

MANUAL
FOR ETHIOPIAN HEALTH CENTER TEAM

Manual on Reproductive Health



**Ethiopia Public Health
Training Initiative**

Tefera Belachew, M.D., M.Sc.; Ato challi Jira, B.Sc., MPH; Ato Tsegaye Asres B.Sc., M.Sc.; Ato Taddese Getahun, B.Sc.;
Ato Gameda Abebe, B.Sc.; Asnake Tesfahun, M.D., M.Sc; Ato Kebede Faris, B.Sc., M.Sc.; Dr. Demesse Assefa, M.D., M.A.;
Ashenafi Wegash, M.D., M.P.H.; Ato Zeleke Mekonen B.Sc.; Ato Yoseph Tsige B.Sc.; Abebe G/Mariam

Jimma University

Samson Nigussie, M.D.; Ato Mulugeta Alemyehu, B.Sc.; Ato Masresh Getahun, B.Sc.; Girmay Abriham, M.D.; MUNIR Kassa, M.D.;
Delayelu Bekele, M.D.; Girma Asasi, M.D.; Alemnesh H/Mariam B.Sc.; Dr. Kefyalew Taye, M.D.; Ato Dawit Yihdego, B.Sc.;
Ato Asaminew Abeyneh, B.Sc.

Hawassa University

Bizatu Mengistie, Gudina Egata, Frw Nigussie, Fekadu Zeleke, Meselech Asegid, Nega Asefa, Negga Baraki, Negash Beyan,
Selamwait Debebe, Tamirat Gebru, Zeyede Kebede, Zinabu Anamo, Senbeta Gudeta, Alemayhu Galmessa,
Fethi Mohammed, Lemessa Oljera

Haramaya University

Mesfin Addisse, Ato Daniel Mengistu

Gonder University

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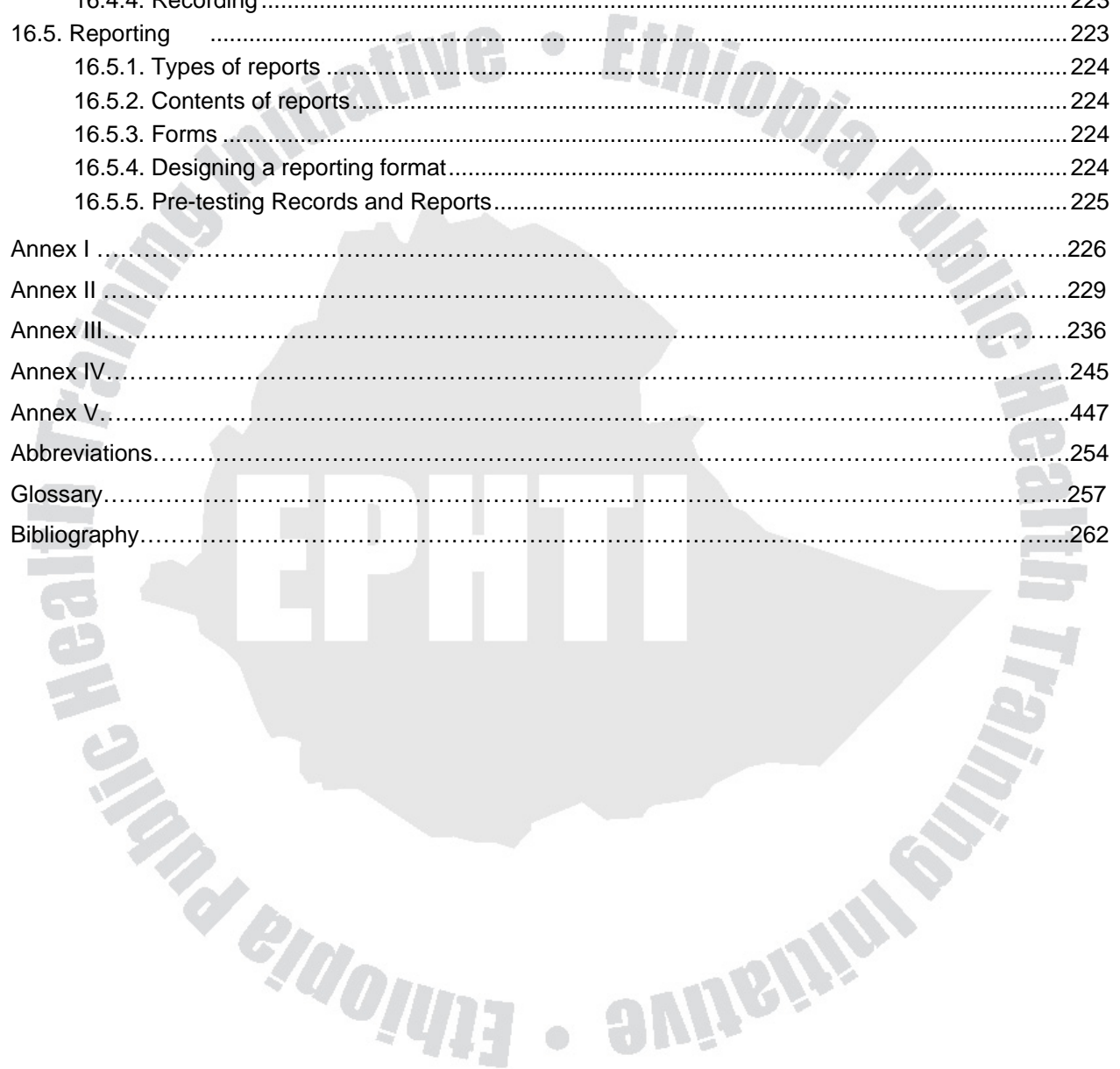
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Preface

Reproductive health has become a wide area that addresses complex issues of reproductive health needs of individuals as well as groups such as families, sexually active groups or potential groups i.e. adolescents or people with certain types of problems. Teaching reproductive health to students is a challenge because of its vastness and inter-disciplinary nature; it is at the crossroad between clinical and public health teaching. Most of the problems in reproductive health require skills and procedures that need to be performed to reach the desired outcomes.

Although there are textbooks and reference materials, many are either specific to certain areas of reproductive health, for example family planning or too detailed for use in midlevel training of health professionals. Therefore there is need to bring together some of the relevant knowledge and skills from several sources so that it serves the purpose. Cognizant of the types of problems that students would face, the Reproductive Health Manual was prepared to provide essential knowledge and skills that would help to provide routine reproductive health services as part of the training as well as professional activities when assigned to work at health centers. In fact the main purpose and implementation modality of the Reproductive Health Manual is the team training programs that are operating in each training institution. The manual has considered special needs and skills of each category of health professional that belonged to the health center team such as the health officer, the nurse and the environmental health technician to some extent the midwife.

The construction of the manual concentrates on the essential activities to manage a reproductive health problem rather than on providing comprehensive knowledge. In fact it is recommended that students read textbooks and other reference materials to obtain the knowledge they need on a specific reproductive health topic. On the other hand the manual provides the essential minimum to perform a task and serves as a quick reference. Finally, the contributors would like to encourage instructors in all the institutions to utilize the manual, as it is something where different people from the collaborating institutions have put their effort into. Above all, students are expected to use this Reproductive Health Manual to serve their purpose.

CHAPTER ONE

REPRODUCTIVE HEALTH AND DEFINING TARGET POPULATION

1.1. Introduction

If you know where you want to go you are more likely to get there. That is why it is important to have goals. If you have goals, you know what you are trying to do. Targets may be set for any primary health care services such as immunizations, treatment of malaria, prenatal care and reproductive health activities. The main focus of this chapter is to identify the target groups for reproductive health services.

1.2. Magnitude of Reproductive Health Problem

The term “Reproductive Health “is most often equated with one aspect of women’s lives; motherhood. Complications associated with various maternal issues are indeed major contributors to poor reproductive health among millions of women worldwide.

Half of the world’s 2.6 billion women are now 15 – 49 years of age. Without proper health care services this group is highly vulnerable to problems relating to sexual intercourse, pregnancy, contraceptive side effects, etc. Death and illnesses from reproductive causes are highest among poor women everywhere. In societies where women are disproportionately poor, illiterate, and politically powerless, high rates of reproductive illness and death are the norm. Ethiopia is not an exception in this case. Ethiopia has one of the highest maternal mortality in the world; it is estimated to be between 566 – 1400 deaths per 100,000 live births. Ethiopian DHS survey of 2000 indicates that maternal mortality is 871 per 100,000 live births.

Women in developing countries and economically disadvantaged women in the cities of some industrial nations suffer the highest rates of complications from pregnancy, sexually transmitted diseases, and reproductive cancers in the world. Lack of access to comprehensive reproductive care is the main reason so many women suffer and die. Most illnesses and deaths from reproductive causes could be prevented or treated with strategies and technologies well within reach of even the poorest countries.

Men also suffer from reproductive health problems, most notably STIs. But the number and scope of risks is far greater for women for a number of reasons.

1.3. Definition of Reproductive Health

Reproductive health is a state of complete physical, mental, and social well being and not merely the absence of disease or infirmity, in all matters related to the reproductive system and to its functions and process.

Men and women have the right to be informed and have access to safe, effective, affordable and acceptable methods of their choice for the regulation of fertility which are not against the law, and the right of access to appropriate health care services for safe pregnancy and childbirth.

1.4. Rationale for Defining Target Population

- To set priority and deliver appropriate services to high risk groups.
- To utilize resources efficiently,
- To determine the number of eligible for the services,
- To plan the type of services to be provided,
- To focus the efforts towards the target group,
- To measure / evaluate changes,
- To address equity in delivery of the health services

The target population of a service includes for whom the service is primarily or solely intended. These people may be of a certain age or sex or may have other common characteristics.

1.5. The Target Groups for Reproductive Health Services

The following populations are groups of priority concern in reproductive health services.

These groups are:

- Women of childbearing age (15 – 49 years old)
- Adolescents (both male and female)
- Under five years old children

The rationales of prioritizing the above population groups for reproductive health services are the ones stated hereunder.

a. Women of child-bearing age (15 – 49 years old)

1. Women alone are at risk of complications from pregnancy and childbirth
2. Women face high risks in preventing unwanted pregnancy; they bear the burden of using and suffering potential side effects from most contraceptive methods, and they suffer the consequences of unsafe abortion.
3. Women are more vulnerable to contracting and suffering complications of many sexually transmitted infections including HIV/AIDS.
4. From the equity point of view this population group constitutes about 24% of the population; which is a significant proportion.
5. Deaths and illnesses from reproductive causes are highest among poor women everywhere.

b. Adolescents (Both sexes)

1. Adolescents lack reliable reproductive health information, and thus the basic knowledge to make responsible choice regarding their reproductive behavior.
2. In many countries around the world, leaders, community members, and parents are reluctant to provide education on sexuality to young men and women for fear of promiscuity.
3. Many adolescents are already sexually active, often at very young age.
4. The reproductive health status of young people, in terms of sexual activity, contraceptive use, child bearing, and STIs lays the foundation for the country's demographic feature.

5. During adolescence normal physical development may be adversely affected by inadequate diet, excessive physical stress, or pregnancy before physiological maturity is attained.
6. Adolescents are at high risk to acquire infertility associated with STIs and unsafe abortion
7. Conditions of work are designed for adults rather than adolescents and put them at greater risk of accidental injury and death.
8. Current health services are generally not organized to fulfill the need and demands of adolescents.

a. Under Five Children

1. Children's health is a base for healthy adolescence and childbearing ages.
2. Proper health service for children serves to increase the opportunities of women to have contact with the health institution.
3. The health of children and women is inseparable
4. The morbidity and mortality of children in Ethiopia is one of the highest in the world.
5. Bearing high number of children has adverse consequences on health of the mother, the general income distribution and health status of the family.

**1.6 Estimation of the Eligible Population Number
(Target Groups) for Reproductive Health**

Knowing the number or estimate of the eligible for reproductive health is important for the following purposes.

- To plan usage targets for services
- To plan for supplies
- To assign service providers
- To monitor utilization of services
- To monitor coverage of the service

1. The techniques to be utilized to estimate the eligible for reproductive health should include:

Deciding the catchments area for the health institution providing reproductive health service.

- Identify all kebeles in the catchments area;
- Prepare a sketch map of the catchments area (Refer to the section on mapping and zoning).
- Divide the catchments area in to zones for ease of operation (Refer to the section on mapping and zoning).

2. Determining the number of the eligible population from the total population in the catchments area.

The methods for estimating the number of the eligible could be;

- By conducting census of the population in the catchment area (Refer to the section on census)
- By estimation of those eligible from the total population using national, regional or district standard figures.

For example the following are national and regional figures.

Variables	National (Ethiopia)	Regional (Oromia)
<1year children	4.0%	4.2%
<5 years children	17.6%	18.4%
Women 15-49 years of age	23.7%	23.1%

Source: MOH, Ethiopia. Health and health related indicators. 1993 E.C.

- By sampling:

If the above techniques are found to be difficult to implement we may use sampling method as an alternative to estimate the number of eligible. A sample refers to any specific collection of observations drawn from a parent population. The two properties required of any sample are that it be reasonable size and that it be representative of the population from which it was taken. A sufficiently sized representative sample can give information concerning a population to whatever degree of accuracy is required.

Limitations of the above techniques (census, estimation, sampling)

Even though it is only with a census that the number of the eligible groups can be determined precisely, census is usually too expensive and time consuming. Estimating using national figures may not precisely reflect the population in the specific catchments area (figures may be too high or too low). Estimation based on samples depends on size of the sample; the smaller the sample size the less will be reliability of the figures to be inferred.

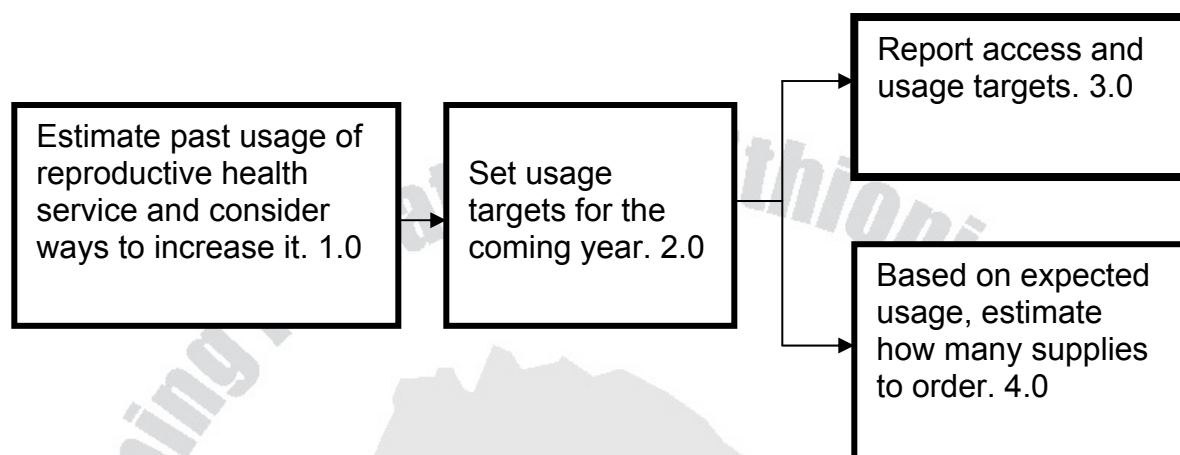
1.7. Setting usage targets plan for reproductive health services

Your targets should be ones that you feel are possible to achieve based on capacity. To set realistic targets you will want to think of ways to:

- Increase the number of people with access to reproductive health services in your health area, and
- Increase usage of services by people who already have access.

You can then estimate how much greater usage will be after these changes are made. Thus, your targets will be goals, which you can really plan to achieve.

The tasks involved in setting usage targets are shown in the following chart.



When setting targets, it is very important to consider the community's ideas about reproductive health and services. Community involvement describes how to stay aware of these ideas. It also describes how to define access to reproductive health services in your area. You will need to know how many people have access to reproductive health services in order to set realistic usage target. At the end of each year you will want to evaluate achievement of targets. Evaluation will tell you how much progress has been made in increasing usage of reproductive health services.

1.7.1 Estimate past usage of reproductive health service and consider ways to increase it.

To know how well the service has been meeting reproductive health needs, you can compare the number of times the service is actually used to the number of times it needs to be used. Such a comparison can be stated as a usage rate.

$$\text{Usage rate} = \frac{\text{Actual usage}}{\text{Desired usage}}$$

i. Estimate access to the service by the target population

The target populations of reproductive health service are the people for whom the service is primarily intended. These are:

- Women of reproductive age group
- Adolescents, and
- Under five children

In most areas, there are some people who do not have access to reproductive health services they need. Even if they have access to services offered by a community health

worker, they may not have access to other reproductive health services offered only at the health center. In order to set usage targets for a service, you need to find out how many target population members have access to that specific service.

ii. Decide what to count as one use of the service.

You will want to count uses of a service in a way that will show how completely a reproductive health need is being met. For example, to estimate past usage of a treatment service, you will probably want to count the number of new episodes treated. This will help you to know if you are treating many of the episodes occurring, if you need to reach more. Some times you may want to count both new episodes treated and times the service was given. This will tell you how many repeat visits are typical for a single episode. Knowing about repeat visits can help you in planning staff time and ordering supplies.

iii. Estimate the number of uses of the Reproductive Health service in past years.

This step can be done for as many as five past years if your records are good. If you estimate usage for several past years, it will help you see trends in usage, which will help you to set targets.

You can estimate the number of uses of a service in one of the following 3 ways.

a. First way to estimate number of uses:

If you have records showing uses of the service, review the records and add up the uses for each year. For example, count the number of new episodes treated or the number of times the service was given.

b. Second way to estimate number of uses:

If records show only the number of times service where provided, but you want to count new episodes, estimate the number of times zone person typically receives treatment for one episode of the reproductive health problem.

c. Third way to estimate number of uses:

If there are no records or records are very bad, you can ask experienced health workers for their opinions on past usage.

iv. Estimate desired usage of the reproductive health services.

Desired usage is the number of times a service would be used if all target population members with access came when they needed the service.

$$\begin{array}{l} \text{Desired usage by} \\ \text{target population} \\ \text{with access} \end{array} = \begin{array}{l} \text{Number of target} \\ \text{population members} \\ \text{with access to the service} \end{array} \times \begin{array}{l} \text{estimated number} \\ \text{of times the service} \\ \text{is needed by a target} \\ \text{population number per year} \end{array}$$

Example

$$\begin{array}{l} \text{Desired usage of} \\ \text{Nutritional monitoring} \end{array} = \begin{array}{l} \text{Number of children} \\ \text{under age 5 with} \\ \text{access to nutritional} \\ \text{monitoring worker} \end{array} \times \begin{array}{l} 12 \text{ (since monitoring} \\ \text{should be done once} \\ \text{a month)} \end{array}$$

v. Calculate a usage rate for the past 12 months

Remember that calculating a usage rate is a way of comparing actual usage and desired usage.

- A. Estimate access to the service by target population
- B. Estimate the number of uses of the service in the past 12 months (actual)
- C. Estimate desired usage of the service
- D. Calculate a usage rate for the past 12 month;

1.7.2 Set usage targets for the coming year

Usage targets are expected usage rates for the coming year. To set a usage target, you will need to consider ways in which both access and usage are likely to change.

Summary: Things to consider when setting targets:

- Expected changes in access
- Usage patterns in past years
- Factors which might increase or decrease future usage

Changes in access may be expected because of:

- Increase or decrease in the number of health facilities, community health workers, or other health workers offering the reproductive health service,
- Better or worse roads, bridges, or public transportation, or
- Group of people moving into or out of the catchments area.

1.7.3 Report access and usage targets

Report your access estimate and usage targets to the next higher health office. This report will be very important to the office to set usage targets for the entire area assigned to it.

1.7.4 Based on expected usage, how many supplies to order.

In addition to the usage estimates already described, you will need to know:

- The number of supplies needed each time the service is used,
- The amount of supplies likely to be wasted or used for people who are not in the target population,
- The number of supplies that you expect will still be in stock when your new order arrives.

CHAPTER TWO

MAPPING, ZONING AND CENSUSING

2.1. Mapping

2.1.1. Introduction

The oldest map known today is a small clay tablet showing the location of a man's estate in Mesopotamia dating from about 2800B.C. The ancient Indians and Persians also made good maps. The Chinese, however, developed their cartography to a high degree in very early times. Romans were more interested in a practical map for travel and war, and designed a disk shape map.

The greatest achievement of this age was the triangulation and topographic mapping of France, directed by the members of the Casein family. Map making has become concentrated in large governmental and private offices, producing maps by the millions, reaching great masses of people.

Traditional methods and manual drawing still also may be employed. One cannot underestimate the value of the experience of manually plotting as it leads to a much-enhanced ability to use and evaluate properly the many features found in maps.

2.1.2. Definition

A map is a simplified, selective, symbolized, diminished and a plane representation of a part or the whole of the earth's surface on a piece of paper. A map provides a birds eye view of the earth's surface or a part of it.

The mapmaker is always selective and should limit the amount of information to be shown on the map. Otherwise, the map becomes difficult to read or it would be over crowded and confusing. This shows that in any map, the information is summarized or simplified by avoiding unnecessary details.

The features of the earth in any map are reduced or diminished in size, because the drawing of maps, which is exactly equal to the area of the place to be mapped, is impossible.

2.1.3. Purpose

Map shows information of the locality that is quantifiable. For example maps are used:

- to show or indicate the exact size or location of a place.
- to measure distances between two places with out the need of actual measurement.
E.g. 1cm on the map may represent 5 Km.
- to indicate the direction of places.
- to indicate the space or spatial relationship between different phenomena.
- to locate the number of homesteads in a village, even the sanitary facilities.
- for planning in office setting.

- In epidemiology and public health
 - To indicate distribution of health institutions in an area.
 - Spot maps help to follow disease out breaks
 - In disease surveillance activities
 - Indicate distribution of important diseases that have geographic characteristics such as related to altitude, latitude or climatic factors.
 - To locate health related conditions such as water supply sources, industries, and waste disposal sites.
 - To facilitate service delivery such as spray activities in malaria control, home visit service, etc.

