-type: none"> ◆ Static (in health institutions) sites ◆ Outreach sites ◆ Mobile services ◆ Immunization campaigns 	DISCUSSION <ol style="list-style-type: none"> 1. Trainer invites participants to note the kind of strategy they use at their institution and comment on coverage, problems, and current status of the delivery strategies, especially outreach. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	20 min

HANDOUT ON IMMUNIZATION

Immunity: Immunity is the ability of our body to fight microorganisms that cause disease.

When you have an infection, your body learns to make antibodies against the micro-organisms (virus or bacteria) that cause infection. These antibodies kill the micro-organisms and prevent them from growing in your body again. For the first few months of life, a baby is protected against many infections by its mother's antibodies.

The six target diseases

- ◆ Poliomyelitis
- ◆ Pertussis (whooping cough)
- ◆ Measles
- ◆ Tetanus
- ◆ Diphtheria
- ◆ Tuberculosis

The expanded program on immunization aims to immunize all children against these six target diseases.

What damages vaccines:

Vaccines are easily damaged if they are not looked after properly. A vaccine that is in a good condition and is able to make a child immune is **POTENT**. A vaccine that is damaged, and not able to make a child immune, has **LOST ITS POTENCY**.

a. Heat, sunlight and freezing

- ◆ Heat and sunlight damage all vaccine, but, especially polio, measles and BCG.
- ◆ Freezing damages DPT and tetanus toxoid. The safest thing to do is to keep **ALL VACCINES** at the correct cold temperature and out of sunlight. The correct temperature to store vaccines in a health center is between 0^oc and +8^oc, which can only be found in a refrigerator.

b. Chemicals, disinfectants, antiseptics, spirits, detergents and soap

We use these things to clean and to kill micro -organisms that we do not want. But all these chemicals can damage vaccine . Keep chemicals, disinfectants, antiseptics, spirits, detergents and soap away from vaccines.

c. The live vaccines - polio, measles and BCG vaccine

The micro-organism that causes polio is a virus. The polio vaccine is made of a live **ATTENUATED VIRUS**. Polio vaccine is a clear pink or pale orange liquid. Oral polio vaccine is damaged very quickly by heat. OPV is more easily damaged by heat than other

vaccines, but freezing does not damage OPV; it can be frozen and refrozen without damage.

d. Measles vaccine

The measles vaccine is made from live **ATTENUATED VIRUS**. The vaccine comes as a lump of dry material at the bottom of a container. To use the vaccine, you must mix the dry vaccine with water. This is called reconstituting the vaccine. Measles vaccine is easily damaged by heat. The dry vaccine stays potent for a long time if kept cold. The dry vaccine is not damaged by freezing. It can be frozen and refrozen without damage. Reconstituted vaccine loses its potency very quickly, even if it is cold; therefore, it must be used in the same immunization session or throw it out.

e. BCG vaccine

The BCG vaccine is made from a special **WEAK, BUT LIVING** kind of mycobacterium. BCG is freeze - dried, like the measles vaccine and comes as dry powder in the container. Reconstitute the dry BCG vaccine with water and inject the reconstituted vaccine into the top layer of the skin. BCG is damaged most easily by sunlight. The containers are usually made of dark glass, to keep out light. Heat damages BCG, but not as quickly as measles and polio vaccines. The dry vaccine stays potent for a long time if you keep it cold. Dry vaccine is not damaged by freezing, it can be frozen and refrozen without damage. Reconstituted vaccine losses it's potency more quickly. Also bacteria may grow in it. You must use it in the same immunization session or throw it out.

f. The killed vaccines and toxoids

DPT vaccine contains diphtheria toxoid, pertussis vaccine, and tetanus toxoid. Some times it is called "triple vaccine".

- ◆ Killed vaccines
Pertussis
- ◆ Toxoids
Diphtheria, Tetanus

g. Diphtheria toxoid

This is D part of the DPT vaccine. Diphtheria is caused by bacteria, which produce a toxin. The vaccine is a toxoid, that is, inactivated diphtheria toxin. It is damaged by freezing, it is also damaged by heat, but not as quickly as the live vaccines.

h. Pertussis vaccine

This is the "P" Part of the DPT- vaccine. The microorganisms that cause pertussis (whooping cough) are bacteria. The vaccine is made from **KILLED BACTERIA**.

Pertussis vaccine is damaged by heat, about as quickly as BCG. Pertussis vaccine is the most easily damaged part of DPT.

i. Tetanus toxoid

The T- part of DPT - vaccine. It is also available as a separate vaccine "TT". Tetanus is caused by bacteria, which produce toxin. The vaccine is a TOXOID, that is inactivated tetanus toxin. It is damaged by freezing and also damaged by heat, but more slowly than the other vaccines.

DPT and tetanus Toxoid are bottle liquid vaccines which you give by injection. When DPT and TT vaccines have been standing, the liquid is clear, and there is a white sediment at the bottom. If you tip the container, the sediment moves easily. If you shake the container, the vaccine goes cloudy. The cloudiness is very smooth and not granular. The sediment begins to fall to the bottom again very quickly.

Look after vaccines: the cold chain

Vaccines must stay cold all the way from the manufacturer to the child. The equipment and the people that keep vaccines cold from the manufacturer to the child are together called the cold chain. Before vaccines reach the health center they must be:

- ◆ Collected quickly.
- ◆ Stored at the correct temperature in the refrigerator at the central, regional and zonal store.
- ◆ Kept cold during transport from one store to another.

The vaccines arrive at your health center in good condition. After vaccines reach the health center you must:

- ◆ Keep them at the correct cold temperature in your health center refrigerator.
- ◆ Carry them to the immunization session in a vaccine carrier with ice.
- ◆ Stand the vaccine on ice while you immunize the children.

A health center refrigerator

You can keep vaccine in good condition in a health center refrigerator for one month but you must make sure that the refrigerator works at the correct temperature.

To make sure that the refrigerator works well you must:

- ◆ Load and use the refrigerator correctly.
- ◆ Check the temperature twice daily.
- ◆ Defrost the refrigerator regularly.

Checking the temperature of the main compartment

You must have:

- ◆ A thermometer to measure temperature, keep this in the main compartment.

- ◆ A chart to record temperature - keep this on the top of the refrigerator or on the outside of the door.
- ◆ Check the temperature in the main compartment twice every day when you arrive for work, and when you leave. Usually there is one person who is in charge of the refrigerator, but everyone who uses vaccines must know what the chart means.
- ◆ You should be able to recognize if the temperature is too hot or too cool and you should know how to adjust the refrigerator to the proper temperature and protect the vaccines.
- ◆ If fuel or power is not the problem ask someone to come to repair the refrigerator.

How to make your instruments sterile

The best way to sterilize instruments is to heat them. Heat is the best way to kill micro-organisms. You can heat instruments for 20 minutes in steam from boiling water, using a steam sterilizer for at least 20 minutes in boiling water.

The immunization schedule for children

<i>Vaccine</i>	<i>Dose</i>	<i>Age</i>	<i>Route</i>
BCG	0.05ml (before 1 year of age) 0.1ml after 1 year of age	At birth or any time after	Intradermal
Polio (OPV)	2 drop per dose	At birth at 6, 10 and 14 weeks	Oral
DPT	0.5ml	At 6, 10 and 14 weeks	Im
Measles	0.5ml	At 9 months or soon after	Subcutaneous

0.1ml

If a child missed a dose of DPT or OPV, the next dose can be given at any time more than 4 weeks after the first dose. You do not have to repeat the earlier dose.

Contraindications to immunization

There are almost no contraindications.

- ◆ Do not give the second or third dose of DPT vaccine to a child who had a severe reaction to a previous dose, especially if the reaction was convulsion or shock within 3 days of the injection.
- ◆ Do not give the BCG vaccine for HIV symptomatically positive children.

Tetanus immunization schedule for a woman

<i>Vaccine</i>	<i>When to give</i>	<i>Dose</i>	<i>Route</i>	<i>Duration of protection</i>
TT1	At first contact or early during pregnancy	0.5ml	I.m	0
TT2	At least 4 weeks after TT1	0.5ml	I.m	3 years
TT3	At least 6 months after TT2	0.5 ml	I.m	5 years
TT4	At least 1 year after TT3	0.5 ml	I.m	10 years
TT5	At least 1 year after TT4	0.5 m	I.m	Lifelong

There is only minimum interval of 4 weeks between doses; there is no maximum interval. All vaccines have minor side effects, which go away by themselves or need minor treatment (like paracetamol) and cleaning. Assure the mothers that these side effect will not harm the children.

MODULE:

**FAMILY
PLANNING**

MODULE TITLE: FAMILY PLANNING

MODULE OBJECTIVE: At the end of the refresher training the learner (health worker in services) will be able to provide family planning services including IEC to individuals, families and communities.

NUMBER OF SESSIONS: 1

NUMBER OF LEARNING OBJECTIVES: 12

TOTAL TRAINING TIME: 6hr 25min

CHARACTERISTICS IN A SESSION	SESSION 1: FAMILY PLANNING
# OF LEARNING OBJECTIVES	12
TRAINING TIME	6hr 40min
REQUIRED TRAINER COMPETENCE	Qualification as a nurse, health officer, medical doctor or related fields, with training and or work experience in family planning
SESSION EVALUATION	Pre-post test Questioning during sessions Re-demonstrations
QUICK REFERENCE	Available
ADDITIONAL READING MATERIAL ON SESSION:	
<ol style="list-style-type: none">1. MOH. Manual on Maternal and Child Health Care, 1995, Addis Ababa, Ethiopia.2. MOH. Technical Guidelines in Maternal and Newborn Care, 1998, Addis Ababa, Ethiopia.3. Robert A. Hatcher, MD, MPH, et al. Contraceptive Technology, 16th Ed., New York. New addition available: Hatcher, Robert A. MD, MPH, et al. 1998. <i>Contraceptive Technology</i>. 17th Ed. Ardent Media, Inc: New York4. Hatcher, Robert A. MD, MPH. 1998. <i>The Essentials of Contraceptive Technology: A Handbook for Clinic Staff</i>. Johns Hopkins Population Information Program.5. Nelson, Anita MD et al. 2000. <i>A Pocket Guide to Managing Contraception</i>. Millennium Edition 2000-2001.	

MODULE: FAMILY PLANING

SESSION: FAMILY PLANNING

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>1. To describe the male reproductive organs and their functions</p>	<p>Anatomy of internal and external organs of the male reproductive system</p> <p>External R.S</p> <ul style="list-style-type: none"> ◆ The penis ◆ Urethra ◆ Urethra meatus ◆ The glans ◆ The scrotum ◆ The physiology of male R. System <p>Internal R.S</p> <ul style="list-style-type: none"> ◆ The prostate ◆ Epididymus ◆ Testis ◆ Seminal vesicles ◆ The vas deference 	<p>MINI-LECTURE</p> <ul style="list-style-type: none"> ◆ Trainer discusses the anatomy and physiology of male reproductive organs using anatomical charts ◆ Trainer entertains questions from participants. 	<ul style="list-style-type: none"> ▪ Anatomical charts of male reproductive system ▪ Chalk board ▪ Chalk 	<p>20 min</p>
<p>2. To describe the female reproductive organs and their function</p>	<p>Anatomy of internal & external organs of the female reproductive system</p> <p>Internal</p> <ul style="list-style-type: none"> ◆ The vagina ◆ The cervix ◆ The uterus ◆ The fallopian tube ◆ Ovaries 	<p>MINI LECTURE</p> <ul style="list-style-type: none"> ◆ The trainer discusses the anatomy and physiology of female reproductive system from a chart 	<ul style="list-style-type: none"> ▪ Anatomical chart showing female reproductive system ▪ OHP ▪ Flipchart paper 	<p>30 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
	<p>External</p> <ul style="list-style-type: none"> ◆ The labia majora ◆ The labia minora ◆ The clitoris ◆ The mons pubis ◆ The urethra meatus ◆ Hymen ◆ Bartholion: gland ◆ Perineum ◆ Anus <p>Reproductive functions of the above structures</p> <ul style="list-style-type: none"> ◆ Ovulation ◆ Menstruation ◆ Fertilization ◆ Implantation 	<p>QUESTION AND ANSWER</p> <ul style="list-style-type: none"> ◆ Trainer invites participants to ask questions and encourages other participants to answer ◆ Trainer fills gaps and summarizes session 		
3. To describe the menstrual cycle and the process of conception.	<p>The menstrual cycle:</p> <p>Menstruation:</p> <ul style="list-style-type: none"> ◆ A normal physiological process ◆ Menarche <p>Stages of normal menstrual cycles and what takes place</p> <ul style="list-style-type: none"> ◆ In each phase <p>Phase 1 Phase 2 Phase 3</p> <p>Fertilization and Implantation</p> <ul style="list-style-type: none"> ◆ Menopause 	<p>MINILECTURE</p> <ul style="list-style-type: none"> ◆ The trainer discusses the menstrual cycle using charts and pre-written notes ◆ Trainer entertains participants' questions and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Chart showing menstrual cycle ▪ OHP or ▪ Pre-prepared transparency ▪ Audiovisual aids 	30 min
4. To explain the different	<p>Effects of Contraception</p> <ul style="list-style-type: none"> ◆ Prevents Ovulation 	<p>TRAINER-LED DISCUSSION</p> <ul style="list-style-type: none"> ◆ Trainer asks participants to name the 	<ul style="list-style-type: none"> ▪ Newsprint 	20 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
mechanisms of contraception	<ul style="list-style-type: none"> ◆ Reduces the growth of endometrium ◆ Makes the cervical mucus thick & impermeable to the sperms ◆ Decreases the sperm mobility to upper parts of female genital ◆ Serve as a barrier between male and female genitals. 	<p>different ways family planning methods that prevent or interrupt conception</p> <ul style="list-style-type: none"> ◆ Trainer writes responses on newsprint ◆ Trainer comments on responses and summarizes session. . 	<ul style="list-style-type: none"> ▪ Marker 	
5. To define Family Planning and its benefits.	<p>Family Planning: When an individual or couple makes a voluntary & informed decision on when to have children, the number of children they want, the interval between pregnancies using a family planning method of their choice.</p>	<p>BRAINSTORMING Trainer invites participants to brainstorm the definition of FP and discuss the present status of FP in their health institution and localities</p>	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	15 min
6. To describe the benefits of family planning	<p>Benefits of Family planning</p> <ul style="list-style-type: none"> ◆ Saves lives of mothers ◆ Saves lives of children ◆ Improves family well being ◆ Helps nations to develop ◆ Helps every one to have a better opportunity for a good life 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Brainstorming continues on the benefits of FP. 2. Trainer gives definition of family planning and lists its benefits. 	<ul style="list-style-type: none"> ▪ OHP ▪ Pre written summary of benefits of F/P 	20 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
7. To list the different methods of FP, available natural and technical methods.	<p>Natural methods</p> <ul style="list-style-type: none"> ◆ Breast feeding (Lactational Amenorrhea) ◆ Abstinence ◆ Withdrawal ◆ The calendar method ◆ The temperature method ◆ The cervical mucus method <p>The Technical method</p> <p>1. Barrier methods</p> <ul style="list-style-type: none"> ◆ Condoms: - male - female ◆ Diaphragm ◆ Spermicides ◆ Vsc <ul style="list-style-type: none"> - Tubal ligation - Vasectomy <p>2. Hormonal methods</p> <ul style="list-style-type: none"> ◆ Oral contraceptives <ul style="list-style-type: none"> - Cocs - Pops ◆ The long acting contraceptives <ul style="list-style-type: none"> - injectables - implants - IUCDS (Not all IUDs are hormonal, most not) 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks volunteer participants to come before the class and each writes different groups (natural, technical, permanent, etc) 2. Trainer asks participants to tell their experience with the methods listed. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	20 min
8. To describe each FP method	<p>In terms of:</p> <ul style="list-style-type: none"> ◆ Description of each method 	<p>DEMONSTRATION</p> <ol style="list-style-type: none"> 1. Trainer demonstrates each method using equipment, posters and 	<ul style="list-style-type: none"> ▪ Posters ▪ Films ▪ Contraceptives and 	30 min + 100 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
	<ul style="list-style-type: none"> ◆ Advantages ◆ Disadvantages ◆ Clients instruction ◆ Administration ◆ WHO criteria for starting temporary methods 	<p>audiovisual aids.</p> <ol style="list-style-type: none"> 2. Trainer asks participants to describe each method in terms of its advantage and disadvantages, administration and client instruction. 3. Trainer presents description of the methods from a pre-prepared transparency. 	<p>demonstration aids</p> <ul style="list-style-type: none"> ▪ Pre-prepared transparencies ▪ OHP 	
<p>9. To identify and respond to rumors about FP methods</p>	<p>Common rumors about FP methods</p> <ul style="list-style-type: none"> ◆ F/P pills or loop is for rich & comfortable women ◆ Needs good nutrition ◆ Loop can go to brain and causes abdominal distention and infertility 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer divides the class into two rows: one row identifies negative rumors and the other side responding to each rumor in turn. 2. Trainer makes list of common rumors and responses to dispel rumors. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	<p>20 min</p>
<p>10. To practice counseling to FP clients, at an initial and at subsequent visits.</p>	<p>Family Planning Counseling</p> <ul style="list-style-type: none"> • Counseling definition • Principles to follow during counseling • Topics to be covered during counseling • Steps in counseling new clients <p>GATHER G: greet the client A: ask about his/her health T: tell the client about choice H: Help clients make an informed choice E: Explain fully how to use the chosen Method R: Return visits should be welcomed</p>	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer gives a definition of FP counseling, lists principles of and steps in counseling FP clients, including topics to be covered. 2. Trainer entertains questions from participants and clarifies issues as needed. <p>ROLE-PLAY</p> <ol style="list-style-type: none"> 3. Trainer asks two volunteers to perform a role-play. One volunteer plays the role of a counselor the other plays the part of a FP client seeking services for the first time. 4. Trainer asks others to observe the role-play and comment at a wrap-up session. 	<ul style="list-style-type: none"> ▪ OHP with its transparency ▪ Chair or table for counseling demonstration 	<p>60 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time
1. To explain describe emergency contraceptive methods.	<p>Emergency contraception</p> <ul style="list-style-type: none"> ◆ Can be used after unprotected intercourse, if pregnancy is not planned or desired. <p>Methods</p> <p>COCs:</p> <ul style="list-style-type: none"> ◆ 4 tablets of low dose COC taken orally and all at once within 72 hrs of unprotected intercourse. ◆ 4 more tablets of low dose COC to be taken 12 hours following the first dose. ◆ Total 8 tablets <p>POPs</p> <ul style="list-style-type: none"> ◆ 1 postinor tablet or 20 overette tablets within 48 hrs of unprotected intercourse. ◆ 1 postinor tablet or 20 overette tablets to be taken 12 hours after the initial dosage. ◆ Total -2 postinor or 40 overette <p>IUDs</p> <ul style="list-style-type: none"> ◆ Insert within 5 days of unprotected intercourse. 	<p>MINI LECTURE</p> <ol style="list-style-type: none"> 1. Trainer discusses the rationale for use of emergency contraception. 2. Trainer entertains questions and clarifies issues as needed 	<ul style="list-style-type: none"> ▪ Pre-prepared transparencies ▪ OHP 	20 min
12. To describe infection prevention in family planning services.	<p>Infection prevention Points:</p> <ul style="list-style-type: none"> ◆ Protects both the clients and health workers. ◆ Principles of infection prevention ◆ Making a barrier to body fluids ◆ Removing infectious organisms 	<p>DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer invites participants to discuss the reason, principles and rules of preventing infection in family planning practice. 2. Trainer writes key points of the discussion on newsprint. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	15 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
	<p>Basic rules of infection prevention</p> <ul style="list-style-type: none"> ◆ Wash hands ◆ Wear gloves ◆ Do vaginal exams when needed ◆ Clean the clients skin for each injection use a new disposable syringe ◆ Decontaminate used equipments etc. 	<p>discussion on newsprint.</p> <p>3. Trainer summarizes discussion by reinforcing and correcting . responses as necessary.</p>		

HANDOUT ON FAMILY PLANNING

Family planning is when an individual or couple makes a voluntary and informed decision about when to have children, the number of children they want and the interval between pregnancies using a family planning method of their choice.