2.1.4. Classification of Maps

The types of map depend on the size of the map, the purpose of the map and how it is drawn. The size of the map on the other hand, depends on the amount of information that the map maker wants to show.

i. On the basis of scales

Maps are divided in to three groups based on scales.

- A. Large scale maps
- B. Medium scale maps
- C. Small scale maps

Large scale maps: - are maps with the scale of $> 1:50,000$ (one to fifty thousand). Such maps can cover small area but they show very detailed information.

Medium scale maps: - are maps with a scale between $1:50,000$ and $1:250,000$ (one to fifty thousand and one to two hundred and fifty thousand). Here the area to be covered is larger while the amount of information shown is smaller than the large-scale map. These maps can't cover large areas.

Small scale maps: - are maps with a scale of $<1:250,000$ (one to two hundred and fifty thousand). Such maps can cover large areas but the information is highly summarized. Therefore, they are suitable for drawing the map of a country, continent, world, etc.

ii. On the basis of their uses

Maps are divided in to two major groups on the basis of their uses. These are: -

Topographic maps: - are maps that are used to show all man made and natural features of a given place in one map. E.g. relief features, human activities, soil type, population distribution etc. They are some times known as general reference maps.

Topical maps: - are maps that are used to show one particular feature of a given place. E.g. Climate map, population density map, vegetation map, etc. the best examples of topical maps are the followings:

- a. **Mobility maps** – are the maps that are used to show the pattern of roads, railways, ship routes, airlines, etc.
- b) **Inventory maps** – like thematic maps they consider specific feature. But in this case the maps are used to show the exact or precise location of an object.
- c) **Thematic maps** – are the maps that show the distribution of one particular object in a given place. E.g. The distribution of population in a certain locality.

iii. On the bases of how the maps are drawn

- a. Scaled maps
- b. Air photographed maps
- c. Sketch maps
- d. Block maps

For small jobs traditional methods and manual drawing still may be employed. From an educational stand point, one can not under estimate the value of the experience of manually plotting a map as it leads to a much – enhanced ability to use and evaluate properly the main features found in maps. Sketch map is one that may be utilized in small public health projects and would serve its purpose. It is a map which can be performed with in short period of time when compared to other maps. As a result, this manual is focused only on a sketch map.

2.1.5. Sketch Map

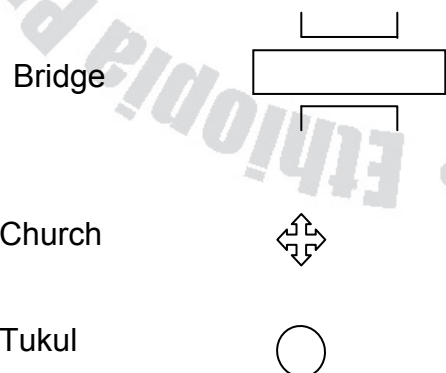
Definition: - A sketch is a free hand drawing of a map or picture of an area or route of travel. It shows enough detail of a locality. Sketches are useful when maps are not available or the existing maps are not adequate.

Sketches may vary from hasty to complete and detailed, depending up on their purpose and the degree of accuracy required. For e.g., a sketch of a large mine field will require more accuracy than a sketch map of small village.

A sketch map should include:

- I . Title of the sketch map:** It includes name of the location and the date in which the sketch map was done. E.g. Sketch map of Rural Woreda X, Kebele 012, April 2001 (see annex I). Usually the title of sketch map answers the questions: what, where & when.
- II. The North line (direction):** It should be drawn close to and parallel with the upper right hand edge of the map sheet. How to locate a North? On the left hand of a person facing due east; the direction opposite south is north (Or the direction shown by the compass needle).
- iii. Symbols:** Are conventional signs or assigned symbols, which represent both natural and man made features on the map.

For example:



IV. Legend (key): This indicates the meaning of the entire mapping symbols used, and appears in the lower right hand corner of the map sheet.

V. Details such as: The total population, numbers of houses, highest and lowest elevation area also shown if any. This appears on the top right hand corner of the sketch map sheet.

VI. Natural and cultural (man made) features: Including all water sources (rivers, wells, springs, swamps, lakes and reservoirs) with their name and appropriate direction of flow; markets, schools, police stations, post offices, telephone offices, hospitals, health stations, roads, bridges, mountains, etc. should be shown.

VII. Boundaries: The locality boundaries should be indicated in their correct relative position with the neighboring areas (kebele, ketena, etc.)

N.B – A locality is a small geographical unit with defined boundaries.

VIII. Scale: The scale used if any should be indicated (a sketch map is not required to have a scale however).

IX. Name of the drawer and the person checking the sketch map: The name of a person(s) who drew the sketch map and the person checking it should be indicated. These should appear on the lower left hand corner of the map sheet.

X. Boarder line

N.B. Refer to annex I to see a typical map with the above indications and some common conventional symbols.

2.1.6. Materials Used in a Sketch Mapping for Field or Office Use

1. Map board (Portable drawing board) 42x45 cm.
2. Magnetic compass
3. Ruler of 40 cm length
4. Appropriate size of drawing paper
5. Pencil (HB soft) with eraser
6. Pencil sharpener (pocket size)
7. Thumb-tacks or scotch tape
8. Paper clips
9. Altimeter 0-3000 meters if possible.
10. A clipboard
11. A heaver sac (bag)

2.1.7. Procedures for making a sketch map

1. Make a survey of the specific location to be drawn. Observe the area from a high point to see lay out of the location (e.g. From top of a hill, building, etc.)
2. Select land marks, reference point or bench mark of the location: Land marks of a location are prominent and permanent features which are expected to be there incase somebody wished to return to the place at a later dates. Examples of landmarks are: rivers, bridges, lakes, mountains, market places, schools, police stations, health centers, etc.

3. Proceed sketching: Locate such details as the location of each households, churches, mosques, shops, stores, factories etc. with their proper orientation and compass direction to each other. Draw the actual shapes of the buildings as of their top plan. (See: Annex 1)

2.1.8. Limitations

Maps are never identical with the whole or parts of the earth's surface they represent. They do not truly represent the actual area. That is, they cannot show the whole information of the earth's surface as it is. This is because the size of a map is always limited.

2.1.9. House Numbering

Each housing unit within the mapped locality should be identified by its house number. Hence a number must physically be put on each house, or housing unit. The number should be put / marked on a site easily visible for example, on the door, window, etc. If there are separate households in housing unit or compound different numbers should be given to each household.

House numbers could be marked on houses using different ways:

- Tagged metals
- Number written on pieces of metal sheets
- Paints on doors, windows, on frames or walls.
- Using markers
- Using chalks

N.B. Nevertheless, it is important that the number marks are permanent or long lasting.

The step of numbering houses should be in such a way that it will lead from one house hold or group of house holds to the next with minimized walking. For a systematic organization the assignment of numbers to houses should be planned after the sketch map is completed (in the office after the field work is over). This helps to plan blocks, zones or clusters of houses for ease of tracing and minimizing of confusion in the sequential location or follow ups of the numbers when need arises.

2.2. Zoning

2.2.1. Definition

Zoning is the division of land, town, kebele or a community in to different districts or "ketenas" with particular characteristics.

2.2.2. Purpose

Zoning helps to:

- Have easy access to the target population
- Have understanding of distribution of population by location from a given reference.
E.g. Distance from a health institution, school, water source, river line, a waste dump, a swampy area, etc.

- For ease of service delivery, staff deployment (assignment), monitoring, comparison of achievement, etc.

Points to be considered during zoning of a locality

- Natural features such as rivers, mountains, depressions, etc
- Man made features such as, roads, footpaths, fences, blocks etc.

2.2.3. Steps in Zoning

1. Decide on the number of zones required/ needed based on the intended purpose.
2. Survey: tour the area or specific locality to be zoned.
3. Identify permanent features; like natural or man-made features.
4. Identify these features on the locality sketch map.
5. Divide the locality in to zones (ketenas) using the identified features.
6. Mark the zone boundaries on the locality sketch map.

If applicable indicate the zone marks on the individual homes with the house numbers.

N.B. It could be planned using the sketch map to consider clustering of house numbers in sequence to identify a given zone and finally marking these numbers to the houses on the specified zone.

2.3 Censusing

2.3.1. Introduction

It is not possible to obtain quantified health, demographic and socio- economic indicators with out census. Although there is no clear evidence when it was started, ancient Egyptians were doing “census” every other year around 3000 B.C. At that time their area of interest was list of families and occupants of houses for certain particular cases (eg. Salaries). In Rome there was enumeration, every family every five years for taxation purpose. Format for modern census emerged gradually around 1600 B.C. in Europe. In 1841 the first real census was conducted in England.

Census is an important source of health information. It is taken in most countries of the world at regular interval, usually of 10 years. In Ethiopia the first population and housing census conducted in May 1984. Since then a consecutive census were conducted. Census focusing on Reproductive Health was not conducted. However, some health service related inquiries were included in the main census format.

2.3.2. Definition

It is defined as the total process of collecting, compiling, processing and publishing otherwise dissemination of demographic, social and economic data pertaining to all individuals of a population or delimited territory over specific time period.

2.3.3. Purpose of Censusing in Reproductive Health

1. Provides demographic information like total count of a population and its breakdowns in to groups and subgroups such as age and sex distribution.
2. Gives a lot of information on subject not only demographic, but also social and economic characteristics of the people, the conditions they live, how they work, their income and other basic information.

3. It provides a frame of reference and base line for planning action and research not only in the field of medicine, human ecology and social sciences but in the entire government system.
4. It provides a base line data needed to compute vital statistics.
5. It provides reliable data on fertility, family planning behavior, utilization of maternal and child health service, knowledge of Sexually Transmitted Infections (STIs) including HIV/AIDS and other issues related to reproductive health.

Characteristics of Census

Census must have the following essential characteristics:

1. **Individuality:** Independent information should be collected from every subject in the population.
2. **Universality:** It must include all the members of the population of an area with out omission or repetitions.
3. **Simultaneity:** All the individuals must be enumerated in the shortest period of time and at a given moment called the censal period.
4. **Periodicity:** It must be taken at a regular time interval such as every ten years (the usual inter – censal period)
5. **Well defined:** The geographic area to be covered in the census should be well - delineated and clearly defined.

2.3.4. Methods of Conducting Census

There are two methods to conduct a census.

1. **De facto:** Enumerating people at a place where the individual is found during the censal hour, regardless of whether or not the person lives in that place. Type of censusing is according to the actual place of residence on the day of the census. Defacto count includes temporary residents and visitors, but excludes permanent residents who happen to be away on the day of the census.
2. **De jure:** Enumerating people according to their usual place of residence, regardless of whether the person is currently available or not. Dejure population comprises of all people who belong to a given area at a given time by virtue of usual residence. In the census, a person is said to be a usual resident of a house hold if he/she has been residing in the area continuously at least six months before the census data or intends to reside in the area for six months or longer.

2.3.5. Procedure of Censusing

1. Identification of the type of census
2. Establishing administrative tree for supervision and enumeration.
3. Preparing censusing format /Questionnaires (see annex II)

The format should include four main components:

- a. **Demographic data:** Age, sex, marital status, race, and house hold relationships.

- b. Economic data:** Occupation, place of work, work experience, income and other data.
- c. Social data:** Language spoken at home, disability, education, and place of birth, citizenship.
- d. Reproductive data:** Past reproductive performance, fertility, health care service, family planning service, etc.

4. Training of enumerators
5. Consent from local authority
6. Defining the enumeration area.
7. Mapping and zoning the area
8. Numbering of houses
9. Pretest enumeration process
10. Design data processing system/ processing table (see annex III)
11. Enumeration
12. Compilation and analysis of census data.
13. Reporting and Notification

2.3.6. Limitation /errors / of census

1. Omission and over enumeration
2. Mis – reporting of age due to memory lapse. Preference of terminal digits, over/under estimation.
3. Over – stating the occupation.
4. Under reporting of births due to the problem of reference period and memory lapse.
5. Under reporting of deaths due to memory lapse and tendency not to report on deaths, particularly infant deaths.

2.3.7 Advantages and Disadvantages of Censusing

Advantages

1. Universal, hence small area data available.
2. Have input to the national effort.
3. Provide frame for later sample surveys.
4. Provides population denominators.

Disadvantages

1. Size limits and quality control efforts are difficult.
2. It is costly.
3. Due to processing there is delay between fieldwork and results.
4. Sometimes its effect will be utilized for political purpose.

CHAPTER THREE

INFORMATION EDUCATION AND COMMUNICATION (IEC)

3.1. Introduction

3.1.1. Purpose of IEC

IEC requires the concerted and persistent effort; health center team needs to work with the community members. Hence, health professionals of the team should play leadership and facilitation roles with full involvement of community members in IEC program activities.

However, the process of effecting IEC is often challenging because:

1. People are usually preoccupied with many other important daily activities;
2. Health education is not considered important during normal life. People are concerned about diseases and cure;
3. Changing health behavior is conditioned by many factors: social, psychological, economic, cultural, accessibility and quality of service, political, environmental, etc.
4. There is a failure to see the value of health teaching by some health professionals;

It has now become important to prepare a comprehensive working manual on IEC for mid-level health workers (MLH) so that organized IEC activities will be programmed and implemented by the health center team at its catchments areas.

3.1.2. Health information

Health information is a new idea or concept that to be introduced or provided to the target population.

3.1.3. Health Education

Health education is any combination of learning opportunities designed to facilitate voluntary adaptation of behavior, which will improve or maintain health.

3.1.4. Health Promotion

It is a combination of educational and environmental support for actions and conditions of living conducive to health. Combination is the necessity of matching the multiple determinants of health with multiple interventions or sources of support. Educational refers to health education. Environmental refers to the social, political, economical, organizational, policy and regulatory circumstances bearing on the behavior or more directly on health.

3.1.5. Health Behavior

Behavior is an action that has a specific frequency, duration, and purpose, whether conscious or unconscious. It means people act, practicing and behave in a certain way and under many circumstances. Health behaviors of individuals are determined by causes within the individuals themselves and/or extra-individual causes. Among factors attributed to individuals are health knowledge, beliefs, attitudes and values held by individuals and genetic and mental status are said to cause how people behave.

Among extra-individual factors are environmental factors that continuously press on individuals to behave in a certain way. These extra-individual causes or factors are social pressure such as culture and significant persons to the individual e.g. religious leaders, elders, parents, spouse, or others who usually seen as leaders. Politics and social networks are among important extra-individual factors to affect behavior of individuals. Resources like time, money and services and materials obviously influence health behavior. Climatic conditions and natural changes are also crucial extra-individual causes to behavior of individuals.

3.1.6. Communication

It is a process by which an idea is transferred from a given source to a receiver(s) through a proper channel with the purpose of changing behavior.

Continuous action is required to promote primary health care. It ranges from creating awareness to working with individuals and communities to perform tasks such as planning and evaluating things together. People do most of their daily activities through communication. Communication is part of human's life.

The purpose of communication is to effect understanding and to initiate the desired behavioral change. Many public health programs are connected with change in behavior and require communication intervention.

3.2. Planning Process for Information, Education and Communication in Reproductive Health

Planning for IEC is one of the most important aspects for successful knowledge transfer and attitudinal change in a population. Planning should involve the community members where the IEC is going to be applied. Leading the community through the planning process is very important role to play. Without adequate planning, any program let alone communication program, which expects behavior change, will fail.

The whole planning process will require the engagement of the health worker with the community especially for need assessment. Need assessment is a process we follow to plan an IEC program in order to tackle a certain health problem in this case reproductive health problems. The process will involve by clearly identifying which problems we want to address and then find out more about the problem:

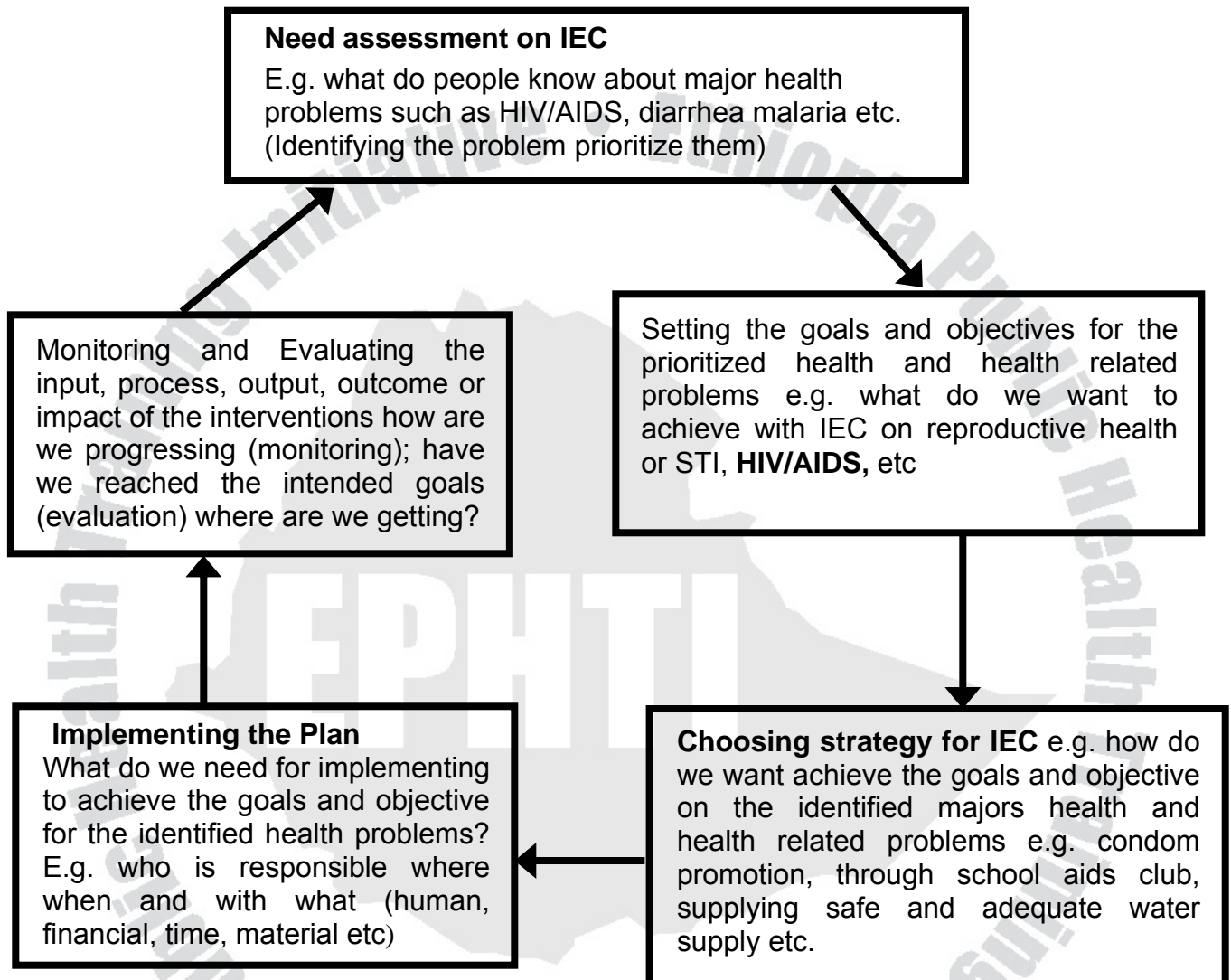
- Know about child spacing? What do women of childbearing age know about birth control methods? What do families know about the danger of abortion and the care after abortion? Etc.
- Prioritize the problems or “where do we want to go from here?” This will lead us to define goals and objectives and the expected results. What do we want to achieve with IEC? Change in health seeking behavior? What do we want families to know about MCH?
- Choose a strategy or in other words “How will we get there?” Would we be involving the women society or committee? Would we be involving the kebele administration, development committee, agriculture extension agent, etc?
- Make an action plan or “what are we going to do?”
- Identify material, human, financial, time and other necessary resources that will help to implement or intervention.

- Implement or intervene.
- Monitoring and evaluation. "Where are we getting to and did we reach our goal?"

In general before the IEC program is launched the following variables should be studied to collect relevant information related to the components of reproductive health.

1. **Reproductive related behaviors:** in relation to the demographic variables such as age, sex, ethnicity, occupation, marital status, number of children, educational level etc.
2. **Reproductive health information:** communities awareness on the existence of services for reproductive health components
3. **Cognitive:** How people attribute the cause of certain behavior related to reproductive health problems or success to be known. What criteria people use to judge to seek medical advice or learn an individual as sick. How people identify and select alternative solutions.
4. **Value or motivation:** It is always necessary to know what factors attract or repel a person and thereby influence the person to act.
5. **Attitude:** The feelings and opinion of the people should be well understood. When ever attitude is studied, one needs to be aware that it is influenced by belief about a particular content of RH components, it is influenced by a value about the belief the people have on a specific component of RH (as good or bad), and finally it is influenced by a predisposition to behavior related to reproductive health component.
6. **Personality:** It has a paramount importance to study the personality of individuals whether they are influenced by someone else and if so identify who are these influential people.
7. **Skill:** In order to assess how well an RH behavior can be performed the capability or person's ability to perform a task should be studied.
8. **Routine performance Information:** as to how frequently the people perform behaviors related to RH components in their daily life. There is also what is known as approximation. Approximation is important information to be collected about communities' behavior. A behavior that is practiced by individuals in a community but usually for the wrong reasons, which is approximately the same as the behavior that we want to be changed to is approximation. It will be easy to transmit knowledge on the approximated behavior.
9. **Health service utilization:** It is always important to describe the patterns of the people in the use of a health or medical services whether or not related to reproductive health components.
10. **Environment for IEC program:** it is useful to identify the supportive and inhibitory factors to behaviors related to RH components. Example: physical proximity of the health services, life events, spouse, peers etc.
11. **Clinical-biological:** A check on whether a person is performing a desired behavior or a change in an aspect of health or health risks help to assess the base line information and evaluation of IEC program on reproductive health components.

Figure 1. The Problem-Solving Cycle/Model In Information, Education & Communication For Reproductive Health Care



SUMMARY:

By employing the different methods of information collection as outlined above, it is possible to assess the specific need for Information, Education, and Communication. In this way, proper IEC strategies can be launched. More over, the health problems, the type of audience and the specific media to be utilized can properly be selected to match with the specific needs so assessed. The following matrix will help in clarifying the points raised above.

Table 1: Checklist for Planning Information, Education, and Communication Interventions

Objective	Example Questions	Methods
Identify risk practices	Which specific practices predispose women for infection after birth? Which specific practices are allowing child spacing problems?	Epidemiological KAP Checklist observation
Select practices for interventions	Which risk practices are more widely practiced? Which risk practice can be altered? What motivates or demotivates the practices?	Structured observation Focus group discussion
Define the target audience	Who employ the risk practice? Who influence the primary audience?	Structured observation Focus group discussion
Select communication channels	What channels are used for communication in the locality if any? What messages will be useful?	Interview representatives Sample of target audience Focus group discussion

Source: Adapted from "Happy, Healthy and Hygienic", UNICEF London SHATM1998

Table 2: Matrix for the Analysis of KBAP

Parameters	Current/existing	Expected/ Ideal	Gap	Identifying the Educational category
Knowledge	<ul style="list-style-type: none"> - Do not know that breast feeding (BF) prevents pregnancy - Do not know that Oral contraceptive pills (OCP) prevent pregnancy - Are not aware of NORPLANT and permanent method of contraceptive 	<ul style="list-style-type: none"> - Know that BF prevents - Know that OCP prevents as long as it is taken - NORPLANT prevents pregnancy for 5 years - Know that there are permanent methods of contraception for those who need it. 	<ul style="list-style-type: none"> - Do not know breast feeding, OCP and NORPLANT prevents pregnancy 	Predisposing
Belief	<ul style="list-style-type: none"> - Do not believe that Breast Feeding, OCP prevent pregnancy - Believe that OCP results in calcification in the womb - Believe that having children is the will of God - Believe that OCP results in permanent contraception 	<ul style="list-style-type: none"> Believe that BF prevents pregnancy effectively for the first 6 months after delivery - OCP does not result in calcification rather it has side effects like heart burn - Believe that one can limit number of children or space births - Believe that OCP prevents pregnancy as long as taken and when pregnancy is needed, OCP can be stopped 	<ul style="list-style-type: none"> - Not believe in the preventiveness of contraceptive methods - Believe that OCP results in permanent contraception 	Predisposing
Attitude	<ul style="list-style-type: none"> - Feels that contraception is against the will of God - Feels that having many children are insurance/asset when aged and for different tasks 	<ul style="list-style-type: none"> - Having many children leads to death to some of them-not the will of God - Caring for children's health is the duty of parents - Having healthy children is an insurance 	<ul style="list-style-type: none"> - Having many children is the will of God - Children are assets or insurance 	Predisposing
Practices	<ul style="list-style-type: none"> - Early weaning - Not using contraceptives 	<ul style="list-style-type: none"> - Weaning at appropriate time - Use of convenient contraceptive methods 	<ul style="list-style-type: none"> - No contraception used 	<ul style="list-style-type: none"> - Enabling factors - Reinforcing

3.2.1. Priority Setting

Based on the findings, one of the categories is to be given priority to intervene by launching IEC program. In this example most of the gaps (identified targets, Family Planning behaviors) fall in the predisposing category.

As a principle interventions of different categories may follow one another to bring about desired practices. Therefore:

1. The protective value of breast feeding, OCP and NORPLANT, etc., against Pregnancy
2. Belief development on the protective value of contraceptive methods for undesired pregnancy
3. Change of belief that OCP is not permanent contraceptive method
4. Change attitude towards having many children as an insurance value
5. Attitudes towards having children as a religious value

Without making known the importance of having limited number of children and spacing, it is difficult to change belief, attitudes, and values related to having many children. As stated previously knowledge acquisition could be followed by interventions to change belief, attitudes and values.

3.2.2. Planning Health Behaviour Change

1. Identify the causes of health problems
2. Identify whether human behavior is related to health problems or not
3. List ideal (scientific) health behavior (activities) related to identified health problems according to preventive, curative, or rehabilitative activities.
4. Compare the individuals/ groups/ communities health activities with that of ideal behavior list and identify the gaps
5. Identify in which determinants (educational: predisposing, enabling & reinforcing) category of factors the gap fall.
6. Prioritize among categories
7. Prioritize within a category

3.2.3. Basis for setting priorities among categories

- All causes for several behaviors can not be tackled simultaneously
- One possible basis-developmental
- Agency/government policy or mandate

3.2.4. Basis For Setting Priorities Within A Category

A. Importance

- Urgency
- Necessity according to logic, experience and available data and theory

B. Changeability

- Looking at the results of previous program
- Rate each theory-belief is better than attitude and attitude is better than value to change

C. Diffusion of innovation theory

D. Observe ability

3.2.5. Points to be considered in the preparation of IEC

Once the gap in knowledge, attitude, beliefs and practices (KABP) is identified and prioritized an action plan to carry out an effective IEC program must be designed. In designing IEC or communication messages the following guides will help.

1. Command attention

The materials should get noticed and stand out to be recognized easily

2. Clarify the message

The message should be simple and direct. It will not be remembered if it is not understood. Complex issues should be compressed into themes that have simplicity and clarity.

3. Communicate a benefit

Messages should tell the consumer what they will get in return for taking an action called for in the messages. Remember the consumer do not merely buy products, they buy expectations or benefits

4. Be consistent

All the materials in a campaign should convey the same themes in all forms of media. People learn by repetition and repetition with variation (different media) contributes to both learning and persuasion. Penetration requires repetition.

5. Cater to the heart and head.

The materials should offer emotional values as well as practical reasons to change. People respond emotionally not intellectually.

6. Create trust

Communication starts with a climate of credibility. This climate is built by the performance of the source of the message, and a desire to serve the target audience. The audience must have confidence in the source and a high regard for the source's competence on the subject

7. Call to action

The materials must ask the consumer to do something. Then the consumer wants to know what is expected of them what they are supposed to do upon hearing or seeing the messages.

3.2.6. Identifying Target Audiences

In planning process we need to determine the audiences that we want to address. Messages for the IEC can only be effective if we address it directly to the person responsible for the risk practices. In the case of reproductive health the targets are divided into:

1. Primary audience
2. Secondary audience
3. Tertiary audience

Primary audiences include women of childbearing age or those who are directly at risk. Secondary audiences include the husband who will confirm, accept, and facilitate target behavior. Tertiary audiences include influential leaders such as the grandparents, religious leaders, and other significant people to the spouse. School children could be trained or informed to pass information to all communities in the area.

3.2.7. Communication Strategy

In designing the strategy for communication, it is very important to analyze the deficits of our audience. Some audiences have the information but they don't act as prescribed. In this case communication strategy should aim at correcting that deficit. Some audiences have the information and want to change but they do not have the skills to perform the prescribed act. In this case the strategy will focus on improving the skills of the audience.

The communication strategy for reproductive health will be better designed and include all sectors of society. It should include:

- A. Training: It is practical and productive to sustain the program in reproductive health for a certain locality. It will be difficult for a centrally located health facility to continuously follow the program in a community as they face budget and other logistic constraints. It is therefore important to train someone from the locality who is relatively educated, trusted by community members, and that who can speak the local language.
- B. Form women's club and training them in aspects of reproductive health using the forum.
- C. Inform the husbands and or head of households about reproductive health and their role in family planning etc.
- D. Inform religious and other opinion leaders on the importance and their role of reproductive health.
- E. Teach school children so that they can transmit the knowledge gained to their families in the locality.

3.3. Development of IEC materials

IEC materials are prepared in order to transmit information to individuals groups or to community members in general. The materials used to convey the information include: Teaching methods range from what is heard to what is seen and done. They include modern methods & materials and different combination of tools such as visual materials, audio materials, spoken word and so on.

3.3.1. Visual means something seen (apart from written words)

Visual materials arouse interest, provide a clear mental picture, speed understanding and help memory, and provide a shared experience. E.g. poster, flip charts, stickers, banners etc.

3.3.2. Audio means something heard

Audio materials are effective when based on similar experience or known experience. It could also be distorted or misunderstood when translated and easily forgotten. In some instances, the translation may affect the original meaning of the word or sentence.

E.g. Music, recorded messages, and spoken word (commonly used), etc.

3.3.3. Spoken-word (symbols)

A spoken word is a symbol standing for an object or conveying an idea. Speakers and listeners who share the same language and background can usually understand each other's words because their common culture provides the common meaning. Words describing tangible objects are more easily understood than those dealing with abstract ideas. Philosophical word indicates thinking, quality, and abstract ideas

3.3.4. Flip Charts

Flip charts are prepared to transmit messages using both visual and vocal media. As the name indicates flip charts are a collection of serialized or un-serialized drawings with short and to the point messages inscribed Basically flip chart is made up of posters that are means to be shown one after the other with a view presenting several steps or aspects of a central topic. Flip charts tell a story in a logical order. On each chart or poster one idea is presented. The illustrations on the chart should be arranged in order to match the topic or the story.

The drawings in the flip chart should represent the culture dress, hairstyle, house construction etc) and tribal identity for an easy identification of themselves with the central topic. For example if the audiences are Garages then the picture should reflect the relevant practice or life style of these people.

3.3.5. Poster

Posters are like photographs. They show new ideas, happenings, realities or practices. Like flip charts the people and the surroundings should represent the intended audience. If written messages are included they should be written in the local language.

3.3.6 Radio Spots

Radio spots or radio theater are short messages of one or two minutes in the case of radio spots and about ten minutes for radio theater. The messages are on typical current problems or concerns targeted on the person whom we think has the most concern or responsibility. For example the subject of family planning will be a concern for the women or the husband while post abortal hygiene will be for the mother only.

3.3.7. Recorded messages

Health messages in the form of Radio Theater or simple messages accompanied with local songs can be recorded to be use for teaching adults or children. Such recorded messages could be very valuable teaching tools for individuals or groups in the community or community resource people such as CHAs, TBAs, or animators trained to teach family planning, contraceptive uses, post abortal care, Post natal care etc. in certain localities.

Recorded messages are prepared with sole intention of providing health information and strengthening health messages to as many people as possible.

3.3.8. Pamphlets

Pamphlets or leaflets are basically the same except pamphlets may contain more information than leaflets. Both pamphlets and leaflets consist of pictures with short and to the point written notes and folded for easy handling and distribution.

Pamphlets or leaflets are effective when local languages is used and become very handy when health promoters or educators go from house to house. The content of the pamphlets will first be discussed orally with the target audiences and left behind so that the pictures can be looked at and the messages read again and again by someone in the family or person visiting the house.

3.4. Communication Methods

The IEC materials are prepared so that the communicator will use them for:

3.4.1. Inter-personal or face to face communication where the trained person for the task addresses the problem with individuals at suitable locations such as in their homes, water points, health settings etc.

3.4.2. Group communication is communication with several people. It is commonly used to communicate with people who are performing the risk practice on certain target behavior. E.g. women's clubs can be used to communicate about family planning.

3.4.3. Mass communication is a means to transmit messages to a large audience or to reach a large segment of the population. It is a method used to address not only the people in one community but also other communities involved. This method may involve the distribution of pamphlets, notices or radio announcements.

3.5. Monitoring and Evaluation

3.5.1. Monitoring and Evaluation For IEC in Reproductive Health care

Monitoring is a periodic collection and analysis of selected indicators to enable health workers to determine whether key activities are being carried out as planned and are having the expected effects on the target population. Evaluation is a process, which attempts to determine as systematically and objectively as possible, the relevance, effectiveness, and impact of a reproductive health program in the light of specific objectives.

3.5.2. Types of indicators

Indicators can be developed and classified on the following basis.

- A. **Input indicators:** These are developed based on the resources needed to carry out the program. Most services require certain essential resources.
- B. **Process indicators:** are developed on the bases of how the implementation took place.
- C. **Out put indicators:** are those developed by considering the desired goods produced or services made available as a result of implementing the program.
- D. **Effect/outcome indicators:** are those that reflect the knowledge, attitude, and behavioral changes, or coverage in service that resulted from implementation of the program
- E. **Impact indicators:** are those that refer to the changes in health and health related status brought by the implementation of the program

Table 3: Indicators for target behaviors in family planning problems identified in the previous examples

Parameters	Input indicators	Process indicator	Output indicators	Outcome indicators	Impact indicators
- Training of trainers	-Number of RH material prepared in relation to number of trainees - Number of trainees participated - No. of villages represented for the training	-Attendance -Content coverage	- Number of trainees who completed the training - Number of trainees returned to the village	- Number of trainees participated in the village - Number of session held on family planning in the village -No of people who received information of FP	-Number of women who started to use contraceptives - Percent coverage/ CPR
-Establishment of Women's club and use the forum for discussing the FP program	- Number of women's club established -Number of women in each club -Number of villages that have women's club	-Content coverage -Attendance	- Number of women in the club who received FP information - Number of women clubs active	- Number or percent of women using contraceptive methods -Percent coverage/ CPR	-Reduction of fertility rate -Reduction of maternal morbidity and mortality rate
- The involvement of the husband in enhancing FP program	-Number of spouses (husbands) informed about FP -Number of village covered	-Attendance -Content covered	- Number of spouses fully informed about FP	-Number of spouses who accepted contraceptive methods used by their wife. -Number of husbands who used the methods contraceptive methods themselves.	-Reduction of fertility rate -Reduction of maternal morbidity and mortality rate
-Involvement of religious, and other influential and informal leaders for RH program	- Number of participants informed to participate in FP program	- Number of leaders oriented about the FP program	-Number of leaders -Number of leaders agreed to participate in FP programs	-Number of leaders actively involved in FP program -Number of women supported by the leaders	-Reduction of fertility rate -Reduction of maternal morbidity and mortality rate
- Training school children	- Classes formally received FP information - Number of students who received FP information	- Topics covered	- Number of classes covered all contents	- Number of students having good knowledge of FP -Number of students who have favorable attitudes towards the -Contraceptive methods Number of students transmitting information to the village people	- Reduction of unwanted pregnancy - Reduction in criminal abortion - Reduction in maternal mortality rate - Reduction of fertility rate

CHAPTER FOUR

GENERAL ISSUES IN REPRODUCTIVE HEALTH

4.1. Quality of care in Reproductive Health

Quality of care in RH refers to the overall effectiveness and appropriateness of health care. It is about providing services that clients want and includes effectively by the staff.

The following are the elements of quality health care:

- Promotion and protection of health
- Accessibility and availability of services
- Acceptability of services
- Technical competence
- Availability of essential supplies and equipment
- Quality of client provider interaction
- Adequate and relevant information and counseling for clients
- Involvement of clients for decision-making
- Comprehensiveness of care and linkages to other reproductive services
- Continuity of care and follow up

Quality of reproductive health care means:

- Care should be personalized
- Clients should be treated with dignity
- Privacy should be maintained
- Clients should not have to wait a long time before being served
- Health workers should inform about the available services
- Facilities for services should be clean
- Client flow should be well organized
- Routine services should be available at least during normal working hours, and labor and delivery services, and services for complications of reproductive health, which requires emergency care, should be available on a 24 hour a day basis
- An adequate flow of essential supplies and equipment should be maintained
- Supervision should involve working together with staff to solve problems related to provision of reproductive health care

To maintain quality of RH services, well-trained staffs are required who demonstrate:

- Care, sensitivity and thoroughness in informing the client about services available
- Knowledge, attitudes and skills for providing the full range of RH services
- Knowledge of ability to identify real or potential problems
- Capability to take appropriate clinical action in response to the identified problems, including knowing when and where to refer clients with serious problems

4.2. Counseling in Reproductive Health

4.2.1. Definition, Purpose and Key Concepts

a. Definition

Counseling is helping and enabling a person to cope with some of aspects of life. It is a problem solving and decision making process that aims to empower a person(s) to understand and face up to his/her problems and to solve them. Counseling can be done with individuals, families and groups.

b. General purpose

- Encourage behavioral change when change is needed in order to solve or prevent occurrence of a problem (e.g. a couple may be counseled to decide whether to have a child or limit the number of children in family planning).
- Provide support at times of crisis (counseling service for a person living with HIV/AIDS).
- Propose realistic action adapted to different clients and circumstances.
- Assist clients to accept and act upon information on health and well being of individuals.

c. Key Concepts

- Counseling is a two-way communication (interpersonal communication) process in which both client and service provider(s) actively participate.
- Counseling is an ongoing process and must be part of every client-provider interaction in health care delivery.
- The decision to adopt a particular behavior must be a voluntary informed decision made by the client.
- It is the responsibility of the counselor (service provider) to ensure that the client is fully informed about the issue (consent).
- Ensure clients' right to privacy, confidentiality, respect, and dignity.

4.2.2. Principles of Counselling

- Counseling should take place in a private quiet place where client and provider can hear each other, and with sufficient time to ensure that all necessary information, client's concerns, and medical requirements are discussed and addressed.
- Confidentiality must be ensured, both in the process of counseling and the handling of client records.
- It is essential that counseling take place in a non-judgmental, accepting, and caring atmosphere.
- The client should be able to understand the language the provider uses (e.g., local dialect, simple, culturally appropriate vocabulary, no highly technical medical terminology).

- The counselor must use good interpersonal communication skills, including the ability to question effectively, listen actively, summarize and paraphrase clients' comments or problems, and adopt a non-judgmental, helpful manner.
- The client should not be overwhelmed with information. The most important messages should be discussed first and be brief, simple, and specific. Repeating critical information is the most effective way to reinforce the message. Repeat several times.
- Counseling must be available and reachable by people who need it.
- The counselor should respond to emotional as well as practical issues.
- The application of counseling procedures is influenced by culture, tradition and belief systems. Therefore, put into account these facts.
- Always verify that the client has understood what has been discussed. Have the client repeat back the most important messages or instructions.

4.2.3. Where should counseling be offered?

- At office or clinic
- In hospital
- At the persons' home
- Counseling centers
- Or any convenient place

4.2.4. Prerequisites for Good Counseling

- Establishment of mutual trust between client and provider is very important. The provider shows respect for the client and identifies and addresses her/his concerns, doubts, and fears.
- The client and service provider give and receive relevant, accurate, and complete information that enables the individual maintain safe and preventive behavior, cope with the problem and remain productive.

4.2.5. Communication in Counseling

Interpersonal communication

Counseling services are provided using interpersonal communication. This type of communication is conducted in a face-to-face manner. Interpersonal communication is a two-way and dynamic type of communication that helps develop the counselor-client relationship through exchange of information, observation of reactions and the nonverbal messages.

Provision of information, and showing concern by meeting individuals face-to-face motivates and encourages individuals to change behavioral either on individual or group level.

i) Verbal communication

It is important to use clear and simple language. Remember to discuss the most important messages first and last with the client because the client will be more likely to remember them.

CLEAR

C = Use clear and simple language.

L = Listen to what the client is saying.

E = Encourage the client that she/he will be able to use the method with good results.

A = Ask for feedback from the client and acknowledge that their concerns and opinions are valid.

R = Have the client repeat the key points that you have told them about using the method.

ii) Non-verbal communication

Counselors need to explore the different nonverbal and verbal behaviors they use when communicating with clients. Sometimes there could be contradictory messages when one talks and shows gestures. It greatly contributes to the meaning of what one says and feels. Nonverbal communication is important because it communicates to clients the level of interest, attention, warmth, and understanding.

a) Positive nonverbal cues include:

- Leaning towards the client
- Smiling, without showing tension
- Facial expression that show interest and concern
- Maintaining eye contact
- Encouraging supportive gestures such as nodding one's head

b) Negative nonverbal cues include:

- Not making or maintaining eye contact
- Glancing at one's watch obviously and more than once
- Frowning
- Fidgeting
- Sitting with arms crossed

4.2.6. Methods for communicating with clients

a) ROLS

R = Relax the client by using facial expressions showing concern.

O = Open up the client by using a warm and caring tone of voice.

L = Lean towards the client, not away from him/her.

S = Smile

b) Praising clients

Praise means giving of approval. Praising builds on good behavior. The following are some examples of good behaviors by a provider:

- Show that you admire him/her and have concern for his/her well-being
- Look for something to approve of, rather than something to criticize.

c) Encouraging clients

To give encouragement means to let the client know that you believe she can overcome her problems. For example:

- Point out hopeful possibilities.
- Reminding that coming to the clinic was already a helpful measure.

4.2.7. Characteristics and Skills of an Effective Counselor

An effective counselor has the following characteristics:

- Believes in and is committed to the basic values and principles of counseling.
- Is accepting, respectful, non-judgmental, and objective when dealing with clients
- Is aware of her/his own values and biases and does not impose them on clients
- Understands and is sensitive to cultural and psychological factors (such as family or community pressures) that may affect a client's decision to adopt a certain behavior
- Always maintains clients' privacy and confidentiality
- Speaking the client's language helps a lot in understanding each other

4.2.8. Good Interpersonal Communication Skills and Counseling Techniques:

- Relating/empathizing
- Listening actively
- Posing questions clearly, using both open- and close-ended questions
- Answering questions clearly and objectively
- Recognizing nonverbal clues and body language
- Interpreting, paraphrasing, and summarizing client comments and concerns
- Offering praise and encouragement
- Explaining points in language the client understands in culturally appropriate ways
- Knows the technical aspects of the problem thoroughly
- Is able to use visual aids and explain technical information in language that the client understands
- Is able to recognize when to refer the client to the next level care

4.2.9. Common Errors in Counselling

- Directing and leading
- Judging and evaluating
- Mobilizing and patronizing
- Labeling and diagnosing
- Unwanted reassurance
- Not accepting the client's feelings
- Interrogating
- Encouraging dependence

4.2.10. Factors Influencing Counselling Outcomes

In every client-provider counseling session, various factors influence the outcome of the counseling. These factors should all be taken into consideration when conducting counseling.

a. Service Provider Factors

- Provider attitudes and behaviors
- Style of provider (mutual participation model vs. authoritarian)
- Provider knowledge and skills (communication and technical)

- Provider's own value system
- Differences in client-provider caste, social class, gender, or education

b. Client Factors

- Level of trust and respect towards provider
- Feels privacy and confidentiality are assured
- Feels as if s/he is being treated with respect and dignity

c. Programmatic Factors

- Privacy and confidentiality of surroundings
- Social/cultural needs are met
- Overall image of professionalism conveyed by clinic and provider

4.3. Adolescent Reproductive Health

Adolescence is a period between 10-19 years where sexual maturity develops but comes in conflict with social demands. For example unwanted and out of wedlock pregnancy, is poorly tolerated in many societies. If it happens, the blame is usually put on the girl and regarded as disgrace to the family and reduced chance of getting husband. The traditional society solve this problem or conflict by early marriage. The need for improved health and social services aimed at adolescents, including reproductive health services, is being increasingly recognized throughout the world. Spurred on by recommendations from the 1994 Cairo International Conference on Population and Development (ICPD) have created a range of programs to better meet the reproductive health needs of adolescents. Approximately one billion people – nearly one out of every six persons on the planet are adolescents; 85 percent live in developing countries. Many adolescents are sexually active and, in some region, as many as half are married.