Family planning services include medical, social and educational services, which enable individuals to exercise informed choices in reproduction. Anyone who can get pregnant or make somebody pregnant should have access to family planning services and information. Family planning is an integral part of the PHC and should be integrated into other activities of daily services.

Family planning saves lives

Family planning is an individual's right and an important means for reducing the fertility rate. FP is also an important tool in the strategy to lower maternal death, especially in known-risk mothers, by preventing too early, too late, too close, and too many pregnancies. At least 20 - 25% or over 2,500 maternal deaths could be avoided every year in Ethiopia. In addition, pregnancy related ill health would be avoided in thousands of women if the population practiced family planning.

Family planning saves the lives of children. Closely spaced children tend to have low birth weight, more illnesses, poorer nutritional status and slower growth. Between 13 and 15 million children under age of 5 die each year. If all children were born at least 2 years apart 3 to 4 million of these deaths would be avoided.

Family planning improves family well-being. Couples with fewer children are able to provide them with enough food, clothing, housing and schooling. Family planning helps nations to develop. In a country where women are having fewer children than their mothers did, peoples economic situations are improving faster than in most other countries. If couples have fewer children in the future, the world's current population of 5.9 billion people will avoid doubling in less than 50 years. Further demands on natural resources such as water and fertile soil will be lessened. With a smaller world population, everyone will have better opportunities for a good life.

Family planning methods overview

WHO medical eligibility criteria for starting contraceptive methods

WHO categories for temporary methods

- C1. Can use the method. No restriction on use.
- C2. Can use the method. Advantages generally outweigh risks or disadvantages. If a doctor or a nurse is available to make clinical judgment, category 2 conditions

Phase one: The Menstrual phase

- Characterized by vaginal bleeding
- Lasts for 3-5 days.
- Physiologically this is the terminal phase of the menstrual cycle.

Phase two: The Proliferative phase

- Follows menstruation and lasts until ovulation.
- This phase is under the control of estrogen.
- Consists of the re-growth and thickening of the endometrium.

Phase three: The Secretary phase

- Follows ovulation.
- It is under the influence of progesterone and estrogen from the corpus luteum.
- The functional layer becomes spongy in appearance

Family planning methods

Family planning methods may be divided into natural and modern (scientific) methods.

II. Natural family planning methods

1. **Breast feeding as contraceptive (Lactational Amenorrhea):** If used correctly, breast-feeding can be as effective as other modern methods of family planning, before the return of menses, during the first 6 months after delivery. Breast-feeding must be on demand (6-10) times/day) to be effective.

2. **Abstinence:** This is mostly restricted to those persons that have a higher motive for this.

3. **Withdrawal:** In the withdrawal method, the male withdraws the penis from the vagina before ejaculation takes place. This method is the most widely used one in the world, but has a high rate of failure.

4. **The calendar method:** The menstrual cycle varies in length but is usually about 28 days. The first day of bleeding is called "day 1". Ovulation, the release from the ovary of a mature egg for fertilization, an average takes place on day 14 in women with regular cycles. However, even if the cycles are regular, ovulation may take place a few days earlier or later. Thus for most women the greatest risk of pregnancy is about 9 to 19 days after "day 1".

The reason that pregnancy may occur even if intercourse took place before ovulation is that sperm may stay alive in the women's body for one or more days and fertilize the egg when it is released. The egg itself is viable only for about 24 hours.

Abstinence is practiced during the period in which the woman can effectively become pregnant. This is the period during which sperm can survive in the female genital tract and can encounter available egg to fertilize. As a rule, this is from 72 hours before ovulation until immediately after ovulation, when the progesterone produced in the corpus

luteum, makes the cervical mucus impenetrable for sperms. Male consent, understanding and cooperation is needed for successful implementation of "Natural" FP.

5. The temperature method: Also called the BTC (Basal Temperature chart), it makes use of the fact that the progesterone hormone causes an increase in the basal body temperature, which is slightly lower in the first part of the menstrual cycle than in later part of the cycle. The elevation level about 0.2 - 0.5°C, usually comes in the middle of the cycle, and may be detected by systemic use of a thermometer. After the elevation has been present for 3 full days the period is safe; not before.

6. The cervical mucus method: A method to detect the moment of ovulation by inspection of the cervical mucus, which becomes tough, sticky and small in amount the day before ovulation.

III. Technical methods of contraception

1. Barrier methods of contraception

- ◆ Barrier methods prevent the sperm and the egg from uniting and fertilizing .
- ◆ Male and female condoms are the only family planning methods that have been proven to offer protection against STD including AIDS.
- ◆ Barrier methods are virtually free of side effects.

1.1 Male condom

Description:

- A soft tube made of latex rubber and closed at one end. It is put on the man's erect penis before sexual intercourse.
- When the man ejaculates, the semen containing the sperm is collected in the tip of the condom.
- There is a small chance that the condom may tear during sexual intercourse.
- Condoms should be used once only. Condoms are as efficient as many other modern methods.
- The male condom is 88% effective. If used with spermicides it is 97% effective.

1.2 The female condom

- ◆ New form of contraception, not available in many areas
- ◆ Its effectiveness among users is 79%
- ◆ Describe how it is used and effective, as was done with the male condom

Advantages of Condoms

- ◆ Protects against STD & AIDS
- ◆ Involves males
- ◆ Non systemic effects

Disadvantages

- ◆ Damaged if stored in too much heat or light
- ◆ Can fail if not used correctly
- ◆ Interrupts sexual intercourse
- ◆ Latex condoms are damaged by any oil based lubricants

1.3 Diaphragm

Description:

- ◆ The diaphragm is a shallow rubber cup with a flexible rim
- ◆ The woman puts spermicide inside the cup, then inserts the cup into the vagina before intercourse
- ◆ When correctly fitted and in its proper position, the diaphragm covers the cervix and prevents semen from entering
- ◆ After it has been used, it should be thoroughly washed with soap and water, air dried and stored in a cool place to use again
- ◆ It should be checked for damages before use
- ◆ Its effectiveness is about 82%

1.4 Spermicides

- ◆ Vaginal spermicide is inserted into the vagina before intercourse
- ◆ When inserted, the spermicide spreads over the vagina and cervix
- ◆ Spermicides prevent pregnancy by inactivating sperm and by blocking the sperm from getting to the uterus
- ◆ Fairly effective (74%) in preventing pregnancy, and
- ◆ It is easy to insert with no systemic effects.

2. Hormonal methods

- ◆ These methods are the most popular and most effective methods
- ◆ They are used by many women in the world
- ◆ Hormonal methods prevent pregnancy by
 - Preventing ovulation
 - Reducing the growth of endometrium
 - Making the cervical mucus thick and impenetrable, to the sperms

2.1 Oral contraceptives

They are two types:

2.1.1 The combined oral contraceptive (COC)

2.1.2 The Progestin only Pill (POP)

2.1.1 The combined oral contraceptive (COC)

- ◆ Contains a small amount of both types of hormones (estrogen and progesterone), which are very similar to that of body hormone.
- ◆ COC prevents pregnancy by inhibiting Ovulation, Preventing implantation and making the cervical mucus membrane thick to stop the sperm cells passing through it,
- ◆ Very effective when used correctly and consistently. 95% effective and should be taken every day.
- ◆ Safe, serious problems are rare.

Advantages

- Very effective when used correctly
- No need to do any thing at time of sexual intercourse
- Increased sexual enjoyment because no need to worry about pregnancy.
- Monthly periods are regular, lighter monthly bleeding and fewer days of bleeding, milder menstrual cramps.
- Can be used for longer period, no rest period needed
- Can be used at any age from adolescence to menopause.
- Can be used by women who have children and by women who do not.
- User can stop taking pills at any time
- Fertility returns soon after stopping
- Can be used as an emergency contraceptive after unprotected sex
- Can prevent or decrease iron deficiency anemia

Disadvantages

- Nausea (very common in the first 3 months)
- Spotting (if a woman forgets to take her pills)
- Mild headaches
- Breast tenderness
- Slight weight gain
- Amenorrhea
- Not recommended for breast feeding mothers
- Mood changes and decreased interest in sex (in some women)
- Do not protect against STD including AIDS.

Instruction on how to take the pills and other relevant information

On the first day of menstrual period, the first pill should be taken. Users should continue taking pills regularly, every day, for the remainder of the month.

- ◆ If a woman forgets to take a pill one-day, she should take it as soon as she remembers
The pill should be taken at a regular time to help the user remember and prevent double dosage in the same day.
- ◆ If you forget two or three days in a row, start taking them as soon as possible but use additional methods (back up with condom).
- ◆ If a woman consistently forgets to take pills then she should use a different method.
- ◆ When COC are prescribed for first time, give client pills for 3 months and make an appointment for follow up with the third month.

- Subsequent revisits every 3 -12 months
- ◆ The available low dose COC 30 ug. is Microgynon and Lofemenal.
 - ◆ The high dose COC (50 ug.) may be used in patients who use:
 - Long term antiepileptic drugs like carbamezapine, phenytoin
 - Long term Rifampicin
 - Long term use of antibiotics
 - ◆ An example of high dose of COC is Neogynon

2.1.2 Progestin only pill (mini pill) (POP)

- ◆ Contain only progesterone and no estrogen
- ◆ They work in three ways
- ◆ They make the cervical mucus thick and block the passage of sperm cells
 - Change the lining of the uterus
 - Suppress ovulation
 - Reduce the sperm transport in upper genital tract.
- ◆ POP is started on the first day of menstruation but protection will be fully effective in a week
- ◆ Women should take the pill at the same time each day, continuously without interruption
- ◆ If a pill is missed it should be taken as soon as possible and take the following pill according to the usual schedule.
- ◆ If a pill is missed, a back-up method should be used
- ◆ POPs are useful for lactating mothers
- ◆ Revisit and subsequent revisit appointments are the same as COCs.
- ◆ POPs are very effective, about 95%

Advantages COCs and POPs

- Very effective
- Decreased menstrual cramps
- Decreased amounts of bleeding during periods
- Decreased severity of anemia
- Do not affect breast feeding
- Do not increase blood clotting
- Some protection against PID

Disadvantages COCs and POPs

- Do not protect against STD & HIV
- Must be taken at the same time every day
- Commonly causes absent irregular and prolonged or heavy periods

2.2 The long acting hormonal contraceptives

- ◆ These are designed to be easier to use
- ◆ They need no special preparations before sexual intercourse.
- ◆ The woman does not have to remember something every day
- ◆ There are three types of long acting contraceptives

2.2.1 Injectables

2.2.2 Implants

2.2.3 IUCD (progestin releasing)

2.2.1 Injectables

- ◆ Injectable contraceptives contain progesterone which is given every 2-3 months
- ◆ Work the same way as POPs.
- ◆ Depo-Provera is very safe and given every 3 months
- ◆ For some women fertility may take up to 18 months after the last injection
- ◆ Injectables are very effective about 99.7%
- ◆ Amenorrhea is very common after 3-4 injections
- ◆ Unpredictable, irregular, spotting affects some clients
- ◆ Irregular bleeding stops after several months of use.

Advantages

- Very effective
- Useful for women who want no more children, but do not want sterilization
- Does not affect milk supply or quality
- Decreased menstrual blood loss
- Long acting
- Nothing to remember, but only the return visits
- Can be given by any health worker at any health facility

Disadvantages

- Amenorrhea may occur, the effect ceases only slowly after stopping the last injection
- Prolonged or heavy vaginal bleeding in some users during first 2-3 months
- Mild nausea
- Slight weight gain

Administration

- ◆ Given a deep IM injection.
- ◆ The first injection should be given 1-5 days during menstruation
- ◆ Later Depo is given every third month or sixth month.
- ◆ There is no limit for how long the method can be used.
- ◆ Clients must be properly instructed about the use, advantages, disadvantages and side effects of the method.
- ◆ With active liver disease, non-hormonal methods should be the first choice.
- ◆ The available brands and doses of injectables.
 - Depo-Provera (MPA) 150mg to be given every 3 months.
 - Depo-Provera (MPA) 300mg to be given every 6 months.
 - Norestat is a related compound given every 2 months.

2.2.2 Implants (Norplant)

- ◆ Consists of a set of six small thin plastic tubes containing progestin
- ◆ They are placed under the skin of the upper arm through a small cup
- ◆ Norplant must be inserted and removed by a trained health worker
- ◆ Once implanted the tubes are not easily visible
- ◆ Norplant prevents pregnancy by slowly releasing a little of the hormone into the body every day

- ◆ Norplant contains a smaller dose of progestogen than the pill or the injectable
- ◆ It is highly effective about 99.01%
- ◆ It is less effective in women who weigh more than 70kg
- ◆ The site chosen for implantation is the inner side of the upper arm, about 5cm above the flexion point in the elbow.

Advantages

- Very effective
- Full fertility returns immediately after removal
- Once inserted they may be left for five years without change or removal.
- Decreased menstrual blood loss
- Can be removed at any time

Disadvantages

- Minor surgical procedure to apply and remove
- Must be done by trained health worker.
- Side effects generally the same as for Depo-Provera
- Spotting and irregular bleeding in some users.

2.3 Intrauterine devices (IUDS)

- ◆ IUDs are plastic devices inserted into the uterus through the vagina by a trained health worker.
- ◆ They are left in place for a period of 7 years to prevent pregnancy
- ◆ Most IUDs have a short "tail" or string that the women can feel by putting fingers in to the vagina
- ◆ The string is not felt during sexual intercourse by either partner
- ◆ After insertion very little supervision or follow up is necessary
- ◆ A visit to health worker once in a year is necessary to check the position
- ◆ Once correctly inserted its effectiveness is 98% - 99.9%

Clinical procedures

- ◆ Client education and counseling must be given during the first visit
- ◆ History taking and physical examination should be done before insertion
- ◆ If there is infection during vaginal examination the IUD should not be inserted
- ◆ If the facilities exist, a wet smear from the cervix should be taken and examined before insertion of IUD
- ◆ Insertion is done preferably at the end of menstruation
- ◆ Insertion should not be painful, but there might be a slight discomfort for a few hours
- ◆ If pain persists for the following days, removal should be considered.
- ◆ IUDs come packed and sterilized, handling must be done using an aseptic technique to avoid contamination
- ◆ An IUD is fitted by a trained health worker into the fundus of the uterine cavity
- ◆ Care should be taken during the procedure. Reassuring the client and avoiding ascending infection and damage to the reproductive organs
- ◆ The CUT 380A is effective for 10 years

- ◆ It is important that women using an IUD have access to the health facility follow-up care.

Side effects

- ◆ Moderately increased monthly bleeding, spotting, sometimes dysmenorrhea

Removal of the IUD

- ◆ The IUD should always be removed for the following reasons.
 - Persistent pain or heavy bleeding
 - Partial expulsion of the IUD
 - PID
 - Pregnancy, and
 - When a woman chooses to discontinue using IUD

Advantages

- Very effective
- Nothing to constantly remember
- Does not interfere with sexual intercourse
- Does not affect breast feeding
- Can be removed any time by trained personnel

Disadvantage

- Does not protect against STD and HIV
- Bleeding or spotting between periods
- Increased cramps during menstrual periods

2.4 Permanent Contraceptive (VSC)

- ◆ Healthy women are fertile until about 50 years of age
- ◆ Healthy men are fertile essentially throughout life
- ◆ If possible most couples should have all the children they want before the woman is 35. The remaining many years couples need effective protection against unwanted pregnancy.
- ◆ Permanent contraception should be voluntary, couples should be very sure they do not want any more children before choosing this method.
- ◆ An informed consent document must be signed by the client prior to the procedure
- ◆ It is one of the safest and cheapest contraceptive methods.

2.4.1 Vasectomy

- ◆ Male sterilization, it is a simple and minor operation
- ◆ A simple and cheap procedure which can be performed on an outpatient basis
- ◆ The procedure is performed by trained personnel
- ◆ After operation a man can have sexual intercourse and ejaculate semen.
- ◆ Immediately after operation sperm may still pass, therefore, an additional form of contraception (condom) should be used.
- ◆ Sterilization is effective 99.85%

2.4.2 Tubal ligation

- ◆ Sterilization of women, which involves cutting each fallopian tube in two and tying the two ends separately.
- ◆ Both vasectomy and tubal ligation are done under local anesthesia
- ◆ After surgery, a woman will continue to have periods as she did before
- ◆ Female sterilization is 99.6% effective.

2.5 Emergency Contraceptives

- ◆ Is a method which is used after unprotected intercourse if pregnancy is not planned or desired.

Benefits

- ◆ All emergency methods are very effective (3% of women become pregnant)
- ◆ IUD also provides long term contraception

Limitations

- ◆ COCs are effective only if used within 72 hours of unprotected intercourse
- ◆ COCs may cause nausea and vomiting or breast tenderness
- ◆ POPs must be used within 48 hours
- ◆ IUDs are effective only if inserted within 5 days of unprotected intercourse

Client instructions

- ◆ Take COCs of low dose four tabs orally within 72 hours of unprotected intercourse + four more tablets in 12 hrs.
Total 8 tablets, or
- ◆ POPs take 1 postinor tablet or 20 overette tablet within 48 hours of unprotected intercourse + one postinor tablet or 20 ovrette tablet 12 hours following the first dose.
Total = 2 postinor or 40 overette tablets
- ◆ IUDs can be inserted within 5 days of unprotected intercourse.
- ◆ For all the above methods, if a woman does not experience menses within 3 weeks, she should consult the clinic or service provider.

Infection prevention in family planning

- ◆ Infection prevention procedures protect both clients and providers from the spread of infectious diseases.
- ◆ Infection prevention procedures are simple, easy, effective and inexpensive.
- ◆ Infection prevention procedures must be followed with every client.

The principles of infection prevention

Infection prevention is stopping the passage of infectious organisms between clients and health workers by:

1. Making a barrier to body fluids e.g. by wearing gloves

2. Removing infectious organisms e.g. by processing of instruments, and waste disposal

Blood specimen, vaginal secretions and body fluids containing blood can carry infectious organisms. These organisms include HIV, Hepatitis B virus, Staphylococcus bacteria and many others. In clinics, infectious organisms can be passed between clients and health workers through needle sticks or similar puncture wounds or through broken skin. Infectious organisms can be passed from one client to another by surgical instruments, if it has not been properly decontaminated, cleaned, and high level disinfected or sterilized between clients.

Basic rules of infection prevention

- ◆ Wash hands:- hand washing may be the single most important infection prevention procedure. Wash hands before and after contact with each client use soap and clean running water from a tap or bucket.
- ◆ Wear gloves: Before any procedures with each client, put on a new pair of single use or processed reusable gloves if possible. For surgical procedures, gloves should be sterile.
- ◆ Do vaginal examinations when needed or requested. In general, vaginal examinations are not needed for most contraceptive methods, usually only female sterilization and IUDS. Vaginal exams should be done only when there is a reason such as a Pap smear or suspicion of disease when the exam could help with diagnosis or treatment.
- ◆ Clean the client's skin appropriately before an injection or Norplant implants. Use locally available antiseptic clean the cervix with antiseptics before IUD ingestion.
- ◆ For each injection, use a new, single-use needle and syringe or a sterilized reusable needle and syringe.
- ◆ After use with each client, reusable instruments, equipments and supplies should be:-
 1. Decontaminated soaked in 0.5% chlorine solution or another disinfectant.
 2. Cleaned with water and soap
 3. Either high-level disaffection (by boiling or steaming) or sterilized (by stem or dry heat)
- ◆ After each client, exam tables, bench tops, and other surfaces that will come in contact with unbroken skin should be wiped with 0.5% chlorine solution.
- ◆ Dispose of single-use equipment and supplies properly.
- ◆ Used needles should not be broken, bent or recapped and should be put at once into a puncture proof container. The container should be burned or buried when three quarters full.
- ◆ Dressings and other soiled materials and solid wastes should be burned, if possible, or else put in a pit latrine.
- ◆ Liquid wastes should be put in a pit latrine.

Counseling

Counseling is crucial; through counseling providers help clients make and carry out their own choices about reproductive health and family planning. Good counseling makes clients more satisfied and use family planning longer and more successfully.

Principles to follow during counseling process

1. Treat each client well: The Provider is polite, shows respect for every client and creates a feeling of trust. The provider encourages the client to speak openly, even about sensitive matters. The provider answers questions patiently and fully and assure the client that nothing she or he says will be discussed with others inside or out side the clinic.
2. Interact: The provider listens and responds to the client. The provider can help best by understanding the client's needs or concerns. Therefore, the provider encourages clients to talk and ask questions.
3. Tell information to the clients: Listening to the client, the provider learns what information each client needs to know. The provider should give the client accurate information in a language that the client understands.
4. Avoid too much information: Clients need information to make informed choices. However, too much information makes important facts hard to remember. Be concise, give all necessary information but do not overwhelms the client.
5. Provide the method that the client wants: The provider helps clients make their own informed choices, provider respect those choices even if client decide against using family planning or puts off a decision. Good counseling about method choice starts with the method a new client has in mind. If there is no medical reason against it clients should be given the method they want. When clients get the methods they want, they use them longer and more effectively.
6. Help the client understand and remember: The provider should show sample family planning materials to the client, encourage the client to handle them, and demonstrate to the client how they are used.

Topics to be covered during counseling process

1. Effectiveness: How well a family planning method prevents pregnancy depends more on the user for some methods than for others. Pregnancy rates for methods used consistently and correctly offer the best possible protection. Providers can help clients consider whether and how they can use a specific method consistently and correctly.
2. Advantages and Disadvantages: Clients need to understand both advantages and disadvantages of method for item. It is important to remember that disadvantages for some people are advantages for others. For example, some women prefer injections; others want to avoid injections.
3. Side effects and complications: If methods have side effects, clients need to know about them before they choose and start a method. Clients who learn about side effects ahead of time tend to be more satisfied with their methods and use them longer. Clients need to know which side effects may be bothersome but are not signs of danger or symptoms of a serious condition. Also, clients need to know what symptoms if any are reasons to see health worker or to return to the clinic.
4. How to use: Clear practical instructions are important and 'should' cover what clients can do if they make a mistake with their method.

5. STD prevention: Some STDs, including HIV/AIDS, are spreading rapidly in Ethiopia. Family planning clients should know to use condoms as many family planning methods do not protect against STDs.
6. When to return: There are many reasons clients may need to return to the clinic. Clients should be told of several places where they can get more supplies. The provider should make sure that the client is always welcome back any time for any reason. For example, if she or he wants information or advice, desires another method or wants to stop using family planning. Changing methods is normal and welcome

Steps in counseling new clients

Deciding on a family planning method and using it involves a step-by-step process. The process includes learning to make choices, making decisions and carrying them out. These steps can be remembered with the word GATHER. Good counseling is flexible; it changes to meet the special needs of the client and situation. Not every new client needs all 6 steps.

THE GATHER STEPS

- G - Greet clients in an open, respectful manner: Give them full attention; talk in private place if possible. Assure the client of confidentiality.
- A - Ask clients about themselves: Help clients talk about their family planning goals and reproductive health experiences; their intention, concerns wishes; and their current health and family life. Ask if the client has a particular family planning method in mind. Pay attention to what clients express with their words their gestures and expressions. Try to put yourself in the client's place. Express your understanding and find out the client's knowledge, needs and concerns so you can respond helpfully.
- T - Tell clients about choices: Depending on the client's health status and family planning needs tell the clients what reproductive health choices she/he might make including: the choice among family planning methods, or no method at all. Focus on methods that most interest the client, but also briefly mention other available methods.
- H - Help clients make an informed choice: Help the client think about what course of action best suits his/her situation and plans. Encourage the client to express opinions and ask questions. Respond fully and openly. Consider medical eligibility criteria for the family planning methods that interest the client. Also ask if the client's partner will support the client's decisions. At the end make sure that the client has made a clear decision.
- E - Explain fully how to use the chosen method: After the client chooses, a family planning method, explain how the supplies are used or, if insertion or surgery are used, how the procedure will be performed. Check that the client understands how to use his/her method.
- R - Return visits should be welcomed: Discuss and agree when the client will return for a follow-up method or more supplies, if needed. Also always invite the client to comeback any time for any reason.

Objective	Content	Learning methods and activities	Materials/ Resources	Time
1. To define Sexually Transmitted Infections (STI)	<p>Definition Sexually Transmitted Infections (STI) are infections that are passed from one infected person to another person during sexual intercourse or sexual contact.</p>	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> Participants volunteer definitions for STI and offer information from their experiences with STI at their health center or place of work. Trainer writes the definition of STI on the chalkboard and answers participants' questions. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	25 min
2. To name common causes of and risk factors for STI	<p>Classification of STIs according to causative agents:</p> <ol style="list-style-type: none"> Bacterial agents: <ul style="list-style-type: none"> - N. Gonorrhoea - Chlamydia trachomatis - Treponema pallidum - Bacterial vaginosis etc. - HIV - Herpes simplex Protozoal agents: <ul style="list-style-type: none"> - Trichomonas vaginalis Fungal agents: <ul style="list-style-type: none"> - Candidiasis Ectoparasite <ul style="list-style-type: none"> - Phthirus pubis <p>Risk factors: Unprotected sex</p>	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> Trainer asks participants to name causative agents and lists on newsprint Trainer explains risk- factors for unprotected sex 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard ▪ Newsprint ▪ Marker 	30 min
3. To explain how STI are transmitted	<p>STI Transmission STI are a group of communicable infections that are transmitted predominately by sexual contact.</p>	<p>MINI-LECTURE</p> <ul style="list-style-type: none"> ◆ Trainer discuss the main mode of transmission of STI ◆ Trainer entertains questions and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard 	10 min

Objective	Content		Learning methods and activities	Materials/ Resources	Time
4. To diagnose (history, physical examination and lab) STI in men and women	STI symptoms both in Men and Women <ul style="list-style-type: none"> ◆ Pain on urinating, discharge from Urethra. ◆ Sores and itching on the genitals . ◆ Pain during sexual intercourse. ◆ Swelling on the genitals. 		MINI LECTURE <ol style="list-style-type: none"> 1. Trainer asks participants to classify each STI by sign and symptom 2. Trainer writes responses on newsprint 3. Trainer explains WHO syndromic approach to the diagnosis and management of STI using chart 4. Trainer invites participants to ask questions and clarifies issues as needed. 	<ul style="list-style-type: none"> • Newsprint • Marker • WHO chart on syndromic approach 	30min
	STI in men <ul style="list-style-type: none"> ◆ Painful urination ◆ Sore on the penis ◆ Pain during intercourse ◆ Swollen and painful lymph glands in the groin. 	Women <ul style="list-style-type: none"> ◆ Unusual discharge or smell from the vagina. ◆ Pain during intercourse. ◆ Burning during intercourse ◆ Burning during urination ◆ Painful or itchy genitals ◆ Genital sores or blisters ◆ Painful lymph glands in the groin 			

Objective	Content	Learning methods and activities	Materials/ Resources	Time
5. To describe some complications that can arise from STIs and the consequence of untreated STIs.	<p>Complications and consequences of STI Still birth, infertility, PID, ectopic pregnancy, blindness in babies and strong link with HIV Conjunctivitis in newborn Painful genital sores Mental and nerve damage PID Urethral strictures Ectopic pregnancy Heart disease Neonatal and adult death</p>	<p>MINI – LECTURE</p> <ol style="list-style-type: none"> 1. Trainer presents pre-written list of complications and consequences and explains the issue. 2. Participants ask questions and trainer clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Pre-written note on a transparency ▪ OHP 	20 min
6. To discuss treatment of STIs using the syndromic approach	<p>Treatment of STI First line and alternative treatment according to the WHO syndromic approach to the management of STI (appendix: - Urethral discharge - Vaginal discharge - Genital ulcer - PID - Bubo Please see attachment for Rx)</p>	<p>TRAINER LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks participants to describe treatment regimens they are familiar with at the Health Center Trainer presents the WHO chart and explains by comparing with participants' list. 2. Trainer answers questions and clarifies issues as necessary. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard ▪ WHO chart 	50 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
7. To explain how to prevent STI.	Prevention of STI <ul style="list-style-type: none"> ◆ Do not have sex until you get married. ◆ Sex only with faithful partner. ◆ Use of a condom. ◆ Avoid the need for blood transfusion (e.g. syphilis) ◆ Early treatment including tracing contacts 	GROUP WORK <ol style="list-style-type: none"> 1. Trainer arranges participants into two/three groups. Each group discusses various methods of STI prevention and problems associated with controlling STIs. 2. Groups make lists of prevention issues and problems controlling STIs 3. Each group presents its findings and all participants discuss STI prevention and control. 	<ul style="list-style-type: none"> ▪ Paper ▪ Pencil ▪ Newsprint ▪ Marker 	30 min

HANDOUT ON STI

Sexually transmitted infections (STI) are infections that are passed from an infected person to another person during sexual intercourse or sexual contact.

The common causes and risk factors for STI

The causative agents of sexually transmitted infections are classified as follows:

A) Bacterial agents:

- ◆ N. Gonorrhoea
- ◆ Chlamydia trachomatis
- ◆ Trepanoma pallidum
- ◆ Bacterial vaginosis, etc

B) Viral agents:

- ◆ HIV
- ◆ Herpes simplex
- ◆ Herpes zoster

C) Protozoal agents: Trichomonas vaginalis

D) Fungal agent: Candidiasis

E) Ectoparasites: Phthirises pubis

The **risk factors** for sexually transmitted infection are multi-partner sexual contact and unprotected sex. Sexually transmitted infections are a group of communicable infections that are transmitted predominantly by sexual contacts.

Symptoms of STI in both men and women

- ◆ Pain during urination
- ◆ Discharging from urethra
- ◆ Sores on and itching in the genitals
- ◆ Pain during sexual intercourse
- ◆ Swelling on the genitals

Symptoms of STI in men

- ◆ Painful urination
- ◆ Sores on the penis
- ◆ Discharge from penis
- ◆ Pain during intercourse
- ◆ Swollen and painful lymph glands

Symptoms of STI in women

- ◆ Unusual discharge or smell from the vagina
- ◆ Pain during intercourse
- ◆ Burning during urination

-
- ◆ Itching in the genitals
 - ◆ Genital sores or blisters
 - ◆ Painful lymphglands in the groin

Complications due to sexually transmitted infection

- ◆ Still birth
- ◆ Infertility
- ◆ Pelvic inflammatory disease
- ◆ Ectopic pregnancy
- ◆ Blindness in babies
- ◆ Strong link between sexually transmitted infections and HIV
- ◆ Painful genital sores in adult

Consequences of sexually transmitted infections

- ◆ Conjunctivitis in newborns
- ◆ Mental and nerve damage
- ◆ Pelvic inflammatory disease
- ◆ Urethral strictures
- ◆ Ectopic pregnancy
- ◆ Heart diseases
- ◆ Neonatal and adult death

Prevention of sexually transmitted infection

- ◆ Do not have sex until you get married
- ◆ Have sex, only with faithful partner
- ◆ If having sex with multiple partners, use a condom
- ◆ Avoid blood transfusions

Management of STI according to the WHO syndromic approach

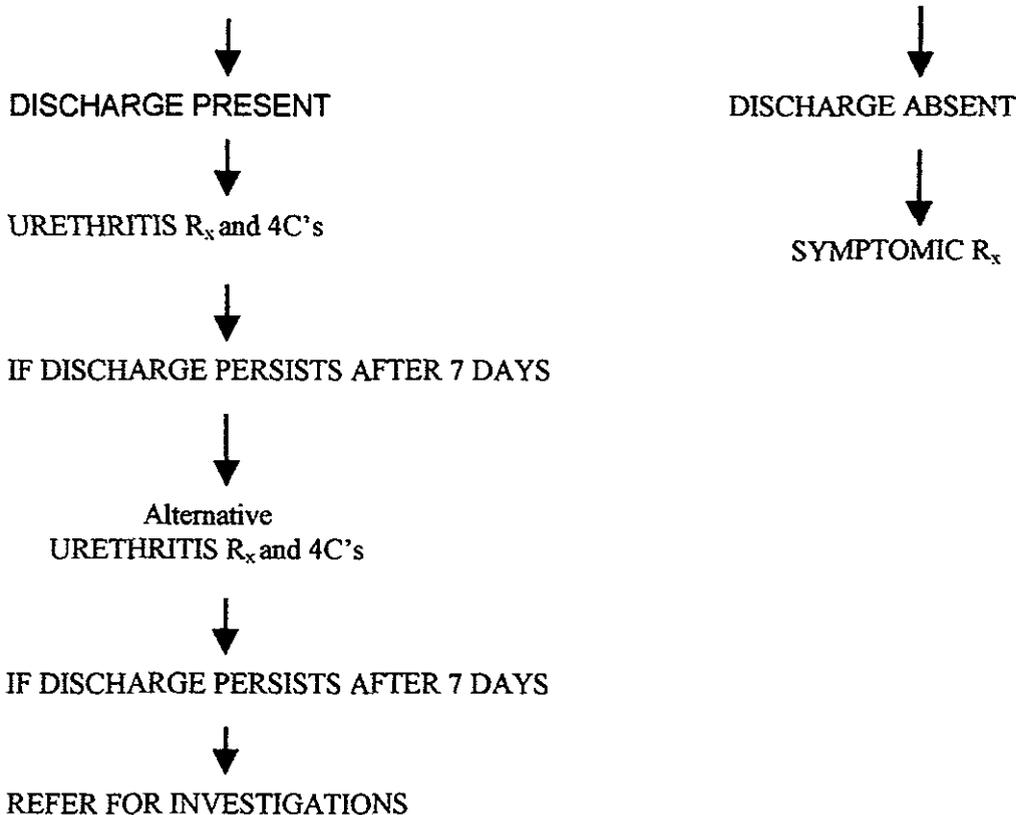
WHO classifies STIs into 5 clinical presentations or lesion group. This approach makes diagnosis and treatment easy, especially for primary level facilities where laboratory services are often unavailable.