Sexual activity puts adolescents at risk of various reproductive health challenges. Each year about 15 million adolescents aged 15-19 years give birth, as many as 4 million obtain an abortion, and up to 100 million become infected with a curable sexually transmitted disease (STD). Globally, 40 percent of all new human immunodeficiency virus (HIV) infections occur among 15-24 year olds; recent estimates are that 7,000 are infected each day. These health risks are influenced by many interrelated factors, such as expectations concerning early marriage and sexual relationships, access to education and employment, gender inequities, sexual violence, and the influence of mass media and popular culture.

Adolescents often lack basic reproductive health information, skills in negotiating sexual relationships, and access to affordable, confidential reproductive health service. Incompetent providers further limit access to services where they exist, as do legal barriers to information and services. Many adolescents lack strong stable relationships with parents or other adults whom they can talk to about their reproductive health concerns.

Despite these challenges, programs that meet the information and service needs of adolescents can make a real difference. Successful programs help young people develop life-planning skill, respect the needs and concerns of young people, involve communities in their efforts, and provide respectful and confidential clinical services. This article reviews the issues that affect adolescent reproductive health, discusses programs that have been implemented and evaluates lessons learned from program experience.

4.3.1. Reproductive Health Risks

Adolescent reproductive health is affected by pregnancy, abortion, STDs, sexual violence, and by the systems that limit access to information and clinical services. Reproductive health also is affected by nutrition psychological well-being, and economic and gender inequities that can make it difficult to avoid forced, coerced, or commercial sex.

Pregnancy: In many parts of the world, women marry and begin childbearing during their adolescent years. Pregnancy and childbirth carry greater risk of morbidity and mortality for adolescents than for women in their 20s, especially where medical care is scarce. Girls younger than age 18 faces two to five times the risk of maternal mortality as women aged 18-25 due to prolonged and obstructed labor, hemorrhage, and other factors. Potentially life- threatening pregnancy-related illnesses such as hypertension and anemia also are more common among adolescent mothers, especially where malnutrition is endemic.

A. Unsafe abortion. Adolescent unwanted pregnancies often end in abortion. Surveys in developing countries show that up to 60 percent of pregnancies to women below age 20 are mistimed or unwanted. In Canada, Great Britain, New Zealand, and the United States in the late 1980s, more than 50 percent of all abortions were obtained by women under 25. Pregnant students in many developing countries often seek abortions to avoid being expelled from school. For example the percentage of women age 20-24 who gave birth by age 20, in some regions are shown below:

China 14%, Latin American/Caribbean 27-50%; North Africa/Middle East 13-41%; Sub-Saharan Afr. 25-75% South Asia 16-66%; Southeast Asia 21-33%; United States 22%.

Induced abortion often represents a greater risk for adolescents than for older women. Adolescents tend to wait longer to get help because they cannot access a provider or because they may not realize that they are pregnant; this risk is compounded in conditions. In Nigeria, for example 50-70 percent of maternal hospitalized for complications of induced abortion are younger than 20;

B. STDs, including HIV. STD infections can lead to life-long health problems, including infertility. Approximately 333 million cases of curable STDs occur each year, available data suggest that one-third of STD infections in developing countries occur among 13-20 year olds. In rural Kenya, for example, 41 percent of women aged 15-24 attending maternal and child health or family planning clinics had an STD, compared to about 16 percent of all women of reproductive age. Adolescents also are at increased risk of contracting HIV/AIDS. Recent estimates are that over 40 percent of HIV infection occur in young people age 15-24; 7,000 of 16,000 new infections each day. New infections among females outnumber males by a ratio of 2 to 1.

Young people tend to be at higher risk of contracting STDs, including HIV/AIDS, for several reasons. Intercourse often is unplanned or unwanted. Even when she is consensual, adolescents often do not plan ahead for condom or other contraceptive use, and inexperienced users are more likely to use methods incorrectly. Furthermore, adolescent girls are at greater risk of infection than older women because of the immaturity of their reproductive system.

C. Female Genital Mutilation (FGM). FGM, the partial or complete removal of external genitalia or other injury to the female genitalia, is a deeply rooted traditional practice that has severe reproductive health consequences for girls are subjected to the practice each year. In addition to the psychological trauma at the time of the cutting, FGM can lead to infection, hemorrhage, and shock. Uncontrolled bleeding or infection can lead to death within hours or days. Some forms of FGM can lead to chronic pain with intercourse, recurrent pelvic infection, and prolonged, obstructed labor. The ICPD Programme of Action calls FGM a basic human rights violation and urges governments to stop the practice. In some countries, such as India arranged marriage of girl younger than 14 is still common. (More on this in chapter fourteen)

D. Commercial Sex

- Sexual exposure is occurring at ages as young as 9-12 years as older men seek young girls as sexual partners to protect themselves from STD/HIV infection. In some cultures young men are expected to have their first sexual encounter with a prostitute
- Adolescents, especially young girls, often experience forced sexual intercourse In sub-Saharan Africa, some girls' first sexual experience is with a sugar daddy who provides clothing, school fees, and books in exchange for sex
- Millions of children live and work on the streets in developing countries and many are involved in "survival sex" where they trade sex for food, money, protection or drugs. For example, a survey in Guatemala City found that 40 percent of 143 street children surveyed had their first sexual encounter with someone they did not know; all had exchanged sex for money, all had been sexually abused, and 93 percent had been infected with an STD. In Thailand, an estimated 800,000 prostitutes are under age 20; of these, 200,000 are younger than 14. Some are sold into prostitution by parents to support other family members

Summary

The challenge of developing effective programs working to improve adolescent reproductive health faces several challenges. They must provide appropriate information and clinical services while helping youth develop decision-making and other key skills. Programs must consider the underlying factors that influence adolescents' choices (such as cultural norms, peer and mass media influence, and economic hardship) and develop program strategies responsive to youth's needs. Programs also must build community and political support for youth-centered activities.

4.3.2. Making clinical services available

Adolescent clinical health services are best staffed by providers trained to deal with specific adolescent health concerns and to counsel adolescents about sensitive reproductive health issues and contraceptive use In all interventions, providers must consider adolescents' marital status, over all health, and how much power they have in sexual Adolescents often name the following characteristics as important to meeting their health ends confidentiality; convenient location and hours; youth friendly environment; open to men and women; strong counseling component; specially trained providers; and comprehensive clinical service.

4.3.3. Providing information

Providing appropriate and relevant information about reproductive health is essential to any program. Clinic-based education and counseling are important to this effort, as are school-based programs. Obviously, parents are a key source of information, although they may feel ill-informed or embarrassed to discuss these topics with their children, or simply may disapprove of young people expressing an interest in sexuality. Youth-friendly approaches such as radio call-in shows, drop-in centers, magazines, and hotlines also can be effective strategies for reaching adolescents.

Adolescents need to develop practical skills for improving their health. One approach to this challenge is the “Choose a Future” program to be implemented such as exercises, role-plays, and community visits, and other means to teach health skills, including how to avoid STDs, set goal, and improve communication with family and friends. The curriculum should also address gender inequities that affect health and promotes shared male-female responsibility for health. Another example of this approach is a life planning skills curriculum being implemented in selected secondary schools in Kenya. In addition to providing information about STDs, pregnancy, and contraception, the program should train peer educators to provide school based AIDS education.

The perspectives of young people around the world are molded by the situations in which they live. Girls with little, if any education may view early marriage and childbearing as their only path in life. Children living in poverty may feel no reason to plan for the future and protect their health. Other factors that influence adolescent health, and behavior include:

- Gender inequities and sexual exploitation
- Cultural expectations about childbearing.

Program planners must first identify clearly what group of adolescents a new program will serve, and then involve them in a meaningful way in the development of the program. Some organization, like the International Planned Parenthood Federation, (IPPF) have done this by creating youth advisory panels to help shape program ideas. The Street Children project, initiated by WHO's Programme on Substance Abuse recommends that groups working with street children keep current of changing needs among their clients by holding three or four series of focus groups per year.

4.3.4. Ensuring community support

Programs for adolescents often encounter problems gaining community acceptance because adults fear that access to education and services will encourage adolescent sexual activity. Program evaluations have shown this not to be the case. Some programs have found that explaining objectives to parents, religious leaders, and community leaders, and inviting them to discussion sessions with adolescents helps reduce opposition. In Nyeri, the Family Planning Association of Kenya helps parents approach their children to share information about reproductive health issues, and encourages a life-long discussion about reproductive health. In Uganda, the Program for Enhancing Adolescent Reproductive life involves government representatives, NGOs, community groups, young people, and other in a program to increase awareness about reproductive health issues, encourage advocacy, and provide service.

4.3.5. Establish Youth-oriented clinic services: These are quite common in some developed and developing countries like United States, Western Europe, and Latin America and of course in some parts of Ethiopia. These clinics must provide a wide range of clinical and social services, such as pregnancy and STD prevention counseling and testing.

4.3.6. School-based clinics: Are available in some developed and developing countries. The services provided vary considerably, but at a minimum include basic health monitoring and referral services. In developed countries, some school-based clinics provide condoms and counseling about pregnancy and STD prevention, as well as referral for other contraceptive and reproductive health services. These services often are controversial, however. In developing countries, school-based services often are limited by restrictive policies, personnel shortages, lack of private areas for counseling, and poor links to resources outside the school. Multi-service youth centers can offer contraceptive services as part of comprehensive programs for youth, including education, recreation, and employment preparation.

4.3.7. Community-based outreach programs (CBD): Are especially important to groups such as out-of school youth, "street" youth and girls who have limited freedom to leave their community. These community-based projects use a variety of formats to reach youth where they gather for "work or play. After attending educational sessions, interested members can be made to join a theater group to perform in public areas and schools to provide information to their peers.

4.3.8. Youth groups: such as scouting and sports programs can also be useful in providing reproductive health information as part of programs that focus on the general well-being of the participants. Programs to improve adolescent reproductive health must understand these risks and consider the many influences on adolescents' lives. Such factors as whether adolescents have initiated sexual activity, are married, are in school, or are working are important. The impact of poverty, gender inequities, legal restrictions, and cultural barriers must also be addressed.

Successful programs should provide necessary counseling and clinical services and aim to help young people develop skills to make healthy life choices. These programs should respect the needs, concerns, and insights of young people by including them in the design and implementation of activities. Successful programs also should work with parents community groups and religious leaders to secure their acceptance.

4.3.9. Participation: With the need for adolescent health services growing fast, it is important that new and expanded programs build upon successful experience wherever possible; established programs should be monitored, evaluated, and documented to ensure that their challenges are understood and their successes are replicated. Any health program should focus on decreasing and preventing adolescents problems such as unwanted pregnancy abortion, STIs', early marriage etc... and this can be achieved through life education of adolescents/young people who need knowledge and ready access to appropriate contraception and reproductive health services.

4.4. Anatomy and Physiology of Adult Reproductive System

Knowledge of male and female reproductive organs and glands is very important to understand the mechanism of action of different family planning methods. It also decreases misconception of family planning users about the effects of contraceptives on their sexual activity. Family planning users with knowledge of the reproductive system develop healthier attitude towards normal sexuality.

4.4.1. Female Reproductive Organ (See figure below)

Female reproductive organ can be divided into external and internal organs.

A. The external sex organs consist of:

1. **Mons pubis (mons veneris):-** this is a fatty pad tissue over the pubic bone. After puberty it is covered with hair.
2. **Labia majora (Outer Lips):-** there are two folds of fat and areolar tissue, covered with skin and pubic hair on the outer surface. They extend from the mons veneris to the perineum where the two lips merge behind.
3. **Labia minora (Inner lips):-** are two thin skin folds lying between the labia majora. Anteriorly they divide to enclose the clitoris.
4. **Clitoris:-** It is a small organ corresponding to the male penis located at the very top of the inner lips. It is highly vascularized and most sensitive part of the female genitalia.
5. **The urethral orifice:-** the external opening of the urethra which lies about 2.5 cm posterior to the clitoris.
6. **The vaginal opening:-** It is the entrance to the vagina and it is partially closed by the hymen, a thin membrane which tears during sexual intercourse or during birth of the first child.
7. **Perineum:-** It is the triangular area, which is found posterior to labia minora and anterior to the anus.
8. **Bartholin's glands:-** these are two small glands which open on either side of the vaginal opening and lie in the posterior part of labia majora. Sometimes these glands become infected.

B. Female Internal Reproductive Organs consist of:

1. **Vagina:-** It is elastic, muscular passage, which lies between the vaginal opening and cervix. It is about 10cm long. The vagina is the female organ of sexual intercourse. It is a passage for fetal delivery and menstrual blood flow.
2. **Cervix:-** It is part of the uterus, which is situated at the lower end of the uterus protruding into the upper vaginal canal. The opening of cervix is called the cervical os. The opening has glands responsible for lubricating the vagina.
3. **Uterus:-** The uterus or womb is a muscular pear shaped organ in the pelvis, situated behind the bladder and in front of the rectum. It leans forward (anteversion), bends forwards on itself (anteflexion). During pregnancy the uterus shelters, supports and nourishes the growing fetus. It prepares for pregnancy each month; following pregnancy it expels uterine contents.

4. **Fallopian Tubes (oviducts):-** There are two fallopian tubes, which extend from the top of each side of the uterus. The fallopian tubes are muscular channels of about 10cm long with ciliated canal that helps in the movement of the ova from the ovary to the uterus. Fertilization takes place in these tubes.
5. **Ovaries:-** There are two ovaries each of which is attached by ligaments to each side of the uterus. They are the principal structures of the female reproductive system. Each ovary produces thousands of follicles, these follicle produces female sex hormones known as estrogen and progesterone, which are released into the blood stream and responsible to the thickening as well as maintaining of the lining of the uterus in preparation for the implantation of the fertilized egg.

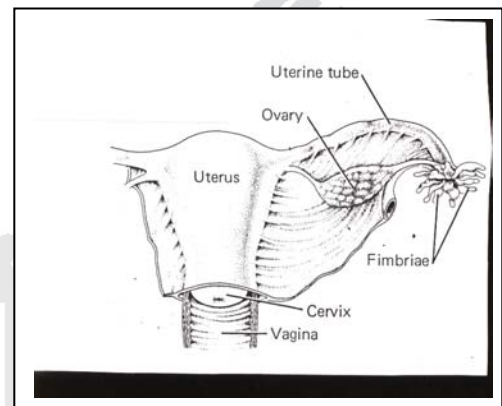
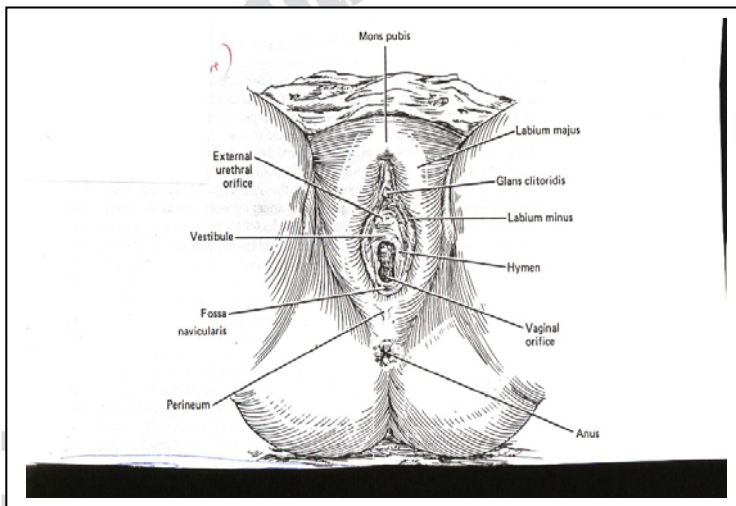


Fig: Female External and Internal Reproductive Organs

4.4.2. Male Reproductive Organs (See figure below)

The male has external and internal sex organs.

A. The external sex organs

These are supporting structures, which are the penis and scrotum.

- **Scrotum:-** The scrotum is a sack of skin, which forms a pouch in which the testes are suspended outside the body. It lies behind the penis and between the thighs.
- **Penis:-** The penis is the primary organ of male reproduction and consists of erectile (cavernous) tissue having the urethra centrally. Its primary function is in sexual intercourse.

B. The internal male sex organs

The internal male sex organs are glands and tubes.

Testes: The testis is a glandular organ situated in the scrotum. For their proper function they should be kept below the body temperature that is why they are suspended outside the body. They are responsible for the production of spermatozoa and testosterone.

Somniferous tubules: They are part of testis where spermatogenesis (production of sperm) takes place. These tubules join to form a system of channels, which lead to the epididymis.

Epididymis: This is a comma shaped coiled tube, which lies on the superior - posterior aspect of the testis. It helps for storage and maturation of spermatozoa. It leads into vas deferens.

Seminal vesicles: They are two long narrow tubes, which carry the sperm from each epididymis to the seminal vesicle.

The ejaculatory duct:- These are muscular ducts that transmit spermatozoa and seminal fluid into the urethra.

The prostate gland:- It is a structure, which surrounds the urethra at the base of the bladder. It produces a thin lubricating alkaline fluid that helps sperm motility and neutralizes the acid in the male's urethra and the female's vagina.

Urethra:- It is a tube, which connects bladder, prostate, and seminal vesicles to the external opening on the penis. It is a passage both for semen and urine.

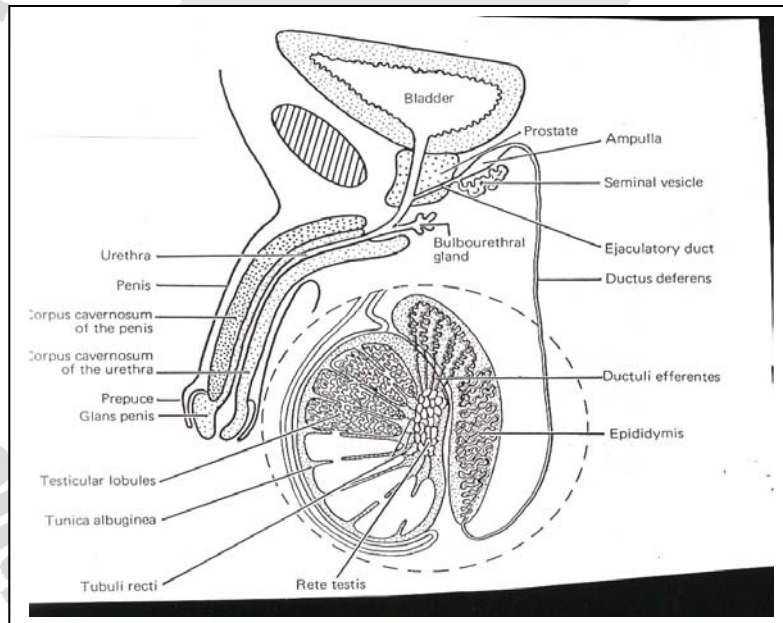


Fig: Male external and internal reproductive organs

4.4.3. Physiology of menstrual cycle

Although each woman has an individual cycle, which varies in length, the average cycle is taken to be 28 days long and recurs regularly from puberty to the menopause except when pregnancy intervenes.

The first day of the cycle is the day on which menstruation begins. There are three main phases in a cycle. Which are controlled by the ovarian hormones.

1. **The menstrual phase:-** It is characterized by vaginal bleeding which lasts for three to five days. In this phase the endometrium is shed down to the basal layer along with blood and unfertilized egg.

2. **The proliferative phase:-** This phase follows the menstruation phase and lasts until ovulation, around the 14th day. This phase is under the control of estrogen and consists of the regrowth and thickening of the endometrium.
3. **The secretory phase:-** this phase follows ovulation,(progesterone and androgens) Progesterone dominates this phase of cycle and prepares the endometrium to receive the fertilized ovum if fertilization occurs. If fertilization does not occur the endometrium sheds again and enters the menstrual phase.

4.5. Infection Prevention and Universal Precautions in Reproductive Health

4.5.1. Infection Prevention

Infection prevention means stopping the passage of infectious organisms between people by always:- making a barrier to body fluids e.g. wearing gloves

- removing infectious organisms e.g. by processing of instruments and by proper waste disposal.

It is the responsibility of a health care worker to protect patients (from infections after procedures), health care workers (from illnesses they might catch at work), families and communities (from illnesses that might leave the clinic) from infection.

Infection prevention procedures

Infection prevention procedures protect both clients and providers from the spread of infectious disease. These procedures are simple, easy, effective and inexpensive.

The process of infection prevention is an essential undertaking in any health facility. Blood, bloody body fluids, semen, vaginal secretions, amniotic fluids, and inflammatory exudates are some of the potential sources and media of contamination and infection.