Urethral Discharge

Urethritis, usually caused by gonorrhoea and chlamydia

EXAMINE FOR DISCHARGE



URETHRITIS Rx
 Co-trimoxazole 5 tabs BDx3 days
 Or
 Norfloxacin 800mg stat
 AND
 Doxycycline 100mg BD x 7 days

Alternative Rx

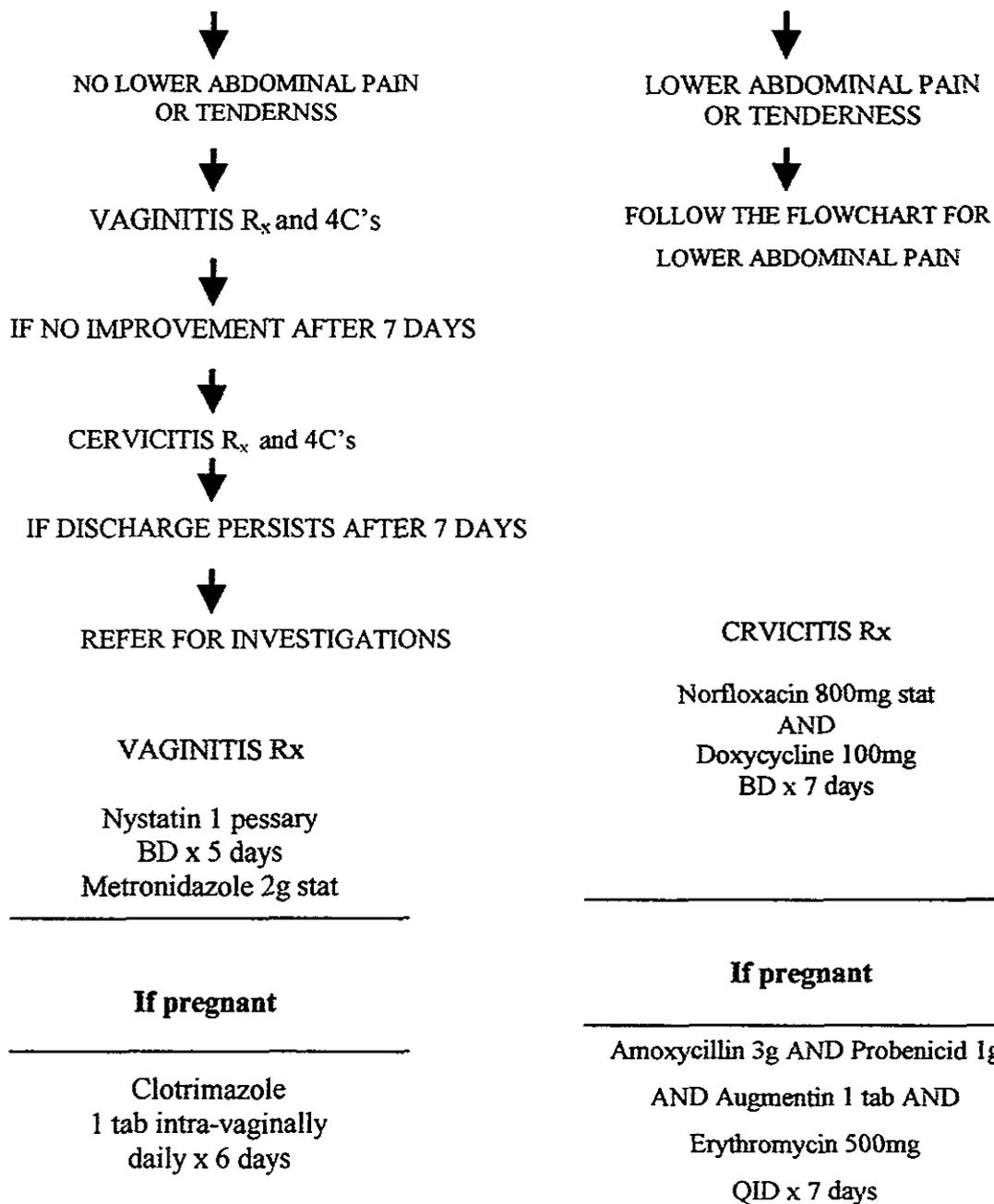
Amoxicillin 3g AND Probenicid 1g
 AND Augmentin 1 tab
 AND
 Doxycycline 100mg BD x 7 days



Vaginal Discharge or Pruritus

Vaginitis, usually caused by candida and trichomonas
Cervicitis, usually caused by gonorrhoea and chlamydia

ENQUIRE ABOUT LOWER ABDOMINAL PAIN AND EXAMINE FOR LOWER ABDOMIAL TENDERNESS

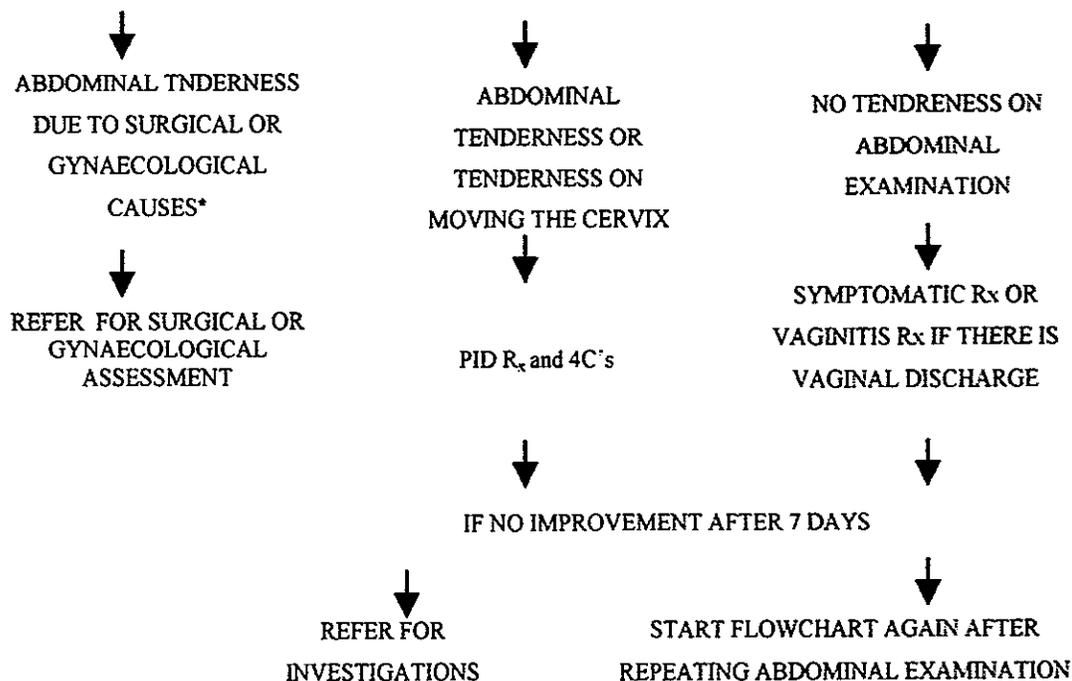




Lower Abdominal Pain in Women

PID, caused by gonorrhoea, chlamydia and anaerobes
Surgical and obstetrical conditions

DO ABDOMINAL AND BIMANUAL EXAMINATIONS



* Surgical or gynaecological causes are determined by rebound tenderness and/or guarding; last menstrual period overdue; recent abortion or delivery; menorrhagia or metrorrhagia.

PELVIC INFLAMMATORY DISEASE (PID) Rx

Co-trimoxazole 5 tabs BDx3 days

or

Norfloxacin 800mg stat

AND

Doxycycline 100mg BD x 7 days

AND

Metronidazole 400mg BD x 10 days

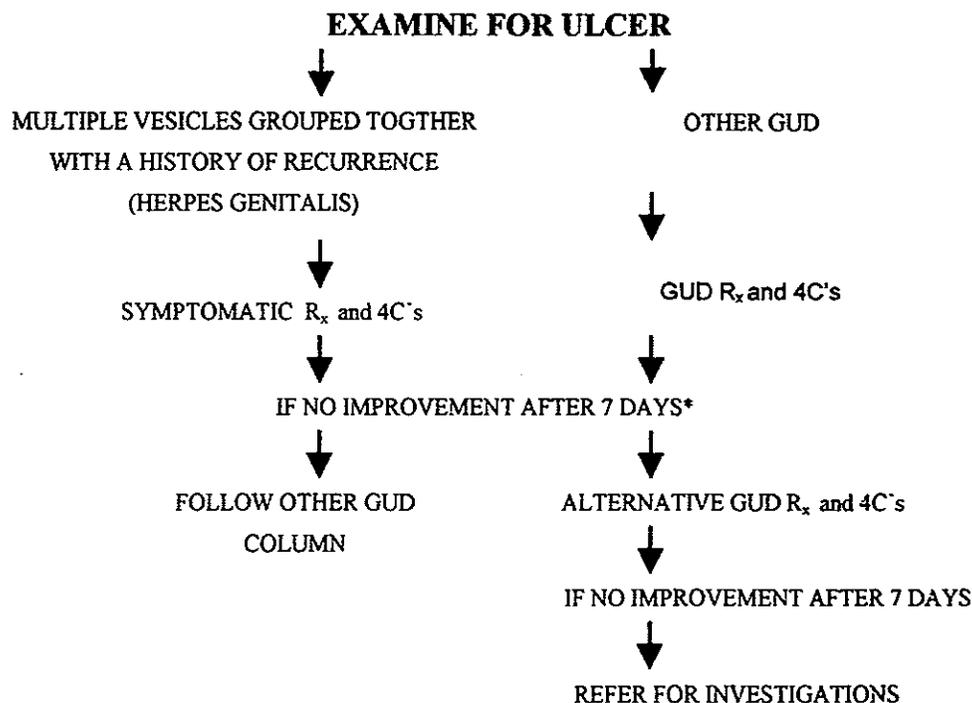
If pregnant

Refer for obstetric evaluation if PID is suspected



Genital Ulcer Disease (GUD)

GUD, usually caused by chancroid, syphilis and herpes genitalis



* GUD heals slowly. Improvement is defined as signs of healing and reduction of pain. People with HIV infection will be slower in responding to GUD treatment.

GENITAL ULCER DISEASE (GUD) R_x

Co-trimoxazole 5 tab BDx3 Days
Or
Erythromycin 500 mg TID x 7 days AND
Benzathine Penicillin 2.4 MU IM stat if Penicillin allergy, use
Erythromycin 500mg qid x 14 days

Alternative R_x

Ciprofloxacin 500mg stat



ENLARGED INGUINAL LYMPHNODES

1st Visit

- Take History
- Examine

ENLARGED AND/OR TENDER
INGUINAL LYMPHNODES

ENLARGED AND/OR
TENDER INGUINAL
LYMPHNODES and
GENITAL ULCER

Other STD(s)

Doxycycline 100 mg BD 14/7

Use GENITAL ULCER
Flow Chart

- ◆ Ensure Compliance
- ◆ Provide Health Education
- ◆ Counsel
- ◆ Record No. Of contact(s)
- ◆ Initiate Contact(s) Referral
- ◆ Promote and provide condoms

Appointment in 7 days

No Improvement

Improvement

Other STD(s)

REFER TO SURGEON

Discharge
from clinic

Use appropriate
Flow Charts(s)

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>1. To define HIV/AIDS and its magnitude (occurrence) in Ethiopia</p>	<p>Definition HIV is a virus that attacks the body's immune system. It is the virus that causes AIDS. Acquired Immune Deficiency Syndrome (AIDS) is a disease, which destroys the body's immune system, leaving a person susceptible to life threatening illnesses. AIDS is the result of a continuous process that begins with HIV infection. Magnitude The HIV/AIDS epidemic has spread with ferocious speed. Nearly 4 million people in Ethiopia are currently living with HIV/AIDS, one-third of whom are young people between the ages of 10 - 24.</p>	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer starts by inviting participants to freely discuss HIV/AIDS and its prevalence in their respective areas. 2. Trainer gives pre - written definition 3. Trainer summarizes HIV/AIDS epidemiology 	<ul style="list-style-type: none"> ▪ OHP ▪ Pre-prepared transparency 	<p>25min</p>
<p>2. To explain the transmission of and risk factors associated with HIV/AIDS</p>	<p>Transmission There are 4 main modes of transmission</p> <ol style="list-style-type: none"> 1. Sexual transmission (unprotected sexual intercourse) 2. Blood transmission and injection of blood products. 3. From a contaminated mother to the fetus or to the new born infant (MTCT). 4. The exchange of contaminated needles and accessories (unsafe injections). 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks participants to list the 4 main modes of transmission and discusses the risk factors associated with HIV/AIDS 2. Trainer lists points on newsprint. 3. Trainer adds to the list, fills gap and clarifies issues as necessary. 	<ul style="list-style-type: none"> ▪ Chalk ▪ Chalkboard ▪ Newsprint ▪ Marker 	<p>25 min</p>

Objective	Content	Learning methods and activities	Materials/ Resources	Time		
	<p>Risk factors for HIV transmission The 2 most important factors involved in the spread of HIV infections are:</p> <ol style="list-style-type: none"> 1. Having sexual contact with many different partners. Example: Wife sharing, polygamy, widow inheritance, prostitution, Infidelity. 2. Having a sexually transmitted infection ... 					
3. To describe minor and major signs of AIDS	<table border="0"> <tr> <td data-bbox="247 657 617 1267"> <p>Minor symptoms</p> <ul style="list-style-type: none"> ◆ Generalized lymphadenopathy. ◆ Persistent cough for >1 month ◆ Skin rushes ◆ Pulmonary and/or disseminated TB ◆ Recurrent Herpes zoster ◆ Generalized pruritic dermatitis ◆ Pneumonia ◆ Chronic herpes simplex ◆ CNS derangement ◆ Night sweats and general body weakness ◆ Kaposi sarcoma </td> <td data-bbox="617 657 953 1267"> <p>Major Symptoms</p> <ul style="list-style-type: none"> ◆ Weight loss (> 10% of body weight) ◆ Prolonged fever > 1 month ◆ Chronic diarrhea for 1 month </td> </tr> </table>	<p>Minor symptoms</p> <ul style="list-style-type: none"> ◆ Generalized lymphadenopathy. ◆ Persistent cough for >1 month ◆ Skin rushes ◆ Pulmonary and/or disseminated TB ◆ Recurrent Herpes zoster ◆ Generalized pruritic dermatitis ◆ Pneumonia ◆ Chronic herpes simplex ◆ CNS derangement ◆ Night sweats and general body weakness ◆ Kaposi sarcoma 	<p>Major Symptoms</p> <ul style="list-style-type: none"> ◆ Weight loss (> 10% of body weight) ◆ Prolonged fever > 1 month ◆ Chronic diarrhea for 1 month 	<p>MINI-LECTURE</p> <ul style="list-style-type: none"> ◆ Trainer explains the development of infection in HIV/AIDS. ◆ Trainer asks participants to name minor and major symptoms. ◆ Trainer presents pre-written symptoms. ◆ Trainer discusses the national diagnosis criteria for AIDS. 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	30 min
<p>Minor symptoms</p> <ul style="list-style-type: none"> ◆ Generalized lymphadenopathy. ◆ Persistent cough for >1 month ◆ Skin rushes ◆ Pulmonary and/or disseminated TB ◆ Recurrent Herpes zoster ◆ Generalized pruritic dermatitis ◆ Pneumonia ◆ Chronic herpes simplex ◆ CNS derangement ◆ Night sweats and general body weakness ◆ Kaposi sarcoma 	<p>Major Symptoms</p> <ul style="list-style-type: none"> ◆ Weight loss (> 10% of body weight) ◆ Prolonged fever > 1 month ◆ Chronic diarrhea for 1 month 					

Objective	Content	Learning methods and activities	Materials/ Resources	Time
4. To practice counseling and care for individuals with HIV/AIDS	<p>What is counseling? Counseling is a process of dialogue and mutual interaction aimed at motivating, understanding, problem solving and decision making.</p> <p>Whom to council? The individuals who:</p> <ul style="list-style-type: none"> ◆ Are considering being tested for HIV infection ◆ Have been tested and are waiting for results ◆ Have been diagnosed as having AIDS ◆ Relatives, friends, sexual partners, community <p>Forms of Counseling</p> <p>1. <u>Crisis counseling:</u> Frequently required form of counseling for patients with HIV infection who might experience fear of survival and/or social stigmas associated with the disease. Crisis counseling is needed to reduce feelings of helplessness, hopelessness and loss of control.</p> <p>2. <u>Problem solving counseling:</u> Clients need a clear knowledge of their problems. To do so, it is necessary to inform clients of the facts about HIV infection and AIDS .</p> <p>3. <u>Decision making counseling focuses on:</u></p> <ul style="list-style-type: none"> ◆ Identifying what changes are necessary ◆ Identifying persons who can provide emotional support? ◆ Identifying persons who will provide care and support. ◆ Whom to tell, how and when, etc. <p>Types of counseling</p> <p>1. Pretest counseling (before test)</p> <p>2. Posttest counseling (after test)</p>	<p>ROLE PLAY</p> <ul style="list-style-type: none"> ◆ Selected participants are asked to play the roles of a counselor and healthy person appearing for a test, HIV positive person, and AIDS patient. ◆ Trainer and other participants observe and comment on the conduct of the role-play. ◆ Trainer summarizes the role-play by presenting a pre-prepared transparency on counseling 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP ▪ Chair and table for role-play 	60 min

Objective	Content	Learning methods and activities	Materials/ Resources	Time
<p>5. To describe methods of preventing the spread of HIV/AIDS</p>	<p>Preventive methods</p> <ul style="list-style-type: none"> ◆ Do not have sex until you get married. ◆ Have sex only with a mutually faithful partner. ◆ In all other situations use a condom. ◆ Avoid pregnancy if woman is positive for HIV. ◆ Avoid the need for blood transfusion. ◆ Use only sterilized instruments. 	<p>GROUP WORK</p> <ol style="list-style-type: none"> 1. Participants discuss HIV/AIDS prevention in small groups. 2. One or two groups present their work to the class. 3. Trainer summarizes by way of filling gaps and clarifying issues as needed. 	<ul style="list-style-type: none"> ▪ Pen ▪ Notepad ▪ Chalk ▪ Chalkboard 	<p>35 min</p>
<p>6. To explain means of socially supporting individuals with HIV/AIDS</p>	<ul style="list-style-type: none"> ◆ Where to provide social support: <ol style="list-style-type: none"> a) Homes and neighborhoods b) Village and community c) District d) National ◆ Type of social support to be provided: Financial, material, shelter, sanitation, psychological, informational, legal, and orphanage placement if necessary. 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Participants freely discuss the social impact of HIV/AIDS in their own areas and suggest possible actions that can be taken to support victims and their dependants. 2. Trainer writes key points on a news print. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	<p>20 min</p>

HANDOUT ON HIV/AIDS

1. Definition of HIV/AIDS and its prevalence in Ethiopia at present

1.1 What is human immune deficiency virus, HIV?

HIV is a virus that attacks the body's immune system. It is the virus that causes AIDS. There are two types of HIV: HIV-1 and HIV-2. HIV-1 has 8 subtypes: A, B, C, D, E, F, G, H. Sub type "C" is the dominant type of HIV present in Ethiopia, South Africa and India. It covers 56% of HIV in the world.

1.2 What is acquired immune deficiency syndrome, AIDS?

AIDS is a disease that destroys the body's immune system, leaving a person susceptible to life threatening illnesses. AIDS is the result of a long process that begins with HIV infection.

AIDS is not a single disease; it is the end stage of infection with HIV, characterized by a cluster or "syndrome" of life threatening illnesses. While people with AIDS can be helped with medicines, there is as yet no cure and most people die within one to three years after diagnosis.

In some people, the period between infection with HIV and the development of AIDS may be a few years; in others it is 10 years or more. Humans live in relative harmony with a range of viruses, bacteria, parasites and fungi, which do not cause disease in healthy people with immunodefences. But these organisms can take advantage of someone with a weakened immune system resulting in what is known as **opportunistic infections**.

The HIV/AIDS epidemic has spread with ferocious speed. Nearly 34 millions people in the world are currently living with HIV/AIDS, one third of whom are young people between the ages of 10 and 24. The epidemic continues to grow, as 16,000 people worldwide become newly infected each day. AIDS is now the fourth leading cause of death worldwide and the leading cause of death in sub-Saharan Africa including Ethiopia. In Africa nearly 14 million have already died, and another 23 million are now living with HIV/AIDS. That is two thirds of all cases on earth.

1.3 Magnitudes of HIV/AIDS in Ethiopia

In Ethiopia nearly 4 million people are currently living with HIV/AIDS, one third of whom are young people between the ages of 10 – 24 years. One in every 6 - 8 adults in urban areas and one in 13 adults for the whole population (urban and rural) is infected in Ethiopia.

Nationally reported AIDS cases from 1986 - March 2000 are

Male:	29,479
Female:	20,778
Sex unspecified	<u>30,974</u>
Total:	<u>83,487</u>

SNNPR reported AIDS cases from 1990 to March 2000

Male	4,860
Female	<u>3,422</u>
Total	<u>8,282</u>

Expected number of cases is much more than the above figure.

2. Transmissions and risk factors for HIV transmission

2.1. HIV transmission

There are 4 main modes of transmission

1. Sexual transmission
2. Mother to child transmission (Vertical transmission)
3. Blood transfusion and injection of blood products
4. The exchange of contaminated needles and accessories.

2.1.1 Sexual transmission

Sexual intercourse (homosexual or heterosexual) as well as oral sex can transmit HIV. Contamination occurs via microscopic abrasions, which occur during the sexual act allowing contact between the virus present in the semen or vaginal secretions and the blood circulation or the lymphocytes of the exposed subject.

It is obvious that any sexual practices that induce trauma and inflammation are likely to increase the risk of transmission. Multiple contacts naturally increase the risk, but a single contact may be sufficient, and this may be the first contact. Anal intercourse is the most dangerous because it causes more abrasions that facilitate the transmission of the disease.

2.1.2 Mother to child transmission (vertical transmission)

This form of transmission generally takes place at the end of pregnancy via the blood stream, but can also occur during childbirth. After birth, breast-feeding is also a possible source of contamination. A seropositive woman has a 50% risk of having a baby contaminated by the HIV. For this reason, all seropositive male and female are advised not to have children.

2.1.3 Blood transfusions and injections of blood products

The virus can be transmitted by the transfusion of infected blood. This way of transmission is now very rare because of the obligatory testing of all blood

donations. However, the risk cannot be completely excluded, as a recently infected patient may be contagious despite a negative test.

2.1.4 The exchange of contaminated instruments, needles and syringes

Contaminated needles and syringes can transmit the disease if they are shared. In Ethiopia, there are many illegal drug injectors who are using one syringe and needle for many people (especially in rural areas). This occurs also in drug addicts who “Shoot up” in-groups with the same needle and the same syringes.

2.2 Risk factors for HIV transmission

- 2.2.1 Having sexual contact with many different partners, adultery, widow inheritance, prostitutes. Sexual tourism and the pursuit of encounters in bars and hotels also constitute risk factors. Prostitutes constitute a high-risk group because of their multiple partners and also because of the frequent association between prostitution and drugs
- 2.2.2 Seropositive mothers: 50% of children born to seropositive mothers are contaminated.
- 2.2.3 Having sexually transmitted infections “ See STI.”

3. Minor and major signs and symptoms of AIDS

3.1 Minor symptoms

- ◆ Generalized lymphadenopathy
- ◆ Persistent cough for > 1 month
- ◆ Skin rashes
- ◆ Pulmonary and/or disseminated TB
- ◆ Recurrent herpes zoster
- ◆ Generalized pruritic dermatitis
- ◆ Pneumonia
- ◆ Chronic herpes simplex
- ◆ CNS derangement
- ◆ Night sweats and generalized body weakness
- ◆ Kaposi sarcoma

3.2 Major symptoms

- ◆ Weight loss (> 10% of body weight)
- ◆ Prolonged fever >1 month
- ◆ Chronic diarrhea for 1 month

In many of health centers, where testing facilities are non-existent, major and minor symptoms help health workers to construct a suspected case definition for AIDS, (i.e.,

the presence of at least two major and at least two minor symptoms). However, as there are testing centers in nearby towns nowadays, health centers might have to refer suspected cases for screening test, counseling and management.

4. Counseling and care for individuals with HIV/AIDS

4.1 What is counseling?

Counseling is a process of dialogue and mutual interaction aimed at motivating understanding, problem solving and decision making.

- ◆ It is face-to-face communication.
- ◆ It is information flowing both directions between counselor and client.
- ◆ The counselor works to understand the life, problems and resources of the client.
- ◆ The counselor focusing on understanding how the client thinks and feels.
- ◆ The counselor helps the client identify problems and make decisions.
- ◆ The counselors show warmth, respect and concern for the client.

4.2 Objectives of HIV counseling

- ◆ To tell people in an understandable, consistent and culturally acceptable way the need for changing unsafe practice and behavior in order to prevent infection.
- ◆ To reduce the risk that infected people infect others with HIV or STDs.
- ◆ To maintain the best emotional and physical health and social support of HIV infected persons and those related to them.
- ◆ To ensure that HIV infected persons remain productive and as fully integrated socially and economically as possible.
- ◆ To direct or guide clients when they are overwhelmed with uncertainty.
- ◆ To give guidance on practical aspects of management of infection or illness and activities of daily living.

Whom to Counsel?

The individuals who:

- ◆ Are considering being tested for HIV infection
- ◆ Have been already tested and waiting for results
- ◆ Have been diagnosed as having AIDS
- ◆ HIV AIDS patients, relatives, friends, sexual partners, community, etc

Types of Counseling

1. Pre -test counseling (before test)

In order for HIV AIDS patients to make an informed decision, counseling should provide them with up-to-date information on the technical aspects and social implications of screening.

- ◆ Psychological assessment of the person's ability to cope with the results.
- ◆ Help the person anticipate what a positive and negative test results might mean to him/her and think practically about what might follow.
- ◆ It should include adjustment in sexual behavior and/or social relationships.
- ◆ Consideration of whom to inform, reactions to the results, and how these could be handled, etc.

2. Post test counseling (after test)

Whether the test result is negative or positive posttest counseling is needed:

- ◆ For safe sex behavior
- ◆ To avoid risk of infection
- ◆ To provide emotional support if the result is positive

Forms of Counseling

1. Crisis counseling

- ◆ This is frequently a required form in HIV infection counseling because patients may experience fear of survival and social stigmas.
- ◆ It is needed to reduce feelings of hopelessness, helplessness and loss of control.

2. Problem solving counseling

- ◆ In this case clients need a clear knowledge of their problems. To do so, learning of the facts about HIV infection and AIDS is necessary.

3. Decision making counseling

- ◆ This focuses on what changes are necessary and who can provide emotional support to the patient, as well as who will provide care and other support to the patient. It helps to determine how and when to tell to the patient.

Methods of preventing the spread of HIV/AIDS

Sexual transmission is the major mode of transmission of HIV. The virus is present in semen and vaginal secretions. For these reasons, people should abstain from sex until they marry, or only have sex with a mutually faithful partner only. In all other situations, people should use a condom. Unprotected sexual relations with people

who may be infected must be avoided, this is obligatory in high-risk groups. The risk of infection is increased in high risk groups but everyone is susceptible. .

The HIV/AIDS virus is present in blood. Any exchange of blood, even in very small quantities, can transmit the disease. Under no circumstances should one exchange syringes and needles. In addition, people should not accept acupuncture, mesotherapy or tattoos if the needles are not sterilized. Women who are HIV positive should avoid pregnancy.

Consequences of HIV/AIDS

HIV/AIDS results in a crisis situation in the:

- ◆ Individual
- ◆ Family
- ◆ Community
- ◆ Nation at large, morally, socially, economically and politically.

Socially supporting individuals with HIV/AIDS

- ◆ We should provide social support to the client at home and in his or her neighborhood, village, or community, at the district level and at the national level.
- ◆ Types of social support to be provided include: financial, material, shelter, sanitation, psychological, basic information, orphan care and legal protection.

MODULE 1: TUBERCULOSIS

Objective	Content	Learning methods and activities	Material/ Resources	Time
1. To describe the extent of the TB problem worldwide and in Ethiopia.	<p>Global TB Problem A major public health problem in the world</p> <p>TB problem in Ethiopia</p> <ul style="list-style-type: none"> ◆ One of the leading causes of outpatient morbidity (4th) ◆ The first cause of hospital deaths 	<p>BRAINSTORMING</p> <ul style="list-style-type: none"> ◆ Trainer asks participants to briefly tell about the TB situation in their area. <p>MINI-LECTURE Trainer takes some time to explain the extent of the TB problem in Ethiopia and worldwide</p>	<ul style="list-style-type: none"> ▪ Chalk board ▪ Chalk 	20 min
2.To: a) Explain the mode of TB transmission b) Discuss the risk factors for TB infection and c) Describe the occurrence of TB worldwide and in Ethiopia d) Calculate annual risk of infection (ARI)	<p>Mode of transmission</p> <ul style="list-style-type: none"> ◆ Airborne, through droplet nuclei ◆ Other mode, <i>M. bovis</i> <p>Factors for disease occurrence</p> <ul style="list-style-type: none"> ◆ Age ◆ Environment ◆ Impact of HIV 	<p>BRAINSTORMING</p> <ul style="list-style-type: none"> ◆ Trainer leads a brainstorming session on the risk factors of infection and the transmission of TB <p>SUMMARY</p> <ul style="list-style-type: none"> ◆ Trainer summarizes the main modes of TB transmission. ◆ Trainer explains how to calculate ARI. 	<ul style="list-style-type: none"> ▪ Chalk board ▪ Chalk 	20 min
3. To take clinical history of a patient who may be infected with TB.	<p>The major symptoms</p> <ul style="list-style-type: none"> ◆ Cough for more than 3 weeks ◆ Coughing blood ◆ Pain in the chest for more than 3 weeks ◆ Fever for more than 3 weeks 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer invites participants to discuss the symptoms of TB 2. Trainer summarizes the symptoms of TB and explains that these symptoms are not specific to TB alone. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	20 min
4. To conduct clinical examination of a patient who may be infected with TB.	<p>Major signs of pulmonary TB</p> <ul style="list-style-type: none"> ◆ Obviously ill, very thin and pale ◆ Fever ◆ Chest findings (Often no finding) 	<p>CHEST AND LYMPH NODE EXAMINATION Trainer demonstrates palpation of lymph nodes, percussion and auscultation of lungs.</p>	<ul style="list-style-type: none"> ▪ Patients 	40 min

Objective	Content	Learning methods and activities	Material/ Resources	Time
5. To demonstrate a sputum examination	Direct smear of the sputum <ul style="list-style-type: none"> ◆ Sputum container with wide mouth ◆ Examine 3 specimens ◆ 1st when patient presenting ◆ 2nd an early morning ◆ 3rd second spot specimen 	DEMONSTRATION <ul style="list-style-type: none"> ◆ Examples of suitable and unsuitable sputum containers should be demonstrated ◆ Practical session on staining and examination of sputum smears 	<ul style="list-style-type: none"> ▪ Sputum cups ▪ Slides ▪ Microscopes ▪ Reagents 	40 min
6. To treat TB patients	Drugs used for treatment of TB <ul style="list-style-type: none"> ◆ Streptomycin (S), Ethambutol (E), Rifampicin (R), Thioacetazone (T), Isoniazid (H), and pyrazinamide (Z) 	MINI-LECTURE Trainer explains the drugs used in the treatment of TB and their side effects.	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	40 min
7. To describe the objectives and strategies of the national TB program.	Objectives of National TB Program <ul style="list-style-type: none"> ◆ Interrupt transmission ◆ Achieve 80% patient cure ◆ Prevent complications Strategies <ul style="list-style-type: none"> ◆ Early case detection ◆ Case holding 	DISCUSSION <ol style="list-style-type: none"> 1. Trainer asks participants to define the objectives and strategies of the national TB program. 2. Trainer writes the main points noted by participants on newsprint. 3. Trainer comments on the participants' responses, fills gaps, answers questions, and clarifies issues as needed. DEMONSTRATION Trainer demonstrates how to fill-in TB registries.	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ TB registries and forms 	40 min

Objective	Content	Learning methods and activities	Material/ Resources	Time
8. To describe the treatment strategy of the TB control program	<p>DOTS (spell out)</p> <ul style="list-style-type: none"> ◆ Define DOTS ◆ Case detection by sputum examination ◆ Standardized treatment regimen of 6-8 months ◆ A regular, uninterrupted supply of all essential anti-TB drugs ◆ Assessment of treatment results through standardized recording and reporting <p>Treatment out-come classification</p> <ul style="list-style-type: none"> ◆ Cured ◆ Treatment complete ◆ Treatment failure ◆ Died ◆ Default ◆ Transfer out 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer asks participants to describe the treatment strategy of the TB control program. 2. Trainer encourages participants to discuss the problems they have encountered implementing this strategy. 3. Trainer writes key-points on newsprint 4. Trainer presents DOTS and outcome of treatment from a pre-written note. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ Pre-written note ▪ Drugs with different combinations and blister packs 	20 min
9. To identify complications associated with TB and patients for referral.	<p>Symptoms of complication</p> <ul style="list-style-type: none"> ◆ Coughing up blood ◆ Increasing breathlessness ◆ Sudden increasing chest pain ◆ Progressively deteriorating general condition 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer outlines complications of TB and discusses actions to be taken if complications arise. 2. Trainer entertains questions from participants and then summarizes the session 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	15 min

HANDOUT ON TUBERCULOSIS

I. EPIDEMIOLOGY

1. Magnitude of the problem

In 1993, the World Health Organization (WHO) declared TB as a global emergency. This declaration was a reaction to an increase in TB cases worldwide. The following reasons contributed to the resurgence of TB:

- ◆ Inadequate TB control programs led to an increase in burden of disease
- ◆ Emergence of drug resistant TB
- ◆ High rates of population growth
- ◆ The HIV epidemic

In 1995 there were about 9 million new cases of TB and about 3 million deaths worldwide. However, 95% of TB cases and 98% of TB related deaths were in developing countries. It should also be noted that deaths due to TB comprise 25% of all avoidable deaths in developing countries and 75% of TB cases occur in the economically productive age group (15-50 years).

2. Causative agent and severity

Tuberculosis is a communicable or an infectious disease caused by an organism called *M. tuberculosis*. TB attacks mainly the lungs but can also affect any other organs. If no therapeutic intervention is undertaken, within 2-5 years, 50% of the patients die, 25% get cured (self healing) and 25% remain as chronic carrier

3. Source of infection

- ◆ Pulmonary TB patients expelling or discharging the bacilli
- ◆ Milk from infected cows (*M. bovis*).

4. Mode and routes of transmission

- a. Direct inhalation of droplets coughed by pulmonary TB cases.
- b. Ingestion of un-boiled or un-pasteurized milk from tuberculosis infected cows.

5. Determinants

- ◆ **Age:** All ages are affected,
 <15 years, about 20%
 15-59 year, about 80%
- ◆ **Sex:** < 15 years about equal in both sexes
 15-59 years more in males
 >60 years more in females
- ◆ **Race:** All races affected (Non whites more susceptible than whites)

- ◆ **Socio economic factors:** Over-crowding , poor housing and poor nutrition
- ◆ **Inter-current illness/conditions which decrease body defense:** Diabetes mellitus, Measles, HIV infections etc.