Infection can be passed from one person to another (client-provider, provider-provider, client-client, provider-client) when infection prevention procedures are not followed and thus fluids pass from one person to another. The infectious organisms can be passed from one person to another through needle pricks(with used needles) or similar puncture wounds or through broken skin(such as open cut or scratch), surgical instruments if it has not been properly decontaminated, cleaned and high level disinfected or sterilized.

Elements of infection prevention processes:

- ❖ Hand washing
- ❖ Asepsis
- ❖ Decontamination
- ❖ Cleaning
- ❖ Disinfection (high level)
- ❖ Sterilization
- ❖ Waste disposal

4.5.1.1 Hand washing

Hands are the most common vehicles for transmitting infections. Hand washing is an essential step in preventing infection. Hand washing mechanically removes microorganisms from the skin, which helps to minimize the transmission of infection. Health care staff should always wash their hands:

- ❖ before and after each patient contact
- ❖ before and after wearing gloves
- ❖ after touching any object that might be contaminated
- ❖ after using the toilet
- ❖ before departure from work

For hand washing we can use soap and pure water; and in the absence of pure water we can use antiseptic soap or alcohol hand rub.

4.5.1.2 Asepsis or Aseptic technique

Asepsis or aseptic techniques are terms used to describe a combination of efforts made to prevent entry of microorganisms into any area of the human body (e.g. Skin, vagina) where they can cause infection. The goal of this technique is to reduce or eliminate the number of microorganisms on skin, tissue, and surgical instruments. Washing with soap and water can help remove microorganisms from the skin. Cleaning of injection sites, the cervix, nor plant insertion and removal sites or minilaparotomy sites with antiseptics are examples of antiseptic techniques used to prevent entry of microorganisms into the human body. Antiseptic solutions kill or inhibit many resident micro organisms including most bacteria and many viruses.

4.5.1.3 Decontamination

This is the process of making contaminated surgical instruments and other clinical objects safer for handling. Decontamination helps to minimize the risk of infection transmission by microorganisms including HIV and HBV.

This process is a very important step to protect cleaning personnel, clients, and other staff from contracting infection from used or contaminated instruments.

4.5.1.4 Cleaning

This is the process of removing visible soil from the instruments and equipments. After decontamination, the instruments should be washed thoroughly in luke warm water and detergent (powdered soap) to remove organic materials. Proper cleaning is the most effective way of reducing the number of organisms on used or soiled instruments.

High-level disinfections or sterilization procedures can only be effective after a thorough cleaning process.

4.5.1.5 Disinfection

Disinfection is a process that helps eliminate most disease causing microorganisms from used surgical or clinical instruments when sterilization is not possible or suitable. After cleaning instruments they should be either sterilized or high-level disinfected.

High-level disinfections (HLD) can be effected by boiling or soaking instruments in various chemical disinfectants. HLD eliminates all microorganisms except some bacterial spores.

A. Boiling

When there is no sterilization facility, or when it is not suitable, the appropriate and alternative method for eliminating microorganisms and viruses is boiling.

B. Chemical disinfections

There are quite a variety of disinfectants. Three commonly used disinfectants are:

- ❖ 1% Gluteraldehyde (e.g. citex)
- ❖ 8% Formaldehyde
- ❖ 6% Hydrogen peroxide

4.5.1.6 Sterilization

This is the process to totally eliminate microorganisms, including spores, from inanimate objects using heat, water, chemicals or gases. Bacterial spores are particularly difficult to destroy with any other disinfections that are used. Materials used in invasive procedures should be given a standard length of time so that the micro-organisms totally destroyed.

Methods are:

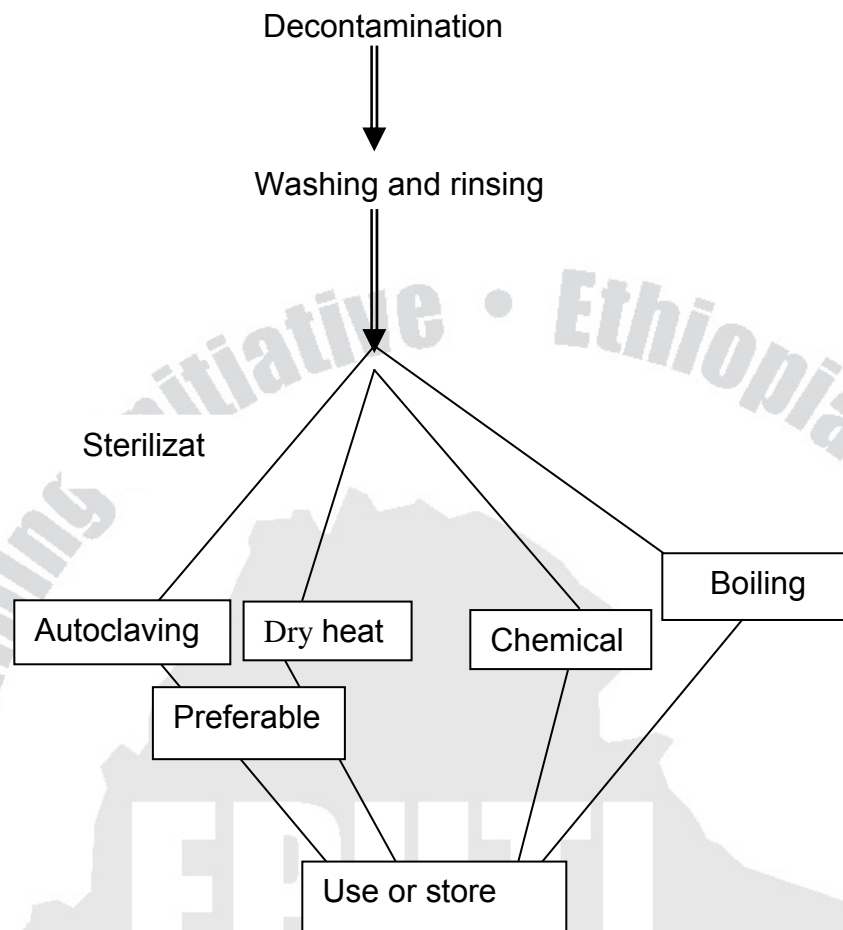
- ❖ Heat sterilization- steam under high pressure (autoclave), Dry heat
- ❖ Chemical sterilization (cold sterilization)

Equipment can be sterilized by soaking in high-level disinfectant chemicals for prolonged time. High level disinfectants will kill spores over prolonged exposure.

Eg -2% Gluteraldehyde solution (oidex)

- 8% Formaldehyde (at 20% Formol or Formal in solution)

Processing instruments for infection prevention:



4.5.1.7 Waste Disposal

Waste disposal is a process of removing all waste products from a health care facility to prevent contamination of personnel and /or the environment. It is very important that wastes are disposed off properly to minimize the transmission of microorganisms that cause infections.

4.5.2 Universal (Standard) Precautions

These are techniques that apply to blood; all body fluids, secretions and excretions, except sweat, regardless of whether or not they contain visible blood; nonintact skin (wounds, cuts, scrapes, ulcers), and mucus membranes.

The standard precautions include:

1. Hand washing before and after every patient contact, procedure or contamination. This removes infectious germs that can transmit infection via touch.
 - ❖ Use soap, if possible, and clean, flowing water
 - ❖ Wash all surfaces of hands
 - ❖ Use clean towel or air dry
2. Using barriers [gloves, gowns, masks, goggles (protective eye wear), aprons]. This reduces the risk of exposure to infectious agents.

3. Safe disposal of infectious waste (general or non hazardous wastes like paper, bottles and medical wastes which are materials containing fresh or dried blood or body fluids). These wastes have to be disposed by careful incineration or deep burial. This prevents contaminated items from being picked up by members of the community.
4. Safe processing of instruments for reuse (during decontamination, cleaning, sterilization or high-level disinfection and storage or immediate use).
5. Safe handling of sharp instruments: sharp items (e.g. Needles, scalpel, blades) should be considered potentially infective and be handled with extraordinary care to prevent accidental injuries; i.e., they should not be purposely bent, broken, removed from disposable syringes, or otherwise manipulated by hand. They should be placed in puncture resistant containers located as near as is practical to the area in which they were used.
6. Treating all blood and body fluids of all patients, as if infectious. Spills of blood or other body fluids should be cleaned with soap and water or a household detergent (e.g. freshly prepared solutions of sodium hypochlorite in concentration of 1:10 dilution). Persons cleaning spills should wear gloves.
7. Maintaining a clean environment (including patients, instruments and environment).



CHAPTER FIVE

ANTENATAL CARE SERVICE

(Also See the Module on Safe Motherhood Initiative)

5.1. Aims/Purposes of ANC

Ante natal Care (ANC) is the care given to pregnant mothers so that they have safe pregnancy and healthy baby. It also helps in minimizing complications of pregnancy, labour, the post partum and neonatal periods.

The purpose of ANC is to care for pregnant mothers and to have all births attended by trained personnel, and to identify pregnancies where risk is high and provide special care for the mother and the infant.

There is a large body of evidence from routine statistics and special studies to suggest that women who have received prenatal care experience lower rates of maternal mortality.

Major activities during ANC visit include hemoglobin measurement to correct anemia, blood pressure measurement to detect hypertensive disorders of pregnancy, and treatment of sexually transmitted diseases and urinary tract infections, malaria and other infectious or parasitic diseases and immunization against tetanus.

Ante natal care can also play a role in identifying danger signs or predicting complications around delivery by screening for risk factors and arranging for appropriate delivery care when indicated. Risk assessment has proven most useful in the prediction of obstructed or prolonged labour based on height and previous poor obstetric history (for example, caesarean section, still birth). A history of previous postpartum hemorrhage or retained placenta may be indicative of a woman at risk of postpartum hemorrhage.

Mothers have to be encouraged to register for ANC as soon as they know they are pregnant.

Aims/Purposes of ANC can be summarized as:

1. To have a safe normal delivery of a healthy mother and baby at term.
2. To detect and treat complications during pregnancy.
3. To help the mother be healthy during pregnancy.
4. To advise the mother on ways of caring for herself during pregnancy.
5. To promote breastfeeding.
6. To give tetanus toxoid (TT) immunization.
7. To advise the mother on ways of caring for the new born.
8. To give health education on nutrition, breast-feeding, immunization, personal hygiene, rest, recreation ... etc.
9. To care for pregnancy and to increase the number of births attended by trained health workers.

Note: All mothers have to be encouraged to register for antenatal care as soon as they know they are pregnant. ANC clinic can be held in a hospital, health center and private clinics and health post.

5.2. Activities during the First Ante Natal Care Visit

History taking

- Detail history of mother's general health, past obstetrical record, and present obstetric condition.
- Previous obstetric problems during pregnancy or delivery should be given especial emphasis.
- Also one has to include details such as age, marital status, support, number of children, home condition, occupation, and family or social problems.
- Diagnose pregnancy – do pregnancy test if service is available.

Physical Examination

- Weight, height, blood pressure should be recorded.
- Mothers' general condition and the size of the pelvis.
- Palpation: to detect fetal position, growth and development
- Auscultation: to detect fetal heartbeat.

Laboratory Examination

- Laboratory examination of blood to test for anemia and to determine the blood group and Rh.
- VDRL test for syphilis is one of the important tests to be done irrespective of any condition provided that the facilities are available. VDRL test is given emphasis because syphilis has a grave impact on the fetus, and then on the new born.
- Stool: for ova and parasites
- Urine: for glucose, ketone bodies and proteins.
- Examination of urine is important to detect urinary infection or preeclampsia.

Treatment

- Treat anemia with iron tablets
- Give advise to mothers not to discontinue the drug and about the side effects.
- Treat syphilis and other health problems such as malaria, intestinal parasites. Etc.
- Give vitamins to supplement the diet.
- Immunization: Tetanus Toxoid.

Protection: 2 doses of tetanus toxoid protect for 3 years, 3 doses for 5 years, 4 doses for 10 years and 5 doses for life.

- Educate the mother on danger signs of pregnancy

5.3 Second and Following ANC Visits

- Measure blood pressure, if $>$ or $=140/90$, then refer the patient to a higher institution
- Measure fundal height
- Calculate gestational age
- Give TT as indicated
- Do Laboratory tests depending on the 1st visit or presence of current problems

5.4. Minimum Level of Antenatal Care

The WHO currently recommends antenatal visits which are more target oriented. The pregnant woman is expected to have four ANC visits. The schedule and the purpose of each visit is outlined as follows:

- First visit by the end of the fourth month (16 weeks) – to screen and treat anemia and syphilis, screen for risk factors and medical conditions that can be best dealt with in early pregnancy, and initiate prophylaxis if required (e.g. for anemia and malaria) and begin to develop individualized birth plan.
- Second visit – 24 to 28 weeks – Assess for anemia and syphilis in high risk, follow fetal growth.
- Third visit 32 weeks – to screen for preeclampsia, multiple gestation and to further develop individualized birth plan.
- Fourth visit 36 weeks – to identify fetal lie/presentation and update the birth plan: screen and treat for anemia.

5.5. Health and Nutrition Education during ANC

Health education should emphasis on:

- Course of pregnancy (fetal movement, and common problems like bleeding, vaginal discharge and fever), labor and delivery
- Diet and nutrition. The mother has to be advised not only on the importance of food but also on extra foods and weight gain. A woman has to gain 10 - 12 kgs during her pregnancy.
- Alcohol, tobacco and drugs. A pregnant woman has to be advised to avoid alcohol, tobacco, and drugs during her pregnancy.
- Personal hygiene
- Signs of labor - the woman should contact TTBA or health facility.
- Traditional beliefs and practices
- Preparation for delivery and breast feeding
- Care for the new born
- Family planning

5.6. Weight Gain during Pregnancy

Pre-pregnancy weight and weight gain in pregnancy are both critical and additive in their effect on pregnancy outcome. Equal emphasis should be given in assuring that both are normal.

A pregnant mother has to have weight measurement a month apart, anytime during the second or third trimester. A gain of less than one kg per month is a danger signal, with no weight gain or weight loss being even more severe and calling for immediate action, such as food supplementation directly for the woman.

Mothers should be weighed and counseled at the available opportunity present either during ANC or when they bring their children for immunization or growth monitoring,

Arm circumference is the most feasible measurement to implement. The same cut-off point can be used to identify under nutrition in or out of pregnancy and ranges from 21-23.5cm depending on the country or region. Because of the simplicity of arm circumference technology, which requires only an inexpensive tape, women can measure each other in their own homes.

5.7. Risk Approach in Maternal Care

Risk approach is a managerial tool for health services to identify people at risk as early as possible and intervene in order to reduce the risk.

- What is the basic concept behind this approach?

All women in reproductive age group are vulnerable to disease, death and disability. However, all women are not equally vulnerable and this approach helps to identify mothers who are at a higher risk than others with a lesser risk.

Purpose

The main objective of the at – risk approach is the optimal use of existing resources for the benefit of the majority .It attempts to ensure a minimum of care for all while providing guidelines for the diversion of limited resources to those who most need them. That means

- To care for all but to pay special attention to those in greatest need.
- The diversion of limited resources to those who most need them.

Detection of risk factors requires

- knowledge of the characteristics associated with poor outcomes and
- The ability to recognize and measure them.

Criteria to identify high risk women

Identification of high- risk women can be based on two classifications

1. Relationships between the risk factor and adverse out come

- Causative or triggering - maternal malnutrition, LBW, placenta previa, congenital malformation
- Contributory - grand multiparty can lead to transverse lie, prolapse of the cord
- Predictive or associative - previous foetal loss

2. Biological, medical, social condition

- Biological - Age, birth interval, weight gain
- Medical - diabetes, obstetric complication, pre eclampsia, health care utilization
- Social - work load, birth attendant, economic status

Risk scoring system (RSS)

For detecting risk factors and classifying pregnant women according to risk.

Steps to develop RSS

- Identify risk factors
- Categorize risk factors
- Scoring marks - to each risk factor according to severity and effect on pregnancy, labour and puerperium

RSS has to be done **based on the actual risk in the population.**

Consideration in risk scoring

- Can be different in different circumstances depending on the types of health problems, personnel, facilities, and equipment etc.

Always screening has to be done during

- Pregnancy
- Labour
- Puerperium

Choose cut of points to balance

- serious outcomes of false negatives and
- inconvenience and waste of resources- false positive

Risk factors identifiable in ANC include:

- Age under 18 or above 35
- Primigravida
- Previous caesarean section, vacuum, forceps or destructive delivery
- Previous prenatal death, stillbirth
- Previous ante partum hemorrhage
- Previous post partum hemorrhage
- More than 6 pregnancies
- Multiple pregnancies
- Hydramnios
- Pre eclampsia and eclampsia
- Diabetes, cardiac problem, renal disease etc.

5.8. Role of Trained Traditional Birth Attendants (TTBAs)

In general trained traditional birth attendants are important and helpful in advising and referring during pregnancy & delivery. Because TTBA's can easily identify problems such as

- Young primigravida
- previous pregnancy problems
- short stature (depending on local norms of risk)
- bleeding before or during labour
- pre mature rupture of membrane

They also play important role in disseminating family planning

CHAPTER SIX

LABOR AND DELIVERY CARE

6.1. Definition of labor

Labor is function of the female by which the products of conception fetus, amniotic fluid, placenta, and membranes are separated and expelled from the uterus through the vagina into the outside world.

Comparison of true and False Labor

True Labor

- Pains at regular intervals
- Intervals gradually shorten
- Duration and severity increase
- Pain starts in back and moves to front
- Walking increases the intensity
- Association between the degree of Uterine hardening and intensity of Pain
- Bloody show often present
- Cervix effaced and dilated
- Descent of presenting part
- Head is fixed between pains
- Sedation does not stop true labor

False Labor

- Irregular
- No change
- No change
- Pain mainly in front
- No change
- No relationship
- No show
- No change in cervix
- No descent
- Head remains free
- Efficient sedative stops false labor pains

6.2. Stages of Labor

6.2.1. First Stage

From the onset of true labor to complete dilatation of the cervix, it lasts 6 to 18 hours in a primigravida, and 2 to 10 hours in a multipara.

6.2.2. Second Stage

From complete dilatation of the cervix to the birth of the baby, it takes 30 minutes to 3 hours in a primigravida, and 5 to 30 minutes in the multipara. The median duration is slightly under 20 minutes in multiparas, and just under 50 minutes for primigravidas.

6.2.3. Third Stage

From the birth of the baby to delivery of the placenta, it takes 5 to 30 minutes.

6.2.4. Immediate post partum period

From the birth of the placenta until the postpartum condition of the patient has become stabilized (generally 6 hours after birth).

6.3. Delivery Care

6.3.1. Why concern for delivery service?

Labour and birth always have natural and good outcome unless pathogens are introduced into uterine cavity. However, many underlying factors contribute to maternal death during pregnancy.

The underlying causes include:

- Prolonged labour, when the membranes are ruptured, predisposes both mother and infant to sepsis.
- Obstructed labour can cause ruptured uterus and death from hemorrhage.
- Pre-eclampsia can develop to eclampsia
- Eclampsia, is the stage where the woman can develop convulsions, rapidly loses consciousness and dies from brain hemorrhage or failure of the heart, kidney or liver.
- Retained products can cause puerperal sepsis.
- Retained products and puerperal sepsis in turn lead to secondary postpartum hemorrhage.
- Most obstetrical complications can lead not only to death, but also to serious problems for those who survive (for example, asphyxia and low birth weight among infants, prolapse and fistula among mothers).

Based on an estimate prepared by WHO on the Global Burden of Disease, hemorrhage is reported to cause just over a quarter of direct obstetric deaths, induced abortion 13 percent, sepsis 15 percent, hypertensive disorders such as eclampsia about 12 percent, and obstructed labor and other causes each about 8 percent.

Health workers must be equipped to manage all obstetrical complications as well as their poor consequences. Most obstetrical complications can lead not only to death, but also to serious problems to neonates such as asphyxia and low birth weight and prolapse and fistula among mothers.

Some complications lead more rapidly to death than others. Postpartum hemorrhage can lead to death in a matter of hours, whereas for infection, eclampsia and obstructed labor, there are usually several days between the onset of complications and death. This time factor needs to be taken into consideration when developing management protocols.

Hemorrhage is more common among multifarious women, following unsafe abortion, in cases of antepartum hemorrhage, prolonged labor or retained placenta, or among women with a history of problems in delivering the placenta.

Active management of the third stage of labor, including parenteral (usually intramuscular) oxytocics, reduces the incidence of postpartum hemorrhage and the need for transfusion by 60 percent. According to WHO active management with an intra-muscular oxytocic following delivery and as soon as the attendant is sure that the pregnancy is not multiple, is recommended for all institutional deliveries, as well as for home deliveries conducted by skilled attendants.

The relative effectiveness and safety of the use of oxytocics by trained birth attendants in home deliveries will vary from place to place and with their level of training. A risk approach has been advocated, in which those judged to be at high risk of hemorrhage (particularly those with previous third stage complications), are referred for institutional

delivery, with active management and prophylactic oxytocics, while low risk women are allowed to deliver at home (where these are not available).

A proportion of the cases of obstructed labor can be predicted, well before labor, from previous obstetric history and height, so that arrangements can be made for adequately supervised labor with access to operative delivery if required.

The use of the partograph in labor leads to earlier diagnosis of prolonged labor and more timely intervention or transfer, which can improve the survival chances of mother and infant. (Annex IV)

Sepsis at delivery can be prevented by minimizing vaginal examinations and ensuring clean delivery practices. Clean delivery practices can be promoted through education of women, training of trained birth attendants and other health care staff and provision of adequate equipment and supplies. Early detection of puerperal sepsis depends on careful postpartum surveillance of women at home.

Mortality from hypertensive diseases of pregnancy are the most difficult to prevent. Referral centers are important in reducing mortality from hypertensive disorder. Thus, early detection, education to promote recognition of danger signs, and referral are necessary.