6. HIV related TB

In 1995, about one third of the 15 million HIV infected people worldwide were also co-infected with *M. tuberculosis*. HIV increases a person's susceptibility to the infection. In persons infected with *M. tuberculosis* HIV is a potent cause of progression of tuberculosis infection to disease. In general, similar principles govern the treatment of TB patients whether HIV-infected or not, except the use of thiacetazole which is associated with severe and sometimes fatal skin reaction in HIV-infected persons.

7. TB in Ethiopia

TB is one of the major causes of morbidity and mortality in Ethiopia. Even though the exact magnitude is not known, it is estimated that about 90,000 new cases occur every year and that there are about 300,000 tuberculosis cases in the country.

II DIAGNOSIS

1. The major symptoms of TB

- ◆ Cough for more than 3 weeks
- ◆ Coughing blood
- ◆ Pain in the chest
- ◆ Weight loss
- ◆ Poor appetite
- ◆ Fever
- ◆ Night sweats and malaise

2. Major signs of pulmonary TB

- ◆ Very weak and thin
- ◆ Pale
- ◆ Chest finding during physical examination
- ◆ Fever

3. Diagnostic tools

a. Microscopic examination of sputum smears

A sputum smear is defined as positive, if at least 3 AFB are seen in 100 oil immersion fields of the smear. Three sputum specimens must be collected and examined in two consecutive days (spot, morning, spot). PTB+ is confirmed when there are at least 2

AFB positive smear results or when one sputum specimen is positive for AFB in addition to radiographic abnormalities consistent with active PTB.

NB: One positive smear result does not justify starting TB treatment. The laboratory should keep all positive and negative slides until a sample for quality control has been taken by the WCDC.

b. Radiological examination

Diagnosis by means of X-ray examination only, in patients suspected of TB is unreliable. Abnormalities identified on a chest X-ray may be suggestive of TB but not conclusive as it may be caused by a variety of other conditions.

c. Diagnosis in children

- ◆ Strongly suggestive TB symptoms
- ◆ History of close contact with a PTB + patient
- ◆ Radiological findings compatible with TB
- ◆ Positive tuberculin test in non-BCG vaccinated children

4. Case definitions

- ◆ **New case:** a patient who has never had treatment for TB or has been on treatment for less than 4 wks.
- ◆ **Relapse:** declared cured or treatment complete in the past, but reports back to the Health Services and is found smear positive.
- ◆ **Treatment failure**
- ◆ **Treatment after default:** previously been recorded as defaulted from treatment and returns to the health facility with smear positive sputum.
- ◆ **Transfer in:** received from another woreda
- ◆ **Other patients:** who do not fit in any of the above categories

III. CHEMOTHERAPY

1. Drugs used in TB and their side effects (S/E)

- | | |
|-----------------|---|
| a. Isoniazide | S/E: peripheral neuropathy and hepatitis |
| b. Rifampicin | S/E: anorexia, nausea, vomiting, abdominal pain
- hepatitis
- reduced effectiveness of contraceptive pill |
| c. Pyrazinamide | S/E: joint pains
- hepatitis |
| d. Streptomycin | S/E: auditory and vestibular nerve damage
- renal damage |
| e. Ethambutol | S/E: optic neuritis |

f. Thiacetazone S/E: skin rash

Most TB patients complete their treatment without any significant drug side effects. However, a few patients do develop peripheral neuropathy. It is possible to prevent the peripheral neuropathy by Pyridoxine 10mg daily.

2. The two phases of TB treatment

a. Intensive (initial) phase

This phase consists of three or more drugs for the first 8 weeks. It has the advantage of making the patient non-infectious by rapidly reducing the load of bacilli in the sputum, thereby minimizing the danger of development of drug resistance and the risk of infecting others.

b. Continuation phase

This phase immediately follows the intensive phase and is important to ensure that the patient is permanently cured and does not relapse after completion of treatment. This phase requires at least two drugs to be taken for 6 to 10 months.

Short course chemotherapy regimens: 2S(RH) Z/6(EH) for PTB+ and seriously ill PTB⁻/EPTB; (2S (RHZ)/4RH or 2(RHZ)/4RH for children; 2RHZ/6EH for PTB⁻/EPTB

Duration of Treatment	Drugs	Child pre-treatment weight				Adolescents and Adult pre-treatment Weight			
		<7kg	7-9kg	10-12kg	13-19kg	20-29kg	30-37kg	38-54kg	>55kg
Intensive Phase (8 weeks)	(RHZ 150/75/400)	1/3	1/2	3/4	1	1½	2	3	4
	S	0.125g m	0.125gm	0.250gm	0.250gm	0.50gm or 1	0.75gm or 1	0.75gm or 1½	1gm or 3
	Or E 400								
Continuation Phase	4 months (EH 400/150)					1	1½	2	3
	6 months (RH 150/75)	1/3	1/2	3/4	1				

(RHZ/150/75/400)= combined tablet consisting of 150mg rifampicin and 75 mg isoniazid.

E 400 = tablet consisting of 400mg ethambutol.

S = streptomycin injection.

Other regimens for PTB negative and EPTB can be referred from the national manual.

3. Treatment outcomes

- ◆ **Cured:** Smear negative at or one month prior to the completion of treatment and on at least one previous occasion (usually at the end of 2nd or 5th month)
- ◆ **Treatment completed:** Completed treatment but in whom smear results are not available on at least two occasions, (usually at the end of the 2nd, 5th or 7th /11th month) prior to the completion of treatment
- ◆ **Treatment failure:** A patient who remains or becomes smear positive again at 5 months or later during treatment.
- ◆ **Died :** Death for any reason during the course of treatment
- ◆ **Default:** Default on treatment for at least 4 weeks and interrupted for more than 8 consecutive weeks or for cumulative period of more than 12 weeks.
- ◆ **Transfer out:** Started treatment and has been transferred to another Woreda and for whom the treatment outcome is not known at the time of evaluation of treatment results.

Management of patients who interrupted TB treatment for less than 8 consecutive weeks

Duration of treatment	Duration of interruption	Treatment
<4 weeks	<2 consecutive weeks	Continue the same treatment
	2-8 consecutive weeks	Re-start the same treatment
4-8 weeks	<2 consecutive weeks	Continue the same treatment
	2-8 consecutive weeks	Give one extra month of intensive phase
>8 weeks	<8 consecutive weeks	Continue the same treatment

4. Re-treatment

2SE(RHZ)/1E(RHZ)/5E3(RH)3

Intensive phase is 3 months, drop STM after 2 months

- ◆ **Treatment after default**
- ◆ **Treatment after relapse**
- ◆ **Follow-up sputum exam:** If smear is positive at 2 months, extend the intensive phase for another month with ethambutol replacing streptomycin.

IV. TUBERCULOSIS CONTROL PROGRAM

a. Objectives

- To interrupt the transmission of the infection and reduce incidence.
- To treat patients in order cure them fully
- To prevent the development of complications

b. Case finding

The main aim of case finding is to diagnose and treat TB cases as early as possible, especially PTB+ cases. Because they are the most important source of infection in the community.

Case finding activities include:

- ◆ Examination of sputum at health facilities by direct microscopy for the presence of acid-fast bacilli.
- ◆ Assessment of close contacts of a PTB+ case, especially children under five and spouses.

c. Treatment strategy

To provide short course chemotherapy under direct observation to at least all identified smear positive TB cases.

DOTS- (Directly observed treatment, short course) is the name for a comprehensive strategy which primary health services around the world are using to detect and cure tuberculosis patients.

Elements of the DOTS strategy

- D** *Directly:* The first priority of every TB program must be to direct resources toward identifying sick and infectious TB cases.
- O** *Observed:* TB patients must be observed swallowing each dose of the medicines by a health worker or trained volunteer.
- T** *Treatment:* TB patients must be provided complete treatment and be monitored to ensure that they are being cured.
- S** *Short-course:* The correct combination and dosage of anti TB medicines known as short-course chemotherapy must be used for the length of time.

Recording and reporting

The reporting of statistics on patients diagnosed with TB and results of treatment is essential for the assessment of the program. Please familiarize yourself with the formats developed by the control program.

V. PREVENTION

- ◆ BCG vaccination
- ◆ IEC
- ◆ Chemoprophylaxis: *Presently not recommended.*

TB control policy package

The success of the WHO strategy depends on the implementation of a 5-point package.

- i. Government commitment of a national TB program
- ii. Case detection through “passive” case-finding (sputum-smear microscopy for PTB suspects)
- iii. Short course chemotherapy for all smear positive PTB cases (under direct observation for, at least, the initial phase of treatment)
- iv. Regular, uninterrupted supply of all essential anti-TB drugs
- v. Monitoring system for programme supervision and evaluation

MODULE: LEPROSY

Objective	Content	Learning methods and activities	Material/ Resources	Time
<p>To describe the prevalence of leprosy in Ethiopia and worldwide.</p>	<p>Prevalence in Ethiopia</p> <ul style="list-style-type: none"> ◆ National and regional distribution ◆ Case detection rate over the years 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer takes time to explain the prevalence Of leprosy in Ethiopia and world wide, 2. Trainer asks participants to briefly describe the situation of LP in their area. 	<ul style="list-style-type: none"> ▪ Chalkboard ▪ Chalk 	<p>15 min</p>
<p>To explain the mode of leprosy transmission (Exact mechanism is NOT understood)</p>	<p>Reservoir of infection</p> <ul style="list-style-type: none"> ◆ Human being is the only reservoir of the causative organism, <i>M. leprae</i> <p>Portal of exit: mainly nasal mucosa?</p> <p>Portal of entry: Skin and the upper respiratory tract.</p> <p>Incubation period: difficult to determine - 2.9 to 11.6 years?</p> <p>Factors determining clinical expression: All people who get infected do not develop the disease. There are genetic and other factors that make some people more susceptible than others.</p>	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer leads a discussion on the risk factors for becoming infected with leprosy and for disease occurrence. 2. Trainer summarizes the main conditions in which patients are exposed to Leprosy infection and disease. 	<ul style="list-style-type: none"> ▪ Overhead projector ▪ Pre-prepared transparency 	<p>15 min</p>
<p>To discuss the identification of signs and symptoms of leprosy and To perform a clinical examination for leprosy.</p>	<p>Cardinal Signs of Leprosy</p> <ul style="list-style-type: none"> ◆ ∴ Anesthetic skin lesions ◆ Enlarged and tender peripheral nerves ◆ AFB positive slit skin smear <p>History: May not be informative</p>	<p>PRACTICAL</p> <ol style="list-style-type: none"> 1. Trainer uses patients for case demonstration. If no cases use slides 2. Practical sessions on testing for anesthesia 	<ul style="list-style-type: none"> ▪ Patients and slides ▪ Cotton 	<p>30 min</p>

Objective	Content	Learning methods and activities	Material/ Resources	Time
	<p>Physical examination</p> <ol style="list-style-type: none"> 1. Whole body part stripped as far as possible in good light 2. Look for macules, plaques, infiltration and altered skin color, burns and scars that may be unrecognized by the patient because of anesthesia. 3. Palpate nerves for enlargement and tenderness, ulnar, median, radial, cutaneous branch of the radial, posterior tibial anterior tibial, great auricular nerves and supraorbital. Testing for anesthesia: Using finger or fine wisp of cotton , touch once in each site to test for sensation in relation to lesions. 	<p>PRACTICAL</p> <ol style="list-style-type: none"> 3. Is continuation of the above practical, but learners are now required to practice clinical examination by doing. 	<ul style="list-style-type: none"> ▪ Patients and slides ▪ Cotton 	<p>30 min</p>
<p>To discuss treatment of leprosy</p>	<p>Chemotherapy The following three drugs are used as a standard called MDT for the treatment of Leprosy</p> <ol style="list-style-type: none"> 1) Rifampicin (R) 2) Clofazimine 3) Dapsone (DDS) <p><u>MB Regimen</u> MB patients should receive 12 four-weekly doses of MDT</p> <p><u>PB Regimen</u> PB patients should take the six four-weekly doses of MDT within a maximum period of nine months</p>	<p>MINI - LECTURE</p> <ol style="list-style-type: none"> 1. Trainer explains what MDT is and discusses the treatment for the different forms of leprosy and their side effects. 2. Trainer entertains questions and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP ▪ Blister packs of LP drugs 	<p>20 min</p>

Objective	Content	Learning methods and activities	Material/ Resources	Time
6. To recognize signs and symptoms of leprosy reactions	<p>Definition of reaction</p> <ul style="list-style-type: none"> ◆ Episodes of acute hypersensitivity to antigens of <i>M. leprae</i> <p>Types of reaction</p> <ul style="list-style-type: none"> ◆ Type 1 or reversal reaction ◆ Type 2 or Erythema Nodosum Leprosum (ENL) <p>Signs of severe reversal reaction</p> <ul style="list-style-type: none"> ◆ Skin lesions: <ul style="list-style-type: none"> - Become swollen and raised macules - Become plaques or they develop raised edges ◆ Occasionally they are edematous and pale ◆ The lesions are often tender or even painful. If severe it may desquamate or even ulcerate ◆ Increased loss of sensation at two or more points in any hand or foot <p>Signs of severe ENL</p> <ul style="list-style-type: none"> ◆ Appearance of ENL nodules ◆ Tenderness on palpation or spontaneous pain at nerve trunk(s) ◆ Painful eyes, with redness around the limbus cornea, increased lacrimation, constriction of the pupil and diminishing vision ◆ Painful testicular Swelling ◆ Painful swollen fingers ◆ Fever and malaise of severe reaction as described above. 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer explains that most of the problems related to LP are primarily caused by the damage that result from LP reactions. 2. Trainer conducts a presentation of leprosy reaction from a pre-prepared transparency 3. Trainer entertains questions and clarifies issues as needed 	<ul style="list-style-type: none"> ▪ Patients ▪ Slides on cases 	<p>30 min</p>

Objective	Content	Learning methods and activities	Material/ Resources	Time
To demonstrate treatment of reactions and referral of sever cases.	<p>Signs of mild reaction</p> <ul style="list-style-type: none"> ◆ Redness, swelling and some times tenderness of skin lesions ◆ Development of ENL (but do not meet criteria) <p>Treatment of mild reaction</p> <ul style="list-style-type: none"> ◆ Rest with sedatives and analgesics ◆ Re-examine patient every week for 3 weeks and if no improvement of the mild reaction in 6 weeks or there is new nerve damage, patient should be treated as suffering from a severe reaction. <p>Ambulatory treatment of severe reversal reaction</p> <ul style="list-style-type: none"> ◆ Prednisolone 40 Mg tapered by 5 to 10 mg every 4 weeks in MB and 2 weeks in PB patients. <p>Referral of sever reaction cases</p> <ul style="list-style-type: none"> ◆ Any patient in whom nerve function deteriorates during the standard course. Patients who responded to prednisolone, but developed reaction for the third time ◆ All patients with sever ENL reaction 	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. Trainer explains the management of different forms of leprosy reactions. 2. Trainer entertains question and clarifies issues as needed <p>DEMONSTRATION</p> <p>Trainer conducts an examination and counsels a patient to demonstrate proper procedure to trainees. Trainer demonstrates samples of prednisolone blister packs, explains the information patients need to know, what time patient should swallow the pills, where to keep the pills, etc.</p>	<ul style="list-style-type: none"> ▪ Patients ▪ Blister packs of prednisolone 	15 min

Objective	Content	Learning methods and activities	Material/ Resources	Time
8. To explain the National Policy control strategy	<p>Strategies of LP program</p> <ul style="list-style-type: none"> ◆ Passive case finding ◆ Adequate chemotherapy ◆ Case holding (tracing default) ◆ Contact tracing ◆ Prevention of disabilities and rehabilitation and reintegration <p>Disability Grading</p> <p>0: No anesthesia, no visible damage</p> <p>I: Anesthesia but no damage</p> <p>II: Visible deformity</p> <p>Prevention of disability</p> <ul style="list-style-type: none"> ◆ The most important means of disability prevention is e detection ◆ Recognition and treatment reaction ◆ IEC: on - use of foot wear - Socking and oiling of feet and hands 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer invites participants to share their knowledge of the national leprosy control program strategy. Participants are asked to list the various control strategies, define the disability grading system and list the strategies for prevention of disability. 2. Trainer writes key points on newsprint, comments on participants' responses and clarifies issues as needed. <p>PRACTICAL</p> <p>Practical sessions on recording and reporting LP formats.</p>	<ul style="list-style-type: none"> ▪ Recording & reporting formats ▪ Newsprints ▪ Marker 	20 min

HANDOUT ON Hansen's Disease (LEPROSY)

I. EPIDEMIOLOGY OF Hansen's Disease (LEPROSY)

1. Distribution

1.1 Geographical distribution of the total estimated cases:

- ◆ Asia 62%
- ◆ Africa 34%
- ◆ South America 3%
- ◆ Rest of the world 1%

1.2 Age and sex distribution

All ages and both sexes can be affected ranging from infancy to a very old age. Although leprosy affects both sexes, males are affected more frequently than females often in the ratio of 2:1.

2. Natural history

Under normal circumstances only a very small proportion (less than 5%) of all individuals who are infected by leprosy bacilli will develop the disease during their lifetime. In most people the immune defenses kill all the bacilli. The disease has long incubation period average ranging from 3 – 5 years. But it may vary from 6 months to more than 20 years.

3. Extent of leprosy – in 1998 world –wide

◆ Estimated cases	1,150
◆ Endemic countries	13
◆ Cases registered for treatment	834,988
◆ Newly detected cases	795,117
◆ Patients who completed their treatment	8,416,000

Ethiopia Total

◆ Estimated cases	13,500
◆ Cases registered for treatment	7,764
◆ New cases diagnosed	4,457
◆ Number of cases released from treatment since MDT started	72,000

Ethiopia is one of the top 13 endemic countries, with prevalence rate of more than 1 per 10,000 population.

4. Causative organism

- ◆ *Mycobacterium leprae*
- ◆ Discovered by Norwegian doctor Armauer Hansen 1873.
- ◆ The disease primarily affects the skin and nerves.
- ◆ Involves other organs upper respiratory tract and the eyes etc.
- ◆ It can cause severe disability as the result of nerve damage.

5. Characteristics of *Mycobacterium leprae*:

- a. It is an acid fast bacteria
- b. It is an intracellular bacilli
- c. So far not cultured *in vitro*
- d.
- e.
- f. Optimal growth temperature is 27 – 30°C.

6. Source of infection

Untreated MB patient are discharging the bacilli.

7. Route of transmission

Through airborne spread of droplets containing the bacilli expelled by infectious patients and inhaled by healthy persons.

8. Risk factors

- ◆ Susceptible persons in the community, household contact or frequent contact with infectious patient.
- ◆ Factors relating to poverty (over crowding, poor housing condition) increase the risk of infection.

II. HISTORY TAKING

1. General information on the patient

- ◆ Name, sex, age, complete address.
- ◆ Distance from home to clinic (in km and travel time, occupation)
- ◆ Correct address

2. History of the present illness

- ◆ Time of onsets of first lesion.
- ◆ Site of the first lesion.
- ◆ Any painful episode.

3. History of previous treatment

- ◆ Nature and duration of treatment.
- ◆ Are there leprosy patients in the family?
- ◆ Whether any Family member of a relative took treatment for similar illness.

4. Main complaints (identification of suspects)

- ◆ Pale or reddish patches on the skin.
- ◆ Loss of feeling in the skin.
- ◆ Numbness and tingling sensation.
- ◆ Inability to close the eye – lids.
- ◆ Weakness of eye – lids hands and feet.
- ◆ Pain over the region of the nerve elbow, knee, ankle, wrist etc.
- ◆ Burning sensation in the skin.

- ◆ Painless swelling of lumps on the face, ears, extremities.
- ◆ Painless wounds or burns on hands or feet.
- ◆ Nose block and bleeding from the nose.

III. PHYSICAL EXAMINATION

1. General principles in physical examination of leprosy patients

- ◆ Get the consent of the patient before you start examining.
- ◆ Assure adequate privacy.
- ◆ Good natural light.
- ◆ Examine from head to toe.
- ◆ Examine first the front side of the body and back.
- ◆ Compare both sides
- ◆ Do the following examination.
 - Examine the skin: leprosy primarily affects the nerve but the major presentation is in the skin.
 - Palpate the nerve.
 - Nerve function testing.
 - Examine – eye, hands, and feet.

2. The most common skin lesions

- | | |
|-----------------------------|---|
| A. Macule: | Flat lesion with change in the color of the skin. |
| B. Patch: | A change of the skin usually localized in which case the skin is thicker than normal. |
| C. Plaque: | Is a circumscribed area of the skin, which is either elevated or depressed below the surface of the skin. |
| D. Nodule: | Is a large solid elevation, larger than 0.5cm in diameter. |
| E. Papule: | Is small solid palpable elevation under 0.5cm in diameter. |
| F. Ulcer: | An ulcer is a discontinuity of the skin. |
| G. Infiltration: | Infiltration is an area of the skin, which is thick, shiny and erythematous. |
| H. Fissure of crack: | Discontinuity in the epidermis. |

3. On examination of skin lesion we have to look in to:

- ◆ **Sites:** Essential for follow – up
- ◆ **Number:** Determines severity, for classification
- ◆ **Surface:** Dry in PB, smooth and shiny in MB
- ◆ **Color:** Hypo pigmented, Erythematous
- ◆ **Margin:** Well defined/ill defined useful for classification
- ◆ **Central healing:** Center of the lesion may be normal
- ◆ **Satellite:** Small lesion close to the big lesion
- ◆ **Itching over the lesion:** Always absent
- ◆ **Hair loss over the lesion**
- ◆ **Sweat loss over the lesion**
- ◆ **Sensory loss over the lesion**

4. Loss of sensation

- A. Sensory testing can be used:
- ◆ For diagnosis & classification.
 - ◆ To decide whether there is risk of future problems – such as ulcers and other damage.
- B. For testing anesthesia on the lesion, use:
- ◆ Thin point of cotton wool or feather.
 - ◆ Explain to the patient.
 - ◆ Practice first on normal skin.
 - ◆ Patient eyes should be covered.
 - ◆ Ask him to point with index finger (to what?).
 - ◆ Compare the same place on the other side of the body.
- C. For testing anaesthesia on hand and feet:
- ◆ Look for dryness.
 - ◆ Test for an aesthesia with point of ball pen.
 - ◆ Look for secondary damage, ulcer, scare, loss of digits.
 - ◆ Ask the patient if he has noticed any problem.

NOTE: Lesions on the face are not anaesthetic.

5. Examination of nerves

Nerve damage is the most common cause of disability and deformity in leprosy nerves.

Examine for:

- a. Enlargement/tenderness.
- b. Loss of function: motor, sensory and autonomic

6. Examining nerve for enlargement/tenderness

- ◆ The left and right side must be compared.
- ◆ For palpating the nerve use the pulp of the index and middle finger.
- ◆ Roll the nerve over the surface of the underlying bone.
- ◆ Size, shape, textures– enlargement.
- ◆ Tenderness.

Nerve to be examined

- | | | |
|--------------------|-------|------------------------------------|
| ◆ Great auricular | Neck | Turn head to side |
| ◆ Radial cutaneous | Wrist | Lateral side of radius |
| ◆ Ulnar | Elbow | Behind midial epicondial. |
| ◆ Common peroneal | Knee | Lateral side behind head of fibula |
| ◆ Posterior tibial | Ankle | Behind medial malleolus |

7. Examination for muscle weakness

- a. **FACE:** Facial nerve – close eyelids lightly measure lagophthalmos in trigeminal nerve watch the patient blink.
- b. **HAND:** Ulnar nerve -small finger over and press on outside.
TEST OF MEDIAN NERVE: Straight thumb up.

RADIAL NERVE: Dorsiflexes the wrist and holds against resistance.

c. **FOOT**

PERONEAL NERVE: Dorsiflexes the foot and against resistance.

8. Examination of eyes

Look carefully at each eye.

- ◆ Eyelids turned in (Entropion) Trichiasis.
- ◆ Eyelids loosely hanging away from the eye ball (Ectropion)
- ◆ Epiphora – overflow of tears.

a. **Sclera and conjunctiva**

- Redness
- Nodules

b. **Pupils**

- Perfectly round or irregular
- Size of pupil
- Cloudiness

c. **Cornea**

- Scare, ulcer, scratches
- Anesthesia
- Blinks
- Test for anesthesia

d. **Testing vision**

- Test patient vision at the time of diagnosis.
- Test the eye one at a time.
- Ask the patient to count fingers.
- At 6 meters.
- Record the result: Right eye C/F at 6 meters
Left eye C/F at 5 meters.

IV. DISEASE CLASSIFICATION

Disease classification is very important for choosing the right MDT regimen new patients should be classified according to the number of leprosy skin lesions and the results of skin smear examination.

1. Multibacillary (MB) leprosy

- ◆ Patients with 6 or more skin lesions.
- ◆ Patients with less than 6 skin lesions, who have a positive skin smear result.

2. Paucibacillary (PB) leprosy

Patients with one to five skin lesions, unless the skin smear is positive.

3. Pure neural leprosy

Patients who do not have any skin lesions, who have clearly thickened nerves.

V. BACTERIOLOGICAL EXAMINATION

1. Frequency of skin smear examinations

If reliable facilities for skin smears are available, then ideally all patients should have one examination before starting MDT. The main objective for this examination is to prevent any MB case being treated with the MDT regimen for PB. It also assists in diagnosis and classification of leprosy, monitoring the response to treatment in multibacillary patients, estimating the epidemiological importance of patients, and giving priorities for contact examination.

2. Sites for skin smears

For routine purposes, only one or two sites should be smeared from the edge of the leprosy lesion/s.

3. Smear taking

- ◆ Explain the procedure to the patient or, in the case of children, to the parent. Ask the patient to sit comfortably on a stool.
- ◆ Wash your hands thoroughly with soap and water. All aseptic procedures should be followed.
- ◆ The skin area chosen for the smear is cleaned by rubbing with a small cotton wool swab dipped in spirit, and allowed to dry
- ◆ The skin is then pinched up into a fold between the index finger and thumb.
- ◆ With a sterile disposable blade an incision is made about 5-mm long and 3 mm deep, pressure of the fingers being maintained. If blood or tissue fluid exudes, it should be wiped off with sterile dry cotton-wool swab.
- ◆ The blade of the scalpel is turned at right angles to the line of the cut and the wound is scraped several times so that tissue fluid and pulp collect on the side of the blade.
- ◆ This material is then gently smeared on a glass slide with the flat of the blade to produce a uniform and moderately thick smear over an area 5 - 7 mm in diameter. The slide must be carefully labeled with patient identification, date and name of the center.
- ◆ The cut is dressed with a small sterile dressing.

Please use a new disposable blade for the next patient. The same blade should never be used on another patient.

4. Fixation of smears

The smear is fixed by passing the slide, with the smear side up, two or three times over a spirit flame. The smears should not come in direct

contact with the flame and the glass slide should become only slightly warm to touch.

5. Storage and transport

All slides should be stored in a slide box protected from moisture and dust. The box containing slides should be labeled and sent to the laboratory as soon as possible.

6. Staining

The leprosy smears are commonly stained by a method known as modified Ziehl – Neelsen technique. The procedure is as follows.

- ◆ Flood the slide with freshly filtered carbol – fuchsin and allow to stand for 20 minutes.
- ◆ Wash gently in tap water.
- ◆ Destain with acid – alcohol mixture for 3 to 5 seconds.
- ◆ Wash gently in tap water.
- ◆ Counter stain with methylene blue for one minute.
- ◆ Wash gently in tap water and allow to dry.

7. Examination under microscope

- ◆ Focus on the smear with a low – power objective lens.
- ◆ Put a drop of immersion oil on the smear.
- ◆ Switch to the oil immersion lens.
- ◆ Start the examination at one end of the smear and proceed in a zigzag fashion.
- ◆ Examine each adjacent field until lepra – bacilli are seen.
- ◆ If lepra bacilli are found, stop the search and record the result as positive.
- ◆ If no bacilli are seen after searching 100 fields, report the result as negative.

8. Reporting results

The result should be reported as positive or negative.

VI. LEPROSY REACTION

Reactions are the major causes of nerve damage and disability. They can occur before, during and/or after treatment. Hence it does not mean that MDT drugs are not being helpful. Treatment of leprosy should continue while also treating for reactions.

1. Reversal reaction

This is the most important type of reaction. It occurs both in MB and PB. The patients presents with one or more of the following features:

- ◆ Skin lesions become red and swollen
- ◆ Painful, tender and swollen peripheral nerves
- ◆ Signs of nerve damage, loss of sensation and muscle weakness
- ◆ Fever and malaise
- ◆ Hands and feet may be swollen

2. Erythema Nodosum leprosum (ENL) or type 2 reaction

This is another type of reaction and occurs only in MB cases. Its main features are:

- ◆ Tender reddish skin, nodules (sms. ulceration)
- ◆ Fever, joint pain and swollen nerves
- ◆ Eye involvement may occur
- ◆ Painful testicular swelling

VII. DIFFERENTIAL DIAGNOSIS

1. BIRTH MARK (NAEVUS)

- ◆ Present from birth.
- ◆ Hypopigmented, well-defined lesion different shape and size.
- ◆ Normal texture of skin.
- ◆ No cardinal signs of leprosy.

2. VITILIGO

- ◆ Early lesion can be hypopigmented.
- ◆ Dipigmented lesion.
- ◆ Well defined, flat lesion.
- ◆ Hair whit (Dipigmented).
- ◆ No cardinal signs of leprosy.

3. TINEA VERSICOLAR

- ◆ Superficial fungal infection.
- ◆ Common site:-
- ◆ Upper part of trunk
- ◆ Neck
- ◆ Hypopigmented, rarely hyperpigmented.
- ◆ Powdery scales on surface.
- ◆ Fungus from scales treated with potassium hydroxide.

4. PITIRIASIS ALBA

- ◆ Common on children's faces
- ◆ Hypopigmented skin lesion fine scaling.
- ◆ May be recurrent seasonal variation.
- ◆ No cardinal signs of leprosy.

5 LEISHMANIASIS

- ◆ Patient history prolonged irregular fever some years ago.
- ◆ Multiple macules all over
- ◆ Liver and spleen may be enlarged.
- ◆ Slit smear from the lesion can demonstrate L. Donouan bodies.

6. ONCHOCERCIASIS

- ◆ Patient from endemic area.
- ◆ Hypo pigmented or de-pigmented.
- ◆ Itching
- ◆ Skin snip shows micro-filaria.

7. PSORIASIS

- ◆ Single or multiple lesions.
- ◆ Well defined, symmetrically dist.
- ◆ Silvery scales.
- ◆ Bleeding spots on removal of scale.

8. MOLLUSCUM CONTAGIOSUM

- ◆ White or brown, soft dome shaped nodules.
- ◆ Depression in the center of nodules.
- ◆ Common on children's faces.
- ◆ Caused by virus.

9. NEUROFIBROMA

- ◆ Benign tumour from nerves.
- ◆ Usually multiple soft
- ◆ Associated with pigmentation changes like café-au-lait patch.
- ◆ Skin between the lesion will be normal.

10. KAPOSIS SARCOMA

- ◆ Manifests as firm brownish nodule.
- ◆ Common in the feet.
- ◆ May progress fast in immune deficient people.

11. NUTRITIONAL DEFICIENCIES

- ◆ Usually over the cheek.
- ◆ Single or multiple.
- ◆ Ill-defined hypo pigmented patches.

VIII. TREATMENT OF LEPROSY**What is MDT?**

- ◆ Multiple Drug therapy.
- ◆ All registered and newly diagnosed cases must be started on an appropriate MDT regimen immediately.

1. STEPS TO STARTING A PATIENT ON MDT

- ◆ Assess the classification.
- ◆ Explain the basic facts about leprosy.
- ◆
- ◆ Inform the patient about the duration of treatment.
- ◆ Inform the patient about the common side effects of MDT drugs.
- ◆ Inform the patient about the common complication of leprosy.

- ◆ Ask the patient to report any side effect or complication.
- ◆ Give date and time for the next appointment, supply enough drugs to cover the interval.

Under special circumstances, patients may be given drugs for more than one month.

2. MDT regimens consist of

- ◆ Supervised and
- ◆ Unsupervised

3. Drug regimens and treatment categories:

MB regimen

- ◆ Consisting of a combination of 3 drugs.
- ◆ Rifampicin – one dose supervised
- ◆ Clofazimine – one dose supervised.
- ◆ Clofazimine – self – administered.
- ◆ Dapsone (DDS) – self – administered **PB regimen**
- ◆ Rifampicine – One dose supervised.
- ◆ DDS – self-administered.

Treatment of leprosy with only one anti leprosy drug will always result in development of drug resistance.

Patients who have missed more than 3 months of MDT in total should discontinue MDT . If they return to the clinic again, they should not be given a second course of MDT unless they are diagnosed as a relapse.

- ◆ **MB patients** should receive four doses of MDT per week for twelve weeks. After completion of the 12 weeks of MDT the patient can be considered as cured and should be released from treatment (RFT).
- ◆ **PB patients** should receive four doses of MDT per week for six weeks After completion of the 6 weeks of MDT the patient can be considered as cured and should be released from treatment

4. Treatment of reaction

Prednisolone 40 mg tapered by 5 to 10 mg every 4 weeks in MB and 2 weeks in PB patients.

5. Treatment of special cases

a. Patients living in accessible areas

- ◆ Nomads
- ◆ Remote areas that may be inaccessible during the rainy season: a sufficient, supply should be given with clear advice on how it should be used and managed

b. Treatment during pregnancy

The standard regimens are considered safe both for mother and the child.

c. Treatment for patients with HIV

Patients infected with HIV usually respond equally well to leprosy treatment as those without HIV infection.

d. Treatment for patients with Leprosy and TB

Patients suffering from both TB and leprosy require appropriate anti-TB therapy in addition to the standard MDT. Rifampicin will be common to both regimens and it must be given in the doses required for TB.

Chemotherapy for the different forms of Leprosy

Chemotherapy for MB Leprosy-12 months			
Drug	0 – 5 years	6 – 14 years	> 15 years
- Rifampicin (4 weekly supervised)	300 mg	450 mg	600 mg
- Clofazimine (4 weekly supervised)	100 mg	150 mg	300 mg
- Clofazimin (Unsupervised)	50 mg twice a week	50 mg every other day	50 mg daily
- Dapsone daily (unsupervised)	25 mg	50 mg	100 mg
Chemotherapy for PB Leprosy-6 months			
- Rifampicin (4 weekly) Supervised	300 mg	450 mg	600 mg
- Dapsone (daily) Unsupervised	25 mg	50 mg	100 mg
Pure Neural Leprosy Regimen			
- Should be treated as PB			
- If two or more nerves are affected or the skin smear is positive- should be treated as MB			

6. Follow up during treatment

- ◆ Patient has to be educated on the importance of regularity for treatment major side effect of the drugs
- ◆ During MDT the monitoring of rest nerve function is extremely important for early detection of nerve function impairment and to prevent disability.
- ◆
- ◆ Patients completed the 12 doses of MDT should be released from treatment.
- ◆ Patients who have missed more than 3 doses of MDT should be recorded as defaulters.
- ◆ If an MB patient recorded as defaulter, reports at a clinic a second course of MDT should be started. After completion of the second course of MDT the patient should be released from treatment.
- ◆ Patients who fail to complete the second course will not be given a third chance. They should be told to come as soon as they develop new signs of activity.

7. Examination during treatment

- ◆ Skin inspection and nerve function VMT/ST.
- ◆ Examination of eyes, hands and feet routinely every third month as long as the patient is on MDT and at any time if the patient complains of sensation or muscles strength loss.