6.3.2. Management of Normal Labor and Delivery

A. Initial Assessment

- Appropriate history and physical examination
 - Obtain client's prenatal record
 - Review prenatal data upon admission
 - Pay attention to the time of onset of contractions
 - Determine the status of the fetal membranes
 - Note the presence or absence of vaginal bleeding
 - Monitor fetal activity
- On admission physical examination should include:
 - Client's vital signs
 - Notation of fetal position and presentation
 - Recording the fetal heart rate
 - Recording the frequency, duration and quality of uterine contractions
 - If no contraindications to pelvic examination exist, the degree of cervical dilatation, effacement status of the membranes, and type and station of the presenting part should be noted.
- Necessary Lab. Tests

B. Assisted Spontaneous Delivery

i. Goals

- Reduction of maternal trauma
- Prevention of fetal injury
- Initial support of the newborn.

ii. Episiotomy

An episiotomy is an incision into the perineal body made before delivery to enlarge the area of outlet and thereby facilitate delivery.

a) Advantages:

- Substitutes ragged spontaneous lacerations
- Reduces the duration of the second stage
- Reduces trauma to the pelvic floor musculature
- Reduces fetal distress

b) Disadvantages

- Increased blood loss (if made early)
- Painful postpartum course

6.3.3. Important points to Remember during Labor and Delivery

Trained health worker should attend mother and baby during labor and delivery. Delivery should be conducted under hygienic conditions.

The five basic factors in delivery care also known as 'the five clean' are:

- Clean hands
- Clean delivery surface
- Clean cutting of the cord
- Clean environment
- Clean perineum

After delivery the mother should be allowed to rest. The umbilical cord should be cut with sterile or new razor blade. The umbilical cord should be tied securely with sterile tie. Local boiled string can be used. It is very important to avoid local applications like butter, cow dung, etc. The newborn has to be kept clean, warm and put to the breast. Apply gentian violet to the umbilical stump. Apply antibiotic eye ointment to the newborn's eyes. After delivery the mother should be advised on personal hygiene, rest, nutrition, breastfeeding, postnatal clinical appointment, immunization of the newborn, and family planning.

6.4. Advice to TTBA's

Recommendation for TTBA's

TBA's – who assist 60% -80% of deliveries throughout the world are called by different names such as "comadrone", co mother of clients in Latin America. The name explains their importance.

One of the primary aims of Traditional birth attendant training programs throughout the developing world is to promote clean delivery in the home through deduction and provision of basic supplies such as, sterile razor blades and washable plastic sheets. It is, however, difficult to ensure cleanliness in all deliveries, particularly where access to clean water is limited.

Educating trained birth attendants, women, their families, and community health workers to recognize the early signs of delivery problems including sepsis is a very important activity to save the life of the mother and the new born.

Always advise the TTBA's that the most elementary knowledge in delivery care is the 5 c's that are outlined above.

And always remind TTBA's

- To prepare materials in advance
- To avoid massage
- To avoid vaginal examination
- About handling of the cord
- About care for the newborn
- About referral
- About recording. (Recording is a compulsory for TTBA's) and Supervision of TTBA's is important and mandatory.

Some traditional practices of TBAs are sound and helpful

- allowing presence of relatives
- encouraging walking around
- allowing free position in delivery
- Placing the baby at the mother's breast even before umbilical cord is cut.

Note:

- Prolonged and/or complications of labor should be recognized and the mother has to be referred for specialized care as fast as possible. TTBA's should always remember the old Chinese saying " Never wait labor until the sun sets twice on a laboring mother".
- All health workers at all levels including TTBA's have to record and report every delivery they have attended.

6.5. Some of the Major Problems to be Addressed During Pregnancy, Delivery and Neo Natal Periods

A. Hemorrhage

It can occur during pregnancy, delivery and post partum period.

During pregnancy it can occur at

1st trimester due to abortion

2nd trimester due to placental location and pre term labour

3rd trimester - Abnormal placental location , premature separation of placenta, or premature labour. Or

During delivery - uterine or placental bleeding or due to traumatic damage to vagina or cervix. Or

Post Partum Period - Non involution of the uterus

As stated before largely most problems are preventable. This point is very convincing when one sees the major predisposing factors for both ante partum and post partum hemorrhage

Predisposing causes for Ante partum hemorrhage

- Placenta praevia
- multiparty
- increases with age
- scarred uterus
- Multiple pregnancy

Predisposing causes for abruption placenta

- common in patients with hypertension
- Trauma
 - Injuries to abdomen
 - Excessively hard work
 - Emotional Trauma

Predisposing causes for Post partum hemorrhage

- atonic uterus
- history of post partum hemorrhage , increased chance for recurrence
- High parity
- Multiple pregnancy
- anaemia – causing poor contraction
- prolonged labour
- Trauma – this can show quality of care

As the predisposing causes show virtually all are preventable with proper and regular ante natal care.

Delivery in such high risk mothers should be followed by active management of the third stage of labor.

Anaemic Women have

- risk during child bearing
- less tolerance to blood loss (bleeding)
- high risk for anaesthesia and operative delivery
- Poor pregnancy outcome
- bleeding, illness, death during delivery
- still birth,
- poor foetal growth
- pre term labour
- low birth weight (serious effect on infancy)
- If anemia is severe - directly - congestive heart failure
indirectly - Hemorrhage
- If anemia is moderate - poor ability to recover form hemorrhage and infection

B. Infection

Infection is prevalent among the disadvantaged and risk increases by factors like anaemia, malaria, goitre, malnutrition. Maternal infection is a serious problem as a result of the vicious cycle caused by low caloric intake, heavy work load and infection.

It is also compounded by pregnancies at young age and too many pregnancies too close together.

Poverty also perpetuates the problem through illiteracy, poor sanitation, inadequate housing (crowding), and inadequate and unsafe water.

Malaria

Malaria is a cause of severe under weight during birth and 3 million infants are affected in Africa. It is common at first pregnancy.

During pregnancy

- the risk of getting malaria increases two times
- the risk of cerebral malaria is high

- It causes severe anaemia
- Spontaneous abortion
- Pre mature labour
- Still birth
- Low birth weight

Wherever malaria is common pregnant women should take anti malarial tablets throughout pregnancy.

STD and pelvic Infections

- Grave consequence on mother and child
- Acquired through sexual activity
- Poor obstetric and gynaecological outcomes specially associated with
 - Induced abortion
 - Spontaneous abortion
 - Child Birth

Fatality depends on the type of organism and the organs affected

The effects and complications of STD & pelvic infections include

- tubal scarring - infertility
- ectopic pregnancy - bleeding and death
- spontaneous abortion - bleeding and death
- pre mature rupture of membrane - infection
- congenital anomalies
- blindness
- mental retardation etc.

HIV/AIDS

The spread of AIDS is increasing rapidly specially in sub-Saharan Africa and other developing countries; putting stress on the already strained health care system.

Magnitude

According to the WHO estimate 16,000 people are infected every day and there are 3 million infected women and it is becoming a serious threat and alarmingly increasing in pregnancy. In countries like Rwanda 18.3% of women who came for Ante Natal Care were found to be HIV positive in a routine screening. This condition is further aggravated as a woman with AIDS has a 25-40% chance of passing on HIV in the womb or at birth to the newborn. The number of children born with HIV is reported to be 3.8 million.

The Ministry of Health reported that chance of transmitting in the uterus for an Ethiopian woman is 35%.

With the current state of spread and infection rate, in few years time, AIDS will be the major cause of maternal mortality. AIDS also may lead to doubling of maternal mortality.

Poverty is certainly related with AIDS and as a cause of death .Some of the reasons are:

- poor health care
- poor availability of drugs that help HIV patients to live long
- crowding (increases transmission)
- malnutrition further lowers immunity
- water borne infections etc.

The above statement clearly reflects the current state of poverty in the developing countries and their inability to combat AIDS.

Prevention

- There is an urgent need for increased understanding of magnitude of the epidemic and its local and global dimension.
- Promotion of action & sound policy at a national level is mandatory to
 - prevent transmission
 - focus on children, family and community
- Intervention must give emphasis on Health Education
 - importance is well proved in countries like Thailand and Uganda
 - health education at all levels and due attention to address specific problems such as religious and cultural issues(e.g. where people can't speak of condom, and sexuality).
- Promote abstinence before marriage or faithfulness to one partner
- Screen blood
- Reduce mother to child transmission

C. Obstructed labour

Obstructed labour occurs when there is no advance of the presenting part of the fetus despite good uterine contraction. Teenage pregnancy is a serious risk factor and mostly occurs in first delivery. Thus it is mainly the problem of early adolescent pregnancy.

Causes can be

Abnormalities in

- the mother – commonest is small pelvis (usually because of malnutrition)
- the presentation – e.g. Brow or shoulder presentation
- the foetus – e.g. Very big baby

In mothers - pay attention during Ante Natal Care

- small stature
- primigravida
- multipara

- Nutritional deficiency is an important factor for obstructed labour.

Why?

- Malnourished girls who grew up stunted may have small pelvis.

Obstructed labour has a serious and devastating effect of fistula, either recto vaginal or vesico vaginal.

Major problems of fistula are

- Urinary or faecal incontinence
- Rejection by husbands
- Outcasted by their community for life if untreated
- Self loathing

D. Hypertensive Disorders of pregnancy (toxaemia of pregnancy)

- It is a condition peculiar to pregnancy that can be found after 20 weeks gestation and defined as blood pressure $\geq 140/90$ mmHg.

Pre- eclampsia, if it is not treated and recognized early it can progress to eclampsia, the severe form, which is manifested by convulsion and coma.

Common in

- Primigravida - specially teenage mothers and in women over 35 years
- Multiple pregnancies
- when there is a new partner
- it can be superimposed on essential hyper tension

Conditions that increases the rate of maternal death due to unrecognized toxemia includes

Low socio economic status

Lack of public health care

Lack of prenatal care etc.

- Therefore, refer all pregnant mothers with blood pressure > 140/90.



CHAPTER SEVEN

NEONATAL CARE

7.1. Routine Delivery Room Care

Routine delivery room care begins some hours before delivery and continues until the conditions of the mother and newborn become stable.

Routine delivery room care can be given:

- A) Before delivery of new born
- B) After delivery of new born

A. Care before delivery of newborn includes

1. Preparation for safe delivery care

This involves any activities that avoid contamination to the delivery process like:

- Clear hands before and after any procedure
- Clean perineum with appropriate antiseptics
- Clean delivery surface
- Clean and sterilize delivery kit
 - New/ boiled razor blade
 - Boiled and rust free scissors
 - Guaze
 - Cord tie

2. Preparation for care of the newborn

- a) Select a preferable area to place the coming newborn
 - Near to the delivery area
 - Warm, well ventilated and illuminated
- b) Clean the surface that is chosen to place the newborn and cover it with a clean plastic sheet, towel or any other maternal, which can be changed when it becomes wet.
- c) Prepare important materials for neonatal care
 - Clean and dry towel
 - Clean and dry cloth
 - Basic materials (equipment) of resuscitation

B. Care after delivery of newborn

1. Immediate assessment
2. Maintaining body temperature (heat) putting the baby on the mother's abdomen immediately helps to conserve heat loss from the baby.
3. Infection preventions
4. Providing adequate nutrition
5. Give Vitamin K
6. Label identification
7. Give health education
8. Follow up

7.2. Immediate Assessment

After the delivery of the newborn things which should be done immediately are

- Assess the newborn for the establishment of respiration.
- Determine the APGAR score and undertake neonatal resuscitation for those in need.

7.2.1. Assess the newborn for the establishment of respiration

Most newborns start spontaneous breathing within the first few seconds and if breathing is not established yet.

a) Make sure the airway is open

Remove things which can obstruct the airway (mucus, blood, meconium, and maternal feces etc..)

- Clean the mouth and the nose with clean gauze
- Using a clean, dry cloth rub the baby head to foot, wrap with a dry cloth – this provides tactile stimulus.
- Gentle suction of the oropharynx using bulb syringe or soft rubber catheter

N.B Vigorous suction is dangerous for the fact that it could traumatize the pharynx and provoke vagal stimulus and cause bradycardia.

Positioning the newborn correctly. The neck should be placed slightly extended while the newborn is in his back

- b) Avoid factors that delay the establishment of respiration. Since hypothermia is commonly incriminated factor prevent it by dry and wrap the newborn with clean towel.
- c) Assess the establishment of breathing. If the baby is not breathing or respirations are less than 30 or gasping, start resuscitation.

This decision about resuscitation is made before the 1 minute APGAR score. If resuscitation is needed, proceed to position and ventilate.

7.2.2. Determine the APGAR score

APGAR score is a quantitative clinical evaluation of the state of the newborn after delivery, which should be done simultaneously with the trials of the establishment of breathing. For accurate timing, start the clock the moment the infant is free from the mother body not when the cord is clamped and it is determined at the 1st and the 5th minutes.

APGAR scoring

Sign	Scores		
	0	1	2
Heart rate	Absent	<100	>100
Respiratory effort	Absent	Slow (irregular)	Good, baby cry
Muscle tone	Limp	Some flexion of extremities	Active motion
Reflex	No response	Grimace	Cough/sneeze
Color	Blue/pale	Pink body, blue extremities	All pink

Implication of the first minute APGAR score

If it is below seven at the first minute neonatal resuscitation actions should be started immediately

7.3. Maintaining body heat

At birth the infant's temperature is about the same as its mother's, but because the infant has little fat insulation, a large body surface and relatively poor circulation and because it does not sweat or shiver yet, its ability to regulate body temperature is poor.

New born lose heat quickly after birth because of the following reasons:

- Convection of heat energy to the cooler surrounding air
- Conduction of heat to colder materials on which the infant is resting
- Radiation from the infant to other nearby solid objects
- Evaporation from moist skin and lungs (a function of alveolar ventilation)

Neonatal hypothermia may ultimately lead to respiratory distress as the baby tries to increase its metabolic rate to generate heat. An increased metabolism requires more oxygen, and the infant is limited in ability to increase oxygenation. Therefore making the newborn cold is very dangerous. The following are important measures to prevent the newborn getting cold.

- Keep the delivery room warm
- Avoid the newborn from being naked
- Don't place the newborn on cold surface
- Advise kangaroo mother care
- Provide skin-to-skin contact between the mother and the newborn to deliver un-interrupted use of adult body heat
- Delay washing of the newborn for 12-24 hours to avoid unnecessary cooling.

7.4. Infection Prevention

During the newborn period infections are very common cause of morbidity and mortality. The newborn lacks the necessary defense against disease causing organisms such as bacteria, virus and fungus. Therefore it is important:

- To be aware of the possibilities of infection and to know high risk factors.
- To recognize localized infections in order to treat them early, before generalized infections occur.
- To recognize the sign of generalized infection as early as possible
- Most important is to practice preventive measures in routine newborn care.

7.4.1. Measures to prevent infection during routine newborn care

1. Hand washing. All persons involved in the delivery room and nursery should use chlorhexidine for routine hand washing before caring for each infant
2. Use of barrier methods: Clean gloves, cover gowns or scrubs are worn
3. Antiseptic skin and cord care.

Cord tying

- Use tape (string elastic) bands-sterile only.
 - Measure two fingers away from the skin surface, tie a square knot in two places and then cut between the knots.
 - Apply gentian violet or clean and dry iodine on the cut surface to prevent infection.
- To reduce the incidence of skin and periumbilical colonization with pathogenic bacteria and infections (omphalitis), the entire skin and cord should be cleansed, once and infant's temperature has stabilized, with sterile cotton soaked in warm water or a mild, non-medicated soap solution.
- To reduce colonization by staphylococcus aureus and other pathogenic bacteria, the umbilical cord may be treated daily with triple dye, a bactericidal agent, or bacitracin or alternatively, chlorhexidine washing

4. Eye care

The eyes of all infants should be prevented from any infection through prophylactic eye drops and avoiding traditional practices. Instilling 1% silver nitrate drops-to protect against gonococcal infection. Erythromycin (0.5%) and tetracycline (1.0%) sterile ophthalmic ointments are alternative measures.

5. Treat maternal infections including STDS if there is any. Provide adequate nutrition

An important function of the health personnel is to assist and teach new mothers about feeding techniques. Nutrition is extremely important in the first few months of life because the brain grows rapidly then. If infants appear to be in satisfactory condition, they may be given directly to their mothers for immediate bonding and nursing.

Encourage only breast-feeding; discourage absolutely any form of bottle-feeding and extra-feedings. First time mothers may need more help, be patient, and find a comfortable position for the mother. Lying down is often easier to begin with.

Give Vitamin K

Helpful for all babies but especially those have been subjected to long labour, injury, cephalohaematoma and small babies. Therefore intra muscular injection of 1 mg water-soluble Vit. K is recommended for all infants immediately after birth to prevent hemorrhagic disease of the newborn.

7.5. Label Identification

When babies are born in health institutions it is necessary that they are readily identifiable one from another. Name bands are usually applied one on the infant's wrist and the other on the ankle, each of which should indicate legibly, the family name, sex of the infant, and date and time of birth. We have to be sure that the name bands are fastened securely and are neither too tight, impeding circulation or likely to excoriate the skin, nor too loose risking loss of the means to identification.

7.6. Health Education

It is the privilege and obligation of the maternal childcare team to teach the mother and father how to care for their new baby. Important areas for parent teaching are:

a) Breast Feeding

- Should be established immediately after birth
- Should be on a need basis
- Show the proper positioning

b) Immunization

Advise its importance to the newborn and encourage them for vaccination.

c) Hygiene

- The attendant of the newborn should wash his hand always before each contact
- The attendant or the visitors to the newborn should be free of any illness like fever, cough, diarrhea, any skin problem.
- Wash the child after the second or third days with clean and warm water.

d) Discourage some traditional practices like

- Applying cow dung to the umbilical cord
- Feeding the neonate butter, egg etc. and
- Female circumcision

e) Inform the parents to take the newborn to the near by health institution when he gets sick, which may be manifested by fever, irritability, diarrhea and vomiting, anorexia and seizure.

7.7. Follow up

Every infant born in health institution must be examined immediately, and then every 1 hourly for warmth, bleeding from the cord and respiration before discharging to home. Within a few hours after birth the newborn should be examined thoroughly and then prescribed specifics for the infant's care, including feeding, medication, treatment and special laboratory tests. Thereafter medical supervision includes a regular check of the infant's weight gain or loss, vital signs, feeding, color and general condition. Unless there is some contra indication, the baby is discharged at the same time as the mother.

7.8. The high-risk infant and anticipation of resuscitation

Definition: Infants who should be under close observation by experienced health professionals during or after delivery since they are potentially at high risk during and after birth.

Goal of screening high-risk infants: is to decrease the neonatal morbidity & mortality by early treatment and prevention of some contributing factors.

Important measures to achieve the goal

- To anticipate the high risk infants before delivery
- Have adequate preparation in terms of equipments and experienced health professional during delivery for resuscitation and other intervention. There are many indicators for anticipating high-risk infants:

1. Maternal demographic and social factors

- Age <16years or >35 years
- Weight <45 kilogram
- Height <145 cm
- Poverty
- Social history like smoking or drinking alcohol habit
- Emotional and physical stress

2) Past medical history

- Genetic disorder
- Chronic illness like diabetic mellitus, Hyper tension Renal and cardiac illness

3) Past obstetric history

- Still birth
- Abortion
- Neonatal death
- Prematurity
- Congenital malformation
- Intra uterine growth retardation
- Previous history of RH sensitization

4) Present obstetric history

- Poly/oligohydramnion
- Pre-eclampsia
- Antepartum hemorrhage
- PROM
- Short inter pregnancy time
- Inadequate antenatal care
- Acute medical or surgical illness
- Multiple pregnancy

5) Intra partum factors

- Premature labour
- Precipitous labour
- Abnormal presentation
- Prolonged rupture of membrane
- Prolonged labour
- Meconium stained amniotic fluid
- Cord prolapse
- Fetal distress
- Instrumental or operational delivery
- APGAR score <4 at the first minute

6) Post natal factors

- Birth weight <2,500 or >4000gram
- Gestational age <37 or >42 weeks
- Congenital malformation
- Any abnormality detected-pallor, cyanosis...etc.

Most of the above high risk infants can be identified if the antenatal service is adequate and if those infants are identified in the antenatal care

- Frequency of ante natal care follow up should be increased
- If possible some intervention should be undertaken e.g. advice the mother to stop smoking
- Site of delivery should be in health institutions with adequate neonatal and postnatal care.

7.9. Neonatal Resuscitation

It is a life saving intervention for newborns with neonatal asphyxia due to so many reasons.

Candidates for neonatal resuscitation

- Neonates who fail to initiate spontaneous breathing despite primary trials (tactile stimulation, cleaning nose and mouth...etc.)
- Neonates with low APGAR score at the 1st minute (below seven)

The 3A's golden rules of resuscitation

- 1) **Anticipation:** identify those newborns that are at high risk for birth asphyxia and get well prepared before the delivery
- 2) **Adequate preparation:** Skilled manpower can undertake the steps of resuscitation and important materials should get prepared before the delivery starts
- 3) **Act on time:** There should not be any delay in identifying newborns that need resuscitation and act immediately.

Materials needed for resuscitation

a. Basic materials (which should be available in all delivery rooms)

1. Adequate shelf on which to lie the infant
2. Radiant warmer
3. Suction machine
4. Infant resuscitation bag (bag and mask which is self inflating)
5. Oxygen with flow meter and tube
6. Face mask
7. Stethoscope, bulb syringe
8. Sterile gloves
9. Scissors
10. Various size syringes
11. Adhesive tape
12. Alcohol and iodine
13. Large stop clock with sweep second hand

b) Best set ups (where there is skilled person in intubation and decide on other further interventions)

1. Oropharyngeal airways (various size)
2. Laryngoscope (various size)
3. Endo tracheal tubes
4. Iv cannula
5. Umbilical catheter

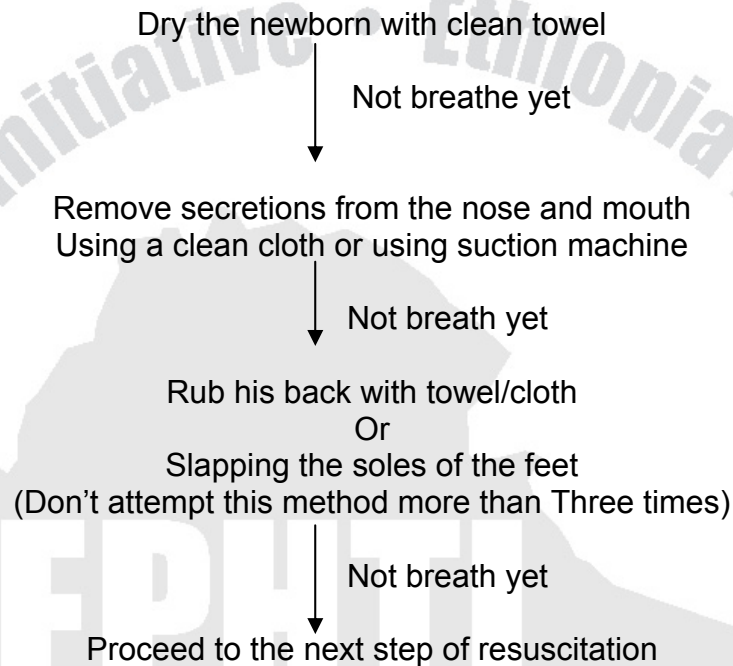
6. Drugs

- IV fluids
- Adrenaline
- Calcium gluconate

Steps of neonatal resuscitation

a) Primary trials (initial steps)

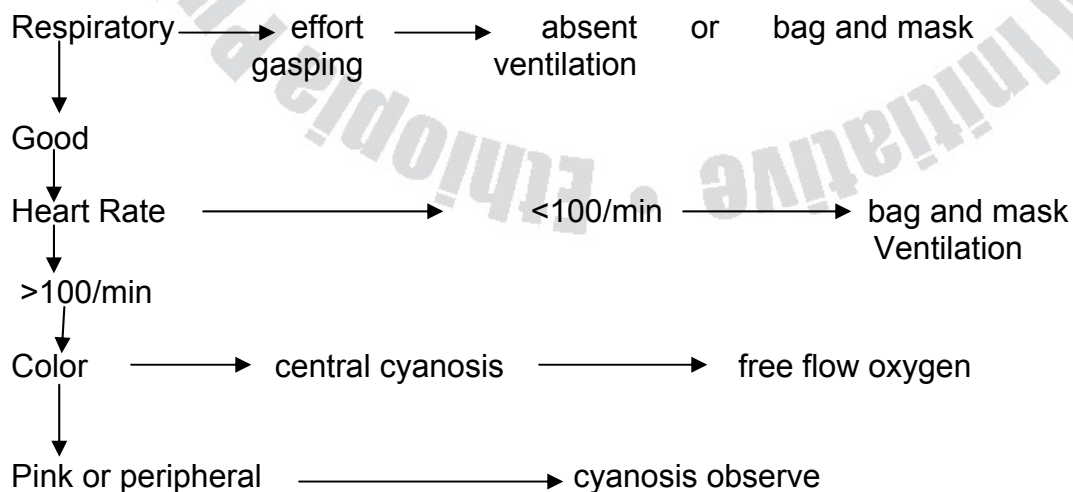
The following steps should be undertaken within twenty minutes



b) Secondary trials

Depend on the three clinical parameters

- Heart rate
- Respiratory effort
- Color



Flow chart for evaluation of breathing, heart rate and color of the newborn.

c) Tertiary trials

If there is no response to the above steps

i) Apply chest compression

If no response to 100% oxygen for 30 seconds (heart rate <60/min) Procedure

- Lie the baby on board like table
- Apply the two fingers or thumb on the lower third of sternum
- Do the chest compression with the rate of 120/min
 - The extent of compression of the sternum is 1/2 to 3/4 inch
 - Don't remove the fingers or thumb in between compression
 - If you are using bag and mask apply it every third chest compression
- Feel the pulse and stop chest compression if the heart rate is above 80/min

ii) Endotracheal intubation

iii) Drug therapy

N.B. APGAR score should be determined at the fifth minute to see the response of resuscitation and there is good response if the score is above 7.

7.10. Neonatal Infections

7.10.1. Neonatal Sepsis

Definition: It is a generalized form of neonatal infection in which the causative bacteria and its toxin can be identified in the blood.

Clinical features:

The clinical presentation of neonatal sepsis could be:

- Alteration in feeding pattern (refusal to breast-feed),
- Fever or hypothermia,
- Jaundice,
- Lethargy,
- Convulsion
- Fast pulse rate,
- Vomiting
- Diarrhea

Lab diagnosis: the following laboratory investigations may be important in a neonate with suspected sepsis:

- Blood culture,
- CBC and
- CSF analysis

Treatment:

Good broad-spectrum coverage against gram-negative and gram-positive organisms is essential.

Ampicilline + Gentamicine or Crystalline penicillin plus Gentamicine.

Dosage:

- Ampicilline: 100mg/kg/day in two divided doses in newborns < 7days and in three divided doses in babies > 7days of age.
- Gentamicine: 5mg/kg/day in two divided doses.
- Crystalline Penicillin: 500,000 IU/kg/day in two divided doses in newborns < 7 days and in four divided doses in babies > 7 days of age.
- Route of antibiotics can be IV or IM.

Duration of antibiotic therapy ranges from 14 - 21 days.

7.10.2. Bacterial Meningitis

Definition: Neonatal bacterial meningitis is infection of the meninges by bacteria in the neonatal period. Out of all neonates with neonatal sepsis one third of them may have coexisting meningitis.

Clinical features: Similar to cases of sepsis, plus
High-pitched cry and excessive crying
Bulged anterior fontanel

NB: Signs of meningeal irritation are generally absent!

Lab. Diagnosis: Similar for cases of sepsis. Lumbar puncture is must!

Treatment: Similar to sepsis.

7.10.3. Neonatal tetanus.

Definition: It is tetanus acquired during the neonatal period. It most commonly occurs in the first 3 - 10 day of life. i.e. called Clostridium tetani.

Clinical features:

- Failure to breast-feed due to masseter muscle spasm-trismus.
- Constipation.
- Titanic spasms.
- Extension of the neck-opisthotonus.
- Lips are drawn laterally and upwards and eyebrows are raised-risus sardonius.

Diagnosis: clinical.

Treatment:

- Admission to calm and dark room.
- Administration of tetanus antitoxoid (T.A.T.)
- Sedation with diazepam and chlorpromazine alternately.
- Feeding & hydration-iv fluids.
- Chemotherapy- crystalline penicilline.
- Nursing care

7.10.4. Gonococcal conjunctivitis

Definition: it is conjunctivitis, which is caused by bacteria called Neisseria gonorrhoea.

Clinical signs: Starts to manifest in the first week, usually around the 3rd day. One or both eyes become red, swollen and have thick yellowish discharge some times mixed with blood.

Management:

- Admission
- Washing with saline frequently
- Crystalline penicillin-50,000 - 250,000 IU/kg 6 hourly.

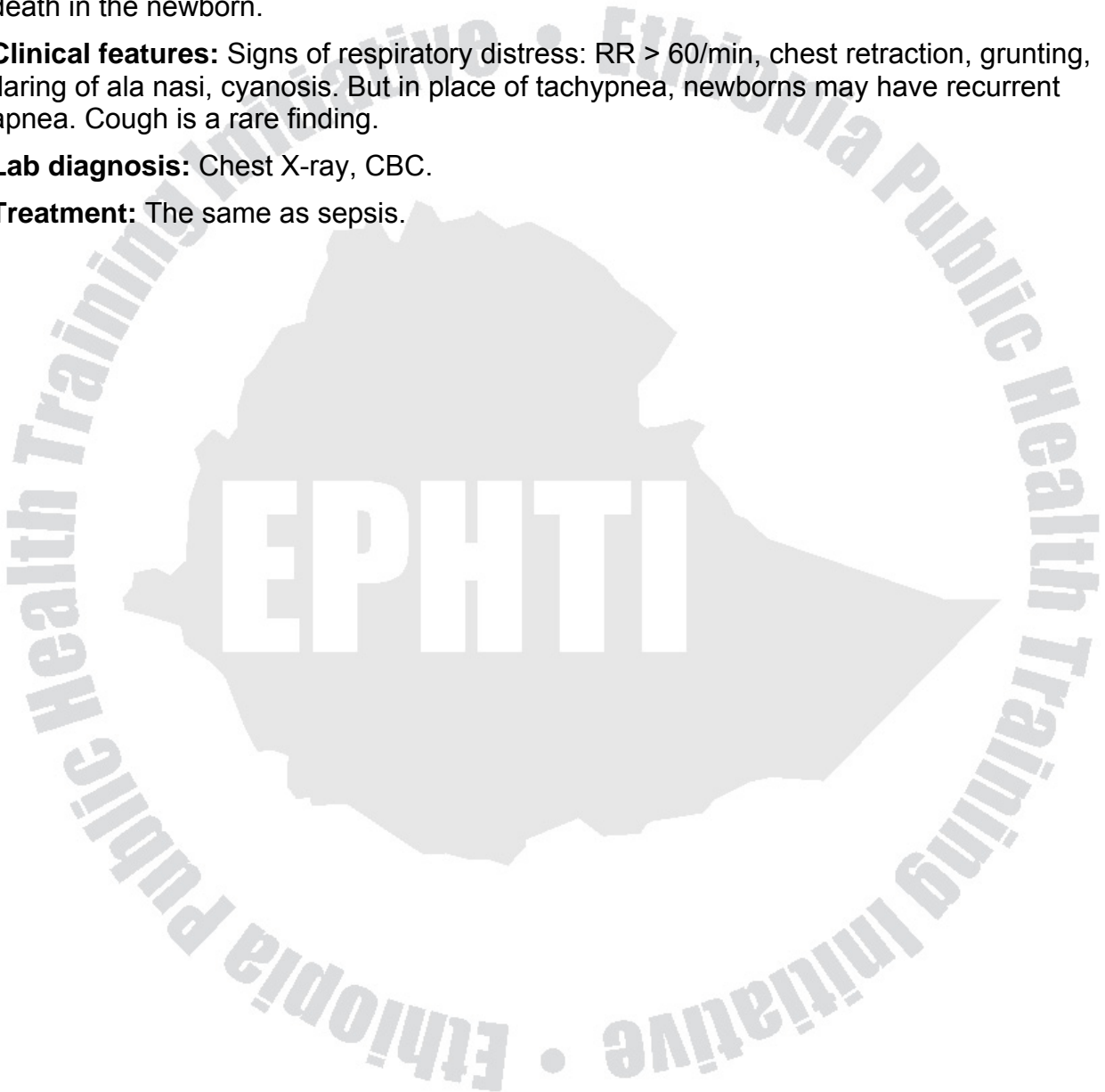
7.10.5. Pneumonia in newborn

Infection of the lungs is most important cause of respiratory problem that may lead to death in the newborn.

Clinical features: Signs of respiratory distress: RR > 60/min, chest retraction, grunting, flaring of ala nasi, cyanosis. But in place of tachypnea, newborns may have recurrent apnea. Cough is a rare finding.

Lab diagnosis: Chest X-ray, CBC.

Treatment: The same as sepsis.



CHAPTER EIGHT

POSTPARTUM CARE OF THE MOTHER

8.1. Introduction

Giving birth is usually a joyful event. However, problems may arise during birth and in the postpartum period, which if not treated can lead to ill health and even death of the mother. The majority of maternal deaths and disabilities occur during the postpartum period (fig.1) and yet the period is often neglected by many.

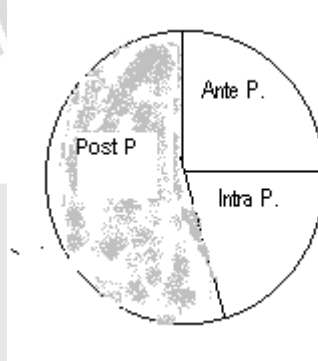


Figure 8.1: Distribution of maternal morbidity and mortality

In most developing countries there is deficient or even non-existent care to women during this period. This poor quality care made little contribution to mothers well being.

The post partum period is a very special phase in the life of women which is marked by strong emotions, dramatic physical changes, new and altered relationships and the assumption of and adjustment to new roles. This period forms part of the normal continuum of the reproductive cycle, which can be smoother in the presence of quality antenatal and intra partum care.

8.1.1. Defining the post partum period

The postpartum period (also called puerperium) starts one hour after the birth of placenta and ends six weeks after birth. The first hour is considered to be part of childbirth, during which an immediate care of the mother like assessing her condition, suturing and control of blood loss are undertaken.

The period of six weeks fits very well into cultural traditions in many countries including Ethiopia, where often the first 40 days after birth are considered a time of convalescence to the mother and her new born infant. By six weeks post partum the body of the woman has largely returned to the non-pregnant state. The psychological and social adaptation of the mother, the baby and the family to the new situation usually has attained a new balance.

8.1.2. The Needs of Women in postpartum period

In the postpartum period, women need:

- Information/counseling on
 - Care of the baby and breast-feeding
 - What happens to their bodies-including signs of possible?

Problems

- Self care –hygiene and healing
- Sexual life
- Contraception
- Nutrition
- Support form
 - Health care providers
 - Partner and family: emotional, psychological
- Health for suspected or manifest complications
- Time to care for the baby
- Help with domestic tasks
- Maternity leave
- Social reintegration into her family and community
- Protection from abuse/violence.

8.2. Normal Post Partum Care

8.2.1. Objectives of postpartum care

The aims of care in the postpartum period are:

- Support of the mother and her family in the transition to a new family constellation, and response to their needs
- Prevention, early diagnosis and treatment of complications of mother and infant, including the prevention of vertical transmission of diseases from mother to infant
- Referral of mother and infant for specialist care when necessary
- Counseling on baby care
- Support of breastfeeding
- Counseling on maternal nutrition, and supplementation if necessary
- Counseling and service provision for contraception and the resumption of sexual activity
- Immunization of the infant.

8.2.2. Health education in postpartum care

8.2.2.1 Diet

Woman's dietary intake should be increased to cover the energy cost of lactation by about 10% if the woman is not physically active, but by 20% or more if she is moderately or very active. Eating more of the staple food (cereal or tuber) or greater consumption of non-saturated fats e.g. foods containing vegetable oil is a simple, healthy and low-cost. Increased intake of proteins, vitamins and essential minerals is also recommended. Virtually all-dietary restrictions should be avoided.

8.2.2.2. Breast Feeding

(I) Advantages and disadvantages

- Human breast milk is the optimal food for newborn infants. It is sterile, available at a right temperature, and contains antibodies which protect the new born from infections.

- It is economical and emotionally satisfying to most women.
- It helps to contract the uterus and accelerates the process of uterine involution in the postpartum period.
- It promotes mother-infant bonding and may help to protect the suckled breast against cancer.
- Breast-fed infants have much lower chance of dying from malnutrition and recurrent gastroenteritis than formula or cow milk fed infants.
- It is also one method of family planning.

Because of these reasons WHO recommends exclusive breast-feeding for the first four to six months.

There are few absolute contraindications for breast-feeding which are breast cancer and recent HIV infection. Its disadvantages include it may restrict the activities of the mothers and may be perceived by the mother as inconvenient. Difficulties such as nipple tenderness and mastitis may develop.

(II) Early Suckling

It is recommended that the baby be given to the mother immediately after delivery to provide skin-to-skin contact and for the baby to start suckling as soon as he/she shows signs of readiness-normally within 1/2–1 hour after birth.

(III) Positioning and attaching the baby to the breast.

Teaching women how to correctly attach their babies to the breast is an important task of a caregiver.

1. In preparing to nurse the mother should first wash her hands with soap and water, then clean her nipples and breast with water and finally assume a comfortable position (sitting upright or lying on her sides.)
2. Place the nipple well back into the baby mouth and hold the breasts away from the baby's nostrils.
3. Compress the periareolar area to express small amounts of milk for the baby to taste which will stimulate the baby to suck.
4. Keep the baby awake by moving or patting during nursing
5. Allow the normal newborn to nurse at each breast every 3-4 hours. Don't nurse on one breast for more than 15 minutes.
6. Before removing the infant, gently open its mouth by lifting the outer border of the upper lip to break suction.
7. After nursing gently wipe the nipples with water and dry them.

When a baby is properly attached, the nipple, together with some of the surrounding breast tissue, is drawn out into a teat by the suction within the baby's mouth. A peristaltic wave passing along the tongue of the baby applies pressure to the teat and removes milk. But if the attachment is incorrect sore nipples and engorgement are more common due to friction, the baby gets insufficient milk and the mother is more likely to stop breast-feeding.

(IV) Lactation Suppression

If a baby dies or a woman chooses not to breast feed her infant there may be a need to suppress lactation. The preferred method is to let the milk dry up naturally by not breast-feeding. If necessary, small amounts of milk can be expressed to relieve engorgement. In the mean time a well-fitting bra and analgesics must be used. Pharmacological methods of suppression are no longer recommended because the risks outweigh the benefits and it is safer to allow natural suppression. Previously used drugs are:

1. Estrogen (sometimes combined with testosterone), has a risk of thromboembolic disease in postpartum period
2. Bromocriptine inhibits prolactin release, and is effective in ablactation. But sometimes it is associated with serious side effects like hypertension, seizures, stroke and myocardial infarction

8.2.2.3. Family planning

The postpartum woman should be counseled at the earliest opportunity after birth about fertility following delivery and the need for family planning. In the postpartum period a number of factors affect the decision about contraceptive method. These include the physiologic process of the puerperium, when fertility returns and ovulation is re-established, whether or not the woman is exclusively breast feeding, and what the couples wishes are with regard to the resumption of sexual activity.

In developing countries, where breast-feeding is common and lasts longer, lactational amenorrhea method (LAM) is an effective and reliable method of birth control. For LAM to be effective the following conditions should be met.

- a. The mother is fully breast-feeding the baby. Feeding must be on demand, both day and night with no intervals greater than about six hours between breast feeds.
- b. The baby is less than 6 months old.
- c. Menses have not returned

If the mother is breast-feeding only for the first 6 weeks, she can rely on its contraceptive effect and is advised not to take any hormonal contraceptive. After 6 weeks if she decides to breast-feed exclusively she should be advised to use LAM as a contraceptive. But if after 6 weeks of birth an alternative contraceptive is required for a lactating mother the first choice of hormonal methods are the progestin only pill & Depoprovera. Estrogen containing oral contraceptive pills are not generally advised for lactating mothers, as they are associated with decreased levels of breast milk and hence significantly lower infant weights. They have also a thrombogenic influence in the first weeks of postpartum, which is small but not negligible risk. Therefore combined hormonal contraceptives should be generally withheld until six months after delivery or until the infant is weaned, whichever is earlier in a lactating woman. Other methods of choice include the introduction of an intra uterine device at 6 weeks postpartum, and barrier methods (condom or the diaphragm).

If the mother decides not to breast feed immediately after birth, she will need the protection of a contraceptive at an earlier date, because ovulation is to be expected earlier. The only objection against the immediate start with combined hormonal contraceptives is the risk of thrombosis. If she wishes to use combined oral contraceptives, she can start with a low-dose preparation 3 weeks after delivery because the blood coagulation and fibrinolysin are close to normal at 2 weeks postpartum.

If the couples decide to stop giving birth, either male or female sterilization can be done. Female sterilization could be achieved by tubal ligation, which can be performed by mini-laparotomy on the first day of postpartum. Male sterilization (Vasectomy) should also be considered as a solution in case of a completed family.

These recommendations are meant to healthy woman with a healthy baby. In case of maternal disease, obstetric complications, cesarean section, pre term or ill infants specific advice should be given depending on the situation.

8.2.2.4 Immunization

a. Tetanus:

Women (pregnant or non-pregnant) of child bearing age who have not been previously immunized with tetanus toxoid (TT) should be immunized, both to protect themselves and their newborns against neonatal tetanus. Recommended schedule for the previously unprotected woman is as follows

- TT 1 at first contact
- TT2 at least 4 weeks after TT1
- TT3 at least 6 months after TT2
- The remaining two doses are given at one-year intervals or during subsequent pregnancy.

b. Passive immunization in post partum against rhesus sensitization

An Rh negative woman who has not produced anti-D antibody during pregnancy and who has given birth to an Rh positive infant should receive 300 micro gram of anti-D gamma globulin within 24 hours (at the latest 72 hours) following delivery.

c. Immunization of the new born

A postpartum mother should be counseled on the importance of immunization of the newborn. For the schedule see chapter on newborn care.

8.2.2.5. Other issues

The postpartum mother should receive education on

- Adequate rest:** Complete rest for at least two hours during the day should be provided and demands on the mother like hold activities and caring for the neonate should be limited to allow adequate relation and adjustment.
- Early ambulation:** Early ambulation should be advocated because it provides a sense of well being, hastens drainage of lochia and lessens the incidence of thrombo embolism and constipation. The women should be out of bed by second post partum day. The usual household activities should be curtailed and she should not take full house hold duties for at least 3 week after which normal activities can be resumed.
- Exercise:** Exercise to strengthen the muscles or the back, pelvic floor and abdomen are advocated but strenuous exercises should be postponed until approximately 3 weeks following delivery.
- Hygiene and perineal care:** As soon as the patient is ambulatory she may take a shower. Another alternative is a tub bath. For those with episiotomy or repaired perineal tear, the perineal area should be gently cleansed with plain water and soap at least once or twice a day and after voiding or defecation, Cool sits bath may relieve

perineal pain. Vaginal or rectal examination should be performed only if a hematoma or infection seems likely and if so aseptic technique should be used.

- e. **Sexual relations:** Sexual desire is low or absent in early post partum period which returns to normal in most after 3 week. Nursing the baby before copulation will reduce milk ejection during intercourse.

Danger symptoms and signs that needs to be reported

- Change in vaginal discharge
 - Increased amount
 - Change to earlier character (bright red bleeding)
 - Foul smell of the discharge
- Localized pain, redness, swelling, or warm spot in calf of one leg
- Breast has area of pain, redness, tenderness or swelling
- Fever
- Pain or tenderness in abdominal or pelvic area
- Pain or burning on urination, difficulty urinating

f. **Care of the bladder** The post partum women should be encouraged to void at frequent intervals even if there is no urge to void. If the woman is unable to void or empty the bladder completely, intermittent catheterization of the bladder every 6 hours should be undertaken.

8.3. Postpartum Assessment and Management

Asses for

6-12 hours	3-6 days	6 weeks
Blood loss Pain BP Advice/ Warning signs	Breast care Temperature/infection Lochia Mood	Recovery Anemia Contraception Problems

Fig 8.2: Key elements of postpartum care

8.3.1. The first hours after birth

The first few hours postpartum are extremely important and postpartum mothers should never be left unattended at this time. During this time caregivers should:

8.3.1.1. Assess maternal well-being

Measure and record blood pressure, pulse rate and body temperature frequently. The normal values are

- Blood pressure Upper limit 140/90 mmHg
- Lower limit 80/60 mmHg

- Pulse rate 60-100 beats per minute and
- Temperature less than 38° C

8.3.1.2 Asses the size and tone of the uterus

Uterus should be well contracted (cricket ball consistency) and just after delivery should be at the level of the umbilicus (may be higher following twin delivery)

8.3.1.3 Assess for vaginal bleeding

There shouldn't be excessive or continuous bleeding (inspection of the sanitary pads and bed sheets may give a clue to the extent of bleeding)

8.3.1.4. Assess the perineum

This has to be done especially for mothers with episiotomy and repaired tears.

Other cares:

- Provide body bath and change clothing
- Light diet can be given (e.g. soft drinks and gruel)
- Medication for pain relief (for after pain and episiotomy)
- Rooming in the neonate and early breast feeding
- Administer Anti-D immunoglobulin for Rh negative mothers
- Offer health education

8.3.1.5. Discharge

A woman with uncomplicated course can be discharged in 12-24 hours. Upon discharge make sure that

- The vital signs are stable
- Uterus is well contracted
- There is no active vaginal bleeding
- Asses the breasts and the calves and the thighs
- Obtain blood sample for hematocrit
- Ascertain she had bowel movement, is voiding normally and is physically able to assume her new responsibilities at home
- She reports if any danger symptoms arise and
- Give appointment for return visit
 - 7 days if pre-eclamptic or has an episiotomy
 - 42 days if it is normal puerperium
 - 3 weeks if the mother is not breast feeding because of risk of pregnancy and may discuss the need to start contraception.
- The newborn is sucking well.

8.3.2. At the end of the first week

The care that should be given at the follow up visit includes

1. Obtain information on

- Lochia (color and odor) it is vaginal discharge after delivery
- Normal – Bloody lochia from day 1 - day 5 post partum
- Serosanguinous (brownish) lochia from 5-10 days
- Whitish lochia from 10 day - 6 weeks

Persistent bloody lochia or malodorous lochia needs investigation

- Breast complaints and lactation
- Perineal complaints especially after episiotomy
- Health of the neonate and support at home
- Other danger symptoms of puerperium

2. Assess the woman

- Record blood pressure and weight
- Look for conjunctival pallor
- Examine the breasts
- Assess uterine size and consistency

The uterus involutes at a rate of 1 cm per day and by the seventh post partum day it has a size of 14 weeks. By tenth day it is no more palpable and by 6 weeks it is a little larger than non-pregnant uterus.

- Inspect the perineum for bleeding and episiotomy site. Pelvic examination is not routinely done. Only indicated in offensive lochia and persistent bloody lochia.
- Palpate legs and thigh for swelling and tenderness, if present refer the mother.

3. Perform necessary laboratory investigations

Hemoglobin- if anemic

Urine protein if she had pre eclampsia

4. Give necessary treatment for anemia or other conditions

5. Provide health education

6. Schedule return visit in 6 weeks or conduct home visit

8.3.3. Repeat visit in 4 - 6 weeks

1. Obtain information on

- Lochia
- Breast complaints and lactation
- Resumption of menstrual bleeding and sexual intercourse
- Health of neonate and immunization plans
- Family planning needs
- Support at home

2. Assess

- Record blood pressure and weight.
- Perform breast examination for adequacy of support, abnormalities of nipple or lactation and presence of masses
- Perform pelvic examination
 - Inspect cervix and take Pap smear (in women who have delivered vaginally the external OS of the cervix is changed to transverse slit)
 - Assess the size and consistency of the uterus (at this time it should be slightly larger than a non gravid uterus)
 - Assess episiotomy scar and adequacy of the pelvic support (in a mediolateral episiotomy you observe a permanent scar)

3. Perform necessary laboratory investigation.
 - Hemoglobin if anemic and has been bleeding post partum
 - Urine albumin if she had pre eclampsia
4. Provide family planning method
5. Give health education

8.3.4. Common Complaints during post partum

The number of health problems reported in the first months after delivery is huge, and ranges from 23 to 50% worldwide.

The most frequently reported post partal problems are:

- a. genital infections
- b. bladder problems- urinary incontinence (true or stress)
- c. Back ache
- d. Frequent head ache
- e. Pelvic pain
- f. Hemorrhoids
- g. Constipation
- h. Depression, anxiety & extreme tiredness
- i. Perineal pain
- j. Breast problems
- k. Anemia

8.4. Post- partal Complications

8.4.1. Overview

A number of serious complications and majority of maternal deaths occur in the post partum period especially in developing countries. Post partum hemorrhage, puerperal infections, venous thrombosis and post partum psychological problems account for majority of the cases. Some antenatal complications notably pre eclampsia- eclampsia may also continue to manifest in the post partum period. Urinary tract and breast problems also cause significant morbidity in the post partum period. HIV infected mothers deserve special attention because they are at a significant risk of developing some post partum complications like puerperal sepsis, massive codylomata accuminata and reactivation of TB.

Because of the practice of early discharge of mother and baby, it is essential that the women receive adequate verbal and written instructions regarding danger signs. Caregivers should be able to detect these complications early and manage accordingly. If necessary, the care may include transport to a place where appropriate treatment can be provided.

8.4.2. Puerperal sepsis

8.4.2.1. Definition

Puerperal sepsis has occurred if the patient's temperature is 38⁰C or more between the first and tenth post partum days ascribed to a source of genital tract.

8.4.2.2. Risk factors

- Low socio economic status
- Use of unsterile delivery technique
- Operative delivery
- Premature rupture of the membranes
- Long labors with ruptured membranes
- Multiple pelvic examinations
- Retained products of conception
- Genital lacerations
- Medical disorders (anemia, diabetes mellitus, HIV infection)

8.4.2.3. Etiology

Majority is caused by mixed organisms (aerobic and anaerobic bacteria) ascending from the vagina. Occasionally, exogenous organisms from unclean delivery may be the cause.

8.4.2.4. Types and presentation

I) Endomyometritis

- Infection of the endometrium and myometrium which usually starts from the placental site
- If untreated it will progress to pelvic peritonitis, generalized peritonitis, septicemia, septic shock and pelvic abscess.
- Patient presents with fever associated with lower abdominal pain and offensive lochia. There is tachycardia, temperature of greater than 38 ° C, and soft tender uterus.

II) Wound infection

This includes infections of both abdominal wound and episiotomy

Signs of episiotomy site infection include

- Persistent pain and offensive discharge from the site
- Tender, indurated , swollen and reddened wound edges

Signs of abdominal wound infection include

- Persistent pain,
- Fever with no apparent cause which persists to the fifth post operative day
- Tender, indurated , swollen and reddened wound edges

8.4.2.5. Management

a. Endomyometritis

- Give a combination of antibiotics until the woman is fever free for 48 hours.
- Ampicillin 500 mg IV every 6 hours; PLUS gentamycin 80 mg IV TID PLUS Metronidazol 500 mg IV every 8 hours (do not give gentamicin if there is renal failure)
- If a retained placental fragment is suspected, perform evacuation and curettage under the umbrella of oxytocin using large curette.
- If fever is still present 72 hours after initiation of treatment, re-evaluate the patient and revise the diagnosis (Consider peritonitis, pelvic abscess and other febrile illnesses).

b. Wound infection

- Remove sutures and drain abscess if any
- Local wound care with anti septic solutions
- Antibiotics are not usually needed unless there are systemic signs
- Secondary closure may be needed after signs of infection has cleared

8.4.2.6. Management of complicated cases (Peritonitis and pelvic abscess)

- Provide nasogastric suction
- Infuse IV fluids
- Give a loading dose of combination of antibiotics
- Refer the patient to a hospital where appropriate treatment can be provided

8.4.3. Breast complications

8.4.3.1. Breast engorgement

- Breast engorgement occurs secondary to lymphatic and venous congestion (not from over distension of the breast with milk).
- Both breasts are swollen, tender, tense, and warm.
- Temperature may be mildly elevated but does not exceed 38°C.
- Management includes expression of milk by hand or with a pump or breast-feeding the neonate.
- Support breast with a binder or brassiere and apply cold compress to the breasts.

8.4.3.2 Acute postpartum mastitis

- Is an infectious condition of the breast caused by staphylococcus aureus
- Usually presents near the end of the first week post partum
- Involves one of the breasts (unilateral).
- If not treated may end up in breast abscess
- Presenting complainants include fever, chills, and painful swelling of the breast
- Patient is tachycardic with temperature greater than 38°C hot and tender swollen breast. In case of abscess formation there will be tender fluctuant mass
- Management includes Cloxacillin 500 mg per mouth QID for seven days, antipyretics, and support of breast with bra and cold compress. Breast feeding can be continued. If abscess is diagnosed in addition to the above measures incision and drainage will be done.

8.4.4. Deep vein thrombosis

- Pregnant women are at increased risk of deep vein thrombosis because of increased coagulation factor during pregnancy and are dangerous because it may lead to pulmonary embolism.
- The most important single predisposing factor is prolonged bed rest.
- Presenting symptoms include painful swelling of the legs, occasionally associated with fever. Thighs and calves are swollen and tender with positive "Hofman's sign"(pain on dorsi flexion of the foot)
- Treatment includes immobilization of the leg and immediate referral to hospital for anticoagulant therapy.

- Early ambulation of mother in post partum period largely prevents this complication.

8.4.5. Acute urinary retention

A post partum women is liable to develop acute urinary retention because of

- Massive post partum diuresis
- Atonic bladder from prolonged labor or operative deliveries
- Laceration of the genital tract causing pain on micturation

Women may complain of increasing constant dull pain in lower abdomen with occasional overflow incontinence. Uterus is pushed up in the abdomen with cystic tender supra pubic mass.

Management includes

- Encouraging the mother to void in sitting position. (Sound of tap water may help)
- If not, intermittent catheterization of the bladder.

8.4.6. Psychosocial Complications

Three different types of postpartum psychosocial disorders have been described.

i. Postpartum blues

It is characterized by mild mood disturbances, marked by emotional instability (crying spells apparently with no cause, insomnia, exaggerated cheerfulness, anxiety, tension, head ache, irritability, etc). Usually the complaints develop within the first postpartum week and continue for several hours to a maximum of ten days and then disappear spontaneously. The management is for one of the medical or nursing staff to talk with the woman, explaining what is occurring, and restricting visitors.

ii. Postpartum depression

- It is a more protracted depressive mood with complaints of affective nature; the woman is gloomy, depressed, irritable, sad, insomniac, anorexic, poor concentration, and loss of libido.
- Management requires support and encouragement & treatment may include referral for psychotherapy and antidepressants,

iii. Puerperal Psychosis

- Symptoms usually start at the end of the first week, sometimes in the second week, seldom later and tend to recur in the next pregnancy.
- The woman is anxious, restless, and sometimes manic with paranoid thoughts or delusions. She reacts abnormally towards her family members
- Management is referral for psychotherapy and anti psychotic treatment. The neonate should be isolated from the mother.

8.5. Common Gynecologic Disorders

8.5.1. Pelvic inflammatory disease (PID)

Definition

PID is an acute clinical syndrome with ascending spread of microorganisms from the vagina and the cervix to the endometrium, fallopian tubes and/or contiguous structures. PID is inflammation of the upper female genital tract (Infection above the uterine cervix).

It includes endometritis, salpingitis, salpingo-oophoritis, tubo-ovarian abscess, peritonitis. Pelvic infections occur very commonly and have serious consequences.

Defense mechanisms

There are normal defense mechanism which prevent ascent of micro organisms into the upper genital tract .These include

A. At the cervix -Mechanical -closed cervix

- Biochemical - Lysozymes
- Immunologic - Immunoglobulin A

This could be altered by child birth, abortion, IUD insertion

B. Endometrium - Periodic shedding

- Down ward flow of mucus

C. Utero - tubal junction - very narrow (mechanical)

Factors associated with PID

1. Antecedent events that remove barrier to spread of infection – Abortion, delivery, gynecologic surgical procedures like insertion of IUD and histerosalpingography and vaginal discharge suggesting gonorrhoea (post STD PID)
2. Menstruation - Post STD PID commonly occur within seven days of menstruation.
3. Sexual activity - But PID can occur in a woman with no sex contacts
4. Previous PID

Etiology

1. Gonococcal endosalpingitis-common cause of infertility
2. Chlamydia trachomatis
3. Purperal and post abortal(polymicrobial)
 - Pneumococcal
 - E. coli
 - B. fragilis
 - Clostridial
4. Tuberculosis - Endo or Exosalpingitis
5. Others- Actinomycosis
 - M. Hominis
6. Secondary invaders from bowel- exosalpingitis E.g. Secondary to appendicitis, diverticulitis.

A wide variety of pelvic infections occur, from uncomplicated gonococcal salpingo-oophoritis to septic shock following rupture of pelvic abscess. Early recognition and treatment is crucial in order to prevent the adverse sequel like infertility and chronic pelvic pain. This could be difficult for many reasons.

- The initial gonococcal infection is usually asymptomatic, so patients may not be seen until recurrent infections cause irreversible pathologic change
- Delay in initiation of treatment
- Inadequate therapy-type of antibiotic, dose and duration

Clinical feature

Historically you may find antecedent events like vaginal discharge suggesting gonorrhoea (post STD), abortion and gynecologic surgical procedures.

The patient presents with acute lower abdominal pain which may be located in the iliac fossa or diffuse bilateral and dull in nature; purulent vaginal discharge; and constitutional

symptoms like fever, nausea, vomiting, malaise and chills, urinary symptoms (like dysuria) and menometrorrhagia and dysmenorrhea may also be there.

Fever may be absent so you should rule out ectopic pregnancy.

On examination you may find fever of 38°C, tachycardia, and signs of peritoneal irritation (abdominal tenderness - direct or rebound and hypoactive bowel sound). On pelvic examination abnormal cervical discharge, tenderness on cervical manipulation (Cervical excitation tenderness), adnexal and uterine tenderness may be found

Proposed criteria for the diagnosis of PID: All three of these

1. Abdominal tenderness with or without rebound tenderness
2. Cervical excitation tenderness
3. Adnexal tenderness

Plus one or more of the following

1. Gram stain- Gram- negative diplococci from endocervical discharge
2. Fever >38°C
3. Leukocytosis >10,000/mm³
4. Purulent material in peritoneal cavity
5. Pelvic abscess or inflammatory complex (Bimanual or ultrasound examination)
6. Endocervical discharge (purulent with leucocytes)
7. Monoclonal smear positive for C. trachomatis
8. Elevated ESR

Clinical Stage of PID

Stage I -No peritoneal irritation and no pelvic mass

Stage II -pelvic peritonitis

Stage III -Mass in adnexa or Douglas pouch

Stage IV -Rupture of tubo-ovarian abscess or generalized peritonitis

Differential diagnosis of acute salpingitis

1. Acute appendicitis
2. Ectopic pregnancy
3. Torsion of ovarian cyst or myoma
4. Rupture of ovarian cyst
5. Diverticulitis
6. Intestinal obstruction
7. Pyelonephritis or cystitis

Complications of PID

1. Generalized pelvic peritonitis
2. Abscess formation (Pyosalpinx, tuboovarian, Culdesac abscess)
3. Severe pelvic cellulitis with thrombophlebitis
4. Pelvic destruction leading to infertility and intestinal adhesion and obstruction
5. Chronic PID & Pelvic cripple

Fate of PID

1. Complete resolution- with no structural or physiologic damage
2. Form abscess
3. May heal by fibrosis
4. May form hydrosalpinx
5. Fibro-cystic disease of the ovary
6. Tubo ovarian abscess

7. Peritoneal cyst (pseudo cyst)

8. Chronic PID

Chronic PID

Starts as acute PID, but preexisting tubal tissue damage may result in more severe infection. Chronic PID implies the presence of tissue changes in the parametria, tubes and ovaries. Hydrosalpinx or tubo ovarian 'complexes' may be present. There is usually history of acute salpingitis, pelvic infection or post partum or post abortal infection. Chronic PID could be relatively asymptomatic or may provoke complaints of chronic pelvic pain and dyspareunia (pain during sexual intercourse).

Usual presentation include pelvic pain (unilateral or bilateral), infertility (common), low grade fever unless there is acute reinfection, dyspareunia, abnormal uterine bleeding (heavy and frequent periods) and constitutional symptoms.

On bimanual examination you may find generalized pelvic tenderness fixation of the pelvis organs (frozen pelvis) and fixed retro version of the uterus. The typical chronic case complain of infertility and pelvic pain often associated with dyspareunia, poor genital health & much misery.

Treatment of PID

The treatment of PID may be out patient or inpatient OR medical or medico surgical

Medical treatment

- The etiologic agents are not readily apparent during clinical diagnosis, so empiric therapy is mandatory

Out patient therapy

- Can suffice if fever $<39^{\circ}\text{C}$, minimal lower abdominal tenderness, patient is not toxic, and there is no indication for admission (stage I).
- Treatment includes antibiotics, analgesics, IUD removal, and bed rest. WHO recommendation

PID is difficult to diagnosis because of varied clinical manifestations. However, health workers should over diagnose and treat mild cases than miss cases. Recommended regimens,

- Single dose therapy for uncomplicated gonorrhoea - Ceftriaxon 125mg IM
OR
- Ciprofloxacin 500 mg PO
OR
- Spectinomycin 250mg IM
OR
- Ceftixime 400 mg PLUS
- Doxycylin 100 mg PO BID for 14 days
OR
- Tetracyclin 500 mg PO BID for 14 days PLUS Metronidazole 500 mg PO BID for 14 days
- Removal of IUD soon after antimicrobial therapy has been initiated (Counsel them on contraception)
- Follow up with in 72 hours and admit if no changes

Indication for admission

1. Uncertain diagnosis (Unable to rule out ectopic pregnancy, appendicitis, etc...)
2. Suspected pelvic abscess
3. Coexisting pregnancy
4. Prepubertal pregnancy
5. Non compliance with oral antibiotics
6. Failure to respond to outpatient management
7. Generalized peritonitis
8. Inability to arrange follow up within 72 hours
9. Coexisting severe illness precludes OPD management

Recommended regimen

1. Ceftriaxone, 500mg IM once daily (ciprofloxacin 500mg BID or spectinomycin 1 gm QID IM PLUS Doxycycline or tetracycline PLUS Metronidazole 500mg BID or chloramphenicol)
2. Clindamycin, 800 mg, IV, TID PLUS Gentamicin, 80mg, IV, TID
3. Ampicillin PLUS gentamicin PLUS chloramphenicol PLUS doxycycline

N.B: Therapy should be continued until at least 2 days after the patient has improved and then should be followed by either doxycycline or tetracycline for 14 days.

Supportive managements include

- Bed rest
- Restriction of oral feeding
- Rehydration
- Avoiding sexual activity
- Analgesics
- Nasogastric tube if there is abdominal distention
- Catheterization

Follow up after 48-72 hours and 7-10 days

Indication for failure of medical treatment

1. No change on subjective complaint (e.g. pain intensity)
2. No fall in temperature
3. No change in size of pelvic mass

Surgical interventions include

- Evacuation and curettage or dilation and curettage
- Colpotomy
- Laparotomy (Lavage and drainage, total abdominal hysterectomy with or without bilateral salpingo-oophorectomy or adhesionolysis)

Management according to clinical stage

Stage I- Out patient P.O. antibiotics

Stage II- Inpatient IV antibiotics

Stage III- Inpatient IV antibiotics ~ Surgery may be indicated

Stage IV- Inpatient IV antibiotics PLUS Surgery

8.5.2. Vaginal Discharge

1. **BACTERIAL VAGINOSIS:** Bacterial vaginosis has previously been referred to as nonspecific vaginitis or Gardnerella vaginitis. It is an alteration of normal vaginal bacterial flora that results in the loss of hydrogen-peroxide producing lactobacilli and an overgrowth of predominantly anaerobic bacteria. Anaerobic bacteria can be found in less than 1 % of the flora of normal women. In women with bacterial vaginosis however, the concentration of anaerobes, as well as Gardnerella vaginalis and Mycoplasma hominis, is 100 to 1000 times higher than in normal women. Lactobacilli are usually absent.

Diagnosis

Bacterial vaginosis occur commonly in sexually active women & the diagnosis is made on the basis of the following findings.

- i. A fishy vaginal odor, which is particularly noticeable following coitus, and vaginal discharge are present
- ii. Vaginal secretion are gray and thinly coat the vaginal walls
- iii. The PH of these secretion is higher than 4.5(usually 4.7 to 5.7)
- iv. Microscopy of the vaginal secretions reveals an increased number of clue cells, and leucocytes are conspicuously absent. Clue cells are vaginal epithelial cells studded with adherent cocobaccilli that are appreciated at the edge of the cell.
- v. The addition of KOH to vaginal secretions (the whiff test) releases a fishy amine like odor

Treatment

Metronidazole is the drug of choice. A dose of 500 mg orally twice a day for 07 days could be used. Patients should be advised to avoid using alcohol during treatment with metronidazol and for 24 hours there after. An alternative regimen uses a single 2g oral dose of metronidazol.

2. TRICHOMONAS VAGINITIS: Trichomonas vaginalis is a unicellular flagellate protozoa. Trichomonas infestation affects not only the vagina