8. Drugs and their side - effects

DAPSONE	RIFAMPICIN	CLOFAZIMINE
Dermatitis itching of skin	Anorexia Nausea abdominal pain	Dermatitis Dryness of skin
Fixed drug	Orange/red urine	Abdominal complaints
Anemia	Anemia Hepatitis (Jaundice)	Red color in skin

IX. NATIONAL LEPROSY CONTROL PROGRAM**1. Objectives**

- ◆ To interrupt transmission of the infection thereby reducing the incidence of the disease.
- ◆ To treat patients in order to achieve their cure.
- ◆ To prevent the development of complication (of ten leading to disability in leprosy)

2. Strategy

- ◆ Early case finding
- ◆ Adequate chemotherapy
- ◆ Prevention of disability

3. Case finding activities**a. Passive case finding**

- ◆ Examination of self reporting person with symptoms suggestive of leprosy

b. Active case finding

- ◆ Contact examination
- ◆ School survey
- ◆ Village survey
- ◆ Prison survey etc.
- ◆ Population survey?

MODULE: MALARIA

SESSION: MALARIA

Objective	Content	Learning methods and activities	Material/ Resources	Time
1. To discuss the prevalence of malaria in Ethiopia	<p>Epidemiology of Malaria</p> <ul style="list-style-type: none"> ◆ Malaria is prevalent in 75% of the country generally in areas below 2000 meters. 	<p>BRAINSTORMING</p> <ol style="list-style-type: none"> 1. Trainer invites participants to discuss the malaria problem in their area. 2. Trainer presents the prevalence of malaria in Ethiopia, with emphasis on SNNPR 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	30 min
2. To Identify and discuss factors related to malaria transmission along with the life cycle of the malaria parasite in humans and mosquitoes.	<p>Vector of malaria in Ethiopia</p> <p>Anopheles arabiensis, breeding in sunlit, small water collections</p> <p>Peak transmission season</p> <p>Following cessation of both light and heavy rains</p> <p>Malaria species prevalent</p> <ul style="list-style-type: none"> ◆ P. falciparum - 60% ◆ P. vivax - 40% ◆ Others - 1% <p>Life cycle of malaria parasite in man</p> <p>Life cycle of malaria parasite in mosquito</p>	<p>MINI-LECTURE</p> <p>Using posters, the trainer discusses factors related to transmission of malaria along with the life cycle of the malaria parasite and its vector.</p>	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP ▪ Posters showing the life cycle of malaria and its vector 	50 min

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Objective	Content	Learning methods and activities	Material/ Resources	Time
<p>To discuss the clinical diagnosis of malaria and identify severe cases to be referred</p>	<ul style="list-style-type: none"> ◆ Where microscopes are available, diagnosis can be made by identifying the parasite in a blood film <p>Sever or Danger signs:</p> <ul style="list-style-type: none"> ◆ Altered consciousness ◆ Not able to drink or feed ◆ Frequent vomiting ◆ Convulsion ◆ No urine output in the last 24 hours ◆ Bleeding, jaundice ◆ Difficult breathing <p>Other common causes of fever Measles, tonsillitis, pneumonia, otitis media and upper respiratory tract infections</p>	<p>QUESTIONS AND ANSWERS</p> <ol style="list-style-type: none"> 1. Trainer asks participants to describe <ul style="list-style-type: none"> ◆ Clinical features of malaria ◆ Malaria diagnosis at different levels ◆ Severe and complicated malaria 2. Trainer presents and discusses a pre-prepared transparency on the danger signs of malaria. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker ▪ Pre-prepared transparency ▪ OHP 	<p>50 min</p>
<p>To provide the correct treatment for malaria</p>	<p>Malarial drugs and their dosage:</p> <ul style="list-style-type: none"> ◆ The first line treatment in the health stations is a combination of sulfadoxine-pyrimethamine and chloroquine ◆ Chloroquine base – 25mg /kg body weight over 3 days ◆ Sulfadoxine-pyrimethamine 25 mg/kg body weight as a single dose ◆ Primaquine - 0.25 mg base per kg daily for 14 days can be given for P. vivax in areas where risk of re-infection is low. <p>Supportive treatment</p> <ul style="list-style-type: none"> ◆ For high fever, give paracetamol and advise tepid sponging and fanning ◆ For dehydration, give ORS, extra breast feeding if applicable, and/or other type of fluid 	<p>TRAINER-LED DISCUSSION</p> <ol style="list-style-type: none"> 1. Trainer invites participants to discuss the malaria treatment in their own area 2. Trainer outlines the national standard treatment for simple malaria at health station and health center levels 3. Trainer answers question and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP ▪ Newsprint ▪ Marker 	<p>40 min</p>

Objective	Content	Learning methods and activities	Material/ Resources	Time
5. To define epidemic and recognize occurrence of epidemic	<p>Definition of epidemic (Check)</p> <ul style="list-style-type: none"> ◆ Occurrence of cases in excess of the number expected in a given time and place. <p>Epidemic precipitating factors</p> <ul style="list-style-type: none"> ◆ Increase of vector capacity, such as importation of a more potent vector. ◆ Natural increase, mainly through abnormal rainfall, elevation in temperature and humidity ◆ Man-made: poor management of surface waters, and deteriorating vector control measures. ◆ Insecticide resistance ◆ Immigration of non-immune people into endemic area. ◆ Resistance of anti-malarial drugs 	<p>QUESTION AND ANSWER</p> <ol style="list-style-type: none"> 1. Trainer asks participants to define epidemic and list the precipitating factors of epidemics. 2. Trainer lists responses on a piece of newsprint 3. Trainer adds to participants' responses and clarifies issues as needed. 	<ul style="list-style-type: none"> ▪ Newsprint ▪ Marker 	30 min
6. To select appropriate epidemic control measures	<p>Measures include:</p> <ul style="list-style-type: none"> ◆ Mass drug administration ◆ Mass febrile treatment ◆ Indoor residual spraying of insecticides ◆ Environmental management <p>The selection of measures depends on:</p> <ul style="list-style-type: none"> ◆ Extent of the epidemic ◆ Local epidemiological situation ◆ Availability of resources <p><u>However, mass treatment is the first emergency measure in most Epidemics</u></p>	<p>VISIT</p> <p>Arrange a field visit with the zonal malaria control office staff to introduce participants to the program and the services it provides to the community.</p>	<ul style="list-style-type: none"> ▪ Means of transport ▪ Reporting and registration forms ▪ Local maps 	60 min

Objective	Content	Learning methods and activities	Material/ Resources	Time
7. To recognize approaches to the prevention and control of malaria	<p>Chemotherapy: Provides relief to those infected and reduces the # of organisms circulating in the environment; Destruction of vector: elimination of breeding sites and habitat alteration; use of larvicides and insecticides; Prevention of exposure to infection: use of insect repellants, impregnated bed-nets; Prevention of successful maturation and disease in the host: use of chemoprophylaxis; no vaccine</p>	<p>MINI-LECTURE</p> <ol style="list-style-type: none"> 1. trainer outlines the different approaches in malaria prevention and control 2. Trainer invites participants to ask questions and make comments as necessary 	<ul style="list-style-type: none"> ▪ Pre-prepared transparency ▪ OHP 	25 min

HANDOUT ON MALARIA

1. Malaria in Ethiopia

1.1 Geographical distribution

About three quarters of the total area of Ethiopia is estimated to be malarious, and about two thirds of the inhabitants of the country are at risk of infection. In the past decade the prevalence and incidence of malaria has greatly increased. The occurrence of focal and large-scale epidemics is more frequent. Every year, malaria causes clinical illness in an estimated 1.5 million persons.

The transmission of malaria is largely governed by the topography of the country, which in turn determines the climate of a particular area. The cold zone (above 2,500 meters altitude, with mean annual rainfall from 1,600mm and a mean annual temperature of 15⁰c) is generally free of malaria.

In the **Weyna Dega**, between 1,500-2,500m, where mean annual rainfall is 400-2,400mm and mean temperature 20⁰c. Malaria does occur, but most often in areas below 2,000m altitude. However, transmission may occur in higher altitudes, sometimes up to 2,400m. In these areas

- ◆ Malaria does not usually occur in epidemic proportions.
- ◆ Highland populations in general usually have a low level of immunity.
- ◆ Malaria is very unstable.
- ◆ The risk of epidemics is high.
- ◆ All age groups are equally susceptible to infection.

In the **Kolla** (warm zone) below 1,500m altitude characterized by rainfall totals of 100-900mm and mean temperatures of 20-30⁰c, malaria is moderately to highly endemic. This zone includes the highly malarious areas of: Setit Humera, Metema, Metekel, Gambella, Gode and the Awash valley.

Most transmission takes place following cessation of both light rains during the months of February/March and April and heavy rains from June through August or September, with some variation from place to place. Thus, peak transmission occurs during the months of September through November.

1.2 Parasite species

Of the four plasmodium species known to cause human malaria in Ethiopia, the two epidemiologically important species are *Plasmodium falciparum* (*p. falciparum*), comprising some 60% and *P. vivax*, constituting about 40% of all malaria cases. *P. malariae* comprises less than 1% of all cases. *P. falciparum* causes the most frequent and fatal episodes of malaria in Ethiopia. It is the cause of most of the serious epidemics of

malaria. Chloroquine resistant *P. falciparum* is more common at present and recent studies have shown that in some areas the level of chloroquine resistance is very high.

1.3 Vector species

Among the six sibling species of the *An. gambiae* complex, *Anopheles arabiensis* is the most important vector of malaria in Ethiopia. *An. arabiensis* breeds in small, temporary sunlit water collections created during the rains. Larvae of this species usually prefer small, temporary and sunlit water bodies, but breeding also takes place in construction pits such as those used for plastering of houses; depressions left by hoof prints of animals, tractors, and other vehicles in agricultural development areas; small water collections in river beds during the dry season and irrigation canals. *An. arabiensis* is widely distributed in all malarious areas in Ethiopia.

Anopheles pharoensis is the second most frequent and widely distributed species, although it is not an efficient (but only secondary) vector of malaria in Ethiopia. It prefers large, permanent, and shaded water bodies with emergent vegetation, including irrigation canals, rice fields, and lake shores as a breeding ground.

2. Malaria and its mode of transmission

Malaria is caused by a parasite called *Plasmodium* which spends a part of its life cycle in the blood of people. These people may suffer from attacks of fever, chills and sweating; some become seriously ill and may die.

The malaria parasite is transmitted from one person to another by female mosquitoes belonging to the genus *Anopheles*. *Anopheles arabiensis* (formerly known as *Anopheles gambiae*) is the major malaria vector; *A. pharoensis*, *A. funestus*, and *A. nili* are considered as secondary vectors.

2.1 The life cycle of the parasite

Only female mosquitoes bite and take up blood. If the person who is bitten has malaria parasites in the blood, some of the parasites will be taken up with the blood meal. If the right stages of the parasite (the gametocyte) are ingested these will develop in the mosquito, eventually resulting in the production of a very large number of sporozoite which accumulate in the salivary glands of the mosquito. These sporozoite are the infective stages and are injected with saliva when the mosquito next feeds. Within 30 minutes the sporozoite enter the liver cells where they develop into tissue schizont and divide to form thousands of merozoite. In malaria caused by *P. falciparum* and *P. Malariae*, all parasites develop in the liver at about the same time. However, in malaria due to *P. Vivax* and *P. ovale* infections, not all the parasites introduced by the mosquito develop immediately; some (the hypnozoites) lie dormant in the liver and only start to grow later, giving rise to relapses in these two species.

Six to fourteen days after infection, the merozoite leave the tissue and enter the blood, where they invade (parasitize) the red blood cells (RBCs). The infected red cells are destroyed. The consequences of the regular invasion and destruction of the red cells gives rise to all the clinical effects of malaria and if severe enough to serious illness and even death.

2.3 Feeding and resting behaviour of mosquitos

The feeding and resting behavior of mosquitos are of great importance in control programmes and for this reason they must be well understood. Most anopheline mosquitos bite at night. Some bite shortly after sunset while others bite later, around midnight or the early morning. Some mosquitos enter houses to bite (they are described as being endophagic), and others bite mostly outside (exophagic).

3. Clinical features of malaria and its treatment

Malaria is an acute disease, which clinically usually presents with chills, fever, and profuse sweating. The clinical features of malaria vary from nothing to mild or sever, according to the species of parasite present, the patient's state of immunity, the intensity of the infection, and the presence of accompanying conditions such as malnutrition, anaemia or other diseases. Malaria tends to be particularly severe in infants, children and pregnant women.

Fever may persist for several days, accompanied by headache, aching joints, and general discomfort. The classic presentation of malaria, with chills, shivering, high fever, and sweating may not occur. The onset of a malaria attack can resemble an influenza-like illness. In infants the symptoms of malaria can be subtle and quite variable and may be limited to poor appetite, restlessness, and loss of normal interest in the surroundings.

The duration of the incubation period is 10 - 15 days, but with some strains of *P. vive* and *P. malaria* this duration may be exceeded. It is also prolonged by chemoprophylaxis which may have been inadequate to completely destroy all of the developing parasites, and particularly in drug resistance.

In *P. falciparum* infections the headache, nausea and vomiting are usually more severe than in *P. vivax* and other malarial infections, and there is a greater tendency towards the development of delirium, haemolytic jaundice and anaemia. Mortality rates for *P. falciparum* are much greater than in other forms of malaria. Those who survive but who have a continuing infection as a result of inadequate treatment or no treatment, may suffer several weeks or months of poor health, which is characterized by febrile episodes, malarial anaemia and weakness.

3.1 Diagnosis of malaria

At health station level, malaria diagnosis is based on signs and symptoms of the disease. Simple examinations using thermometer, stethoscope and sphygmomanometer should be done. History of travel to malarious areas during the last 15 days and previous treatment with antimalarial for current illness should be enquired. Clinical examination should particularly focus on detection of severe or danger signs and other possible causes of fever and anemia. The and hydration status of the patient should also be monitored.

Other major causes of fever, which may be identified at this level, include (among others) measles, tonsillitis, pneumonia, otitis media, and upper respiratory tract infection. However, it should be noted that malaria illness might coexist with these other major causes of fever. At the health center level where microscopes and other diagnostic aids are available, the diagnosis of malaria can be made by identifying the parasite in a blood sample.

3.2 Treatment

3.2.1 Drug therapy

In health stations, the first-line treatment is a combination of oral sulfadoxine-pyrimethamine and chloroquine, both given full doses. The total dose is 25mg/kg body weight chloroquine base administered over three days in combination with 25mg/kg body weight sulfa component of sulfadoxine-pyrimethamine as a single dose. Chloroquine tablets are available in 50 mg, 100mg and 150mg bases while syrup contains 50mg base in 5ml.

Example:

For an adult patient weighing 50kgs or more:

First day: 3 tablets of sulfadoxine-pyrimethamine and 4 tablets of 150mg base chloroquine

Second day: 4 tablets of chloroquine

Third day: 2 tablets of chloroquine

For a patient who cannot take oral medication, give sulfadoxine-pyrimethamine intramuscularly according to dosages.

In Health Centers, where laboratory facilities are available to identify malaria parasite, first-line treatment for P.F malaria is sulfadoxine-pyrimethamine and for P. V malaria is chloroquine at the above doses.

3.2.2 Supportive treatment

A patient with uncomplicated malaria may require additional treatment to correct conditions such as dehydration, high fever and anaemia.

- ◆ In the case of high fever (rectal temperature above 39⁰c in children), give paracetamol and advise the patient to receive tepid sponging and fanning.
- ◆ For patients with moderate dehydration, give oral rehydration salt (ORS) and advise to them take increased amounts of clean water or other fluids. In the case of infants, encourage mothers to provide extra breast-feeding.

3.2.3 Referral

A patient with one or more of the following danger signs, should be referred immediately to the nearest health center or hospital:

Signs of severe and complicated malaria:

- ◆ Altered consciousness (e.g. confusion, sleepy, drowsy, comma)
- ◆ Not able to drink or feed
- ◆ Frequent vomiting
- ◆ Convulsion or recent history of convulsion
- ◆ Unable to sit or stand up
- ◆ No urine output in the last 24 hours
- ◆ Bleeding
- ◆ Jaundice
- ◆ Difficult breathing
- ◆ Other conditions that cannot be managed at this level

If the patients is conscious and can swallow the drug, give the full dose of sulfadoxine-pyrimethamine and the first dose of chloroquine before referral. If the patient cannot take oral medication, give sulfadoxine-pyrimethamine intramuscularly according to dosages. Indicate all the findings and medication given on the referral paper.

4. Malaria epidemic prevention and control

4.1 Malaria epidemic: definition

An epidemic (in general) is the occurrence of cases in excess of the number expected in a given place and time period. Practical problems in using this definition, in the case of malaria, include difficulty in knowing what is "expected" and in ascertaining whether this expectation has been exceeded.

Endemic malaria commonly shows different kinds of variation in time:

- a. Season: usually determined by rainfall in tropical areas
- b. Periodic: cycles of several (often 8 - 10) years usually determined by rainfall (and also temperature) and amplified by loss of immunity in periods of low transmission
- c. Secular: long-term trends

Where the transmission of malaria is continual, adults develop protective immunity, whereas children suffer a great deal from the morality and morbidity of the disease.

However, in areas where the transmission of the disease is seasonal, the whole population has an equal or similar risk.

In order to detect an epidemic, first the pattern of the disease for the area concerned should be established. To do this, the health institutions data for several years should be compiled by month and year. Current data may then be compared with the compiled data. If any unusual (or significant) increase is observed it implies that there may be an epidemic. Rapid increases in the number of cases should be treated as a potentially dangerous epidemic even if the number is within the "expected" level for a specific area and time. It should be noted that a high number of malaria morbidity (which may or may not be accompanied by mortality) in an epidemic-prone area during the usual transmission season cannot be considered as "normal". Therefore, every increase in the number of malaria cases must be treated as a potentially dangerous epidemic situation and the necessary preparedness measures have to be taken for timely prevention and control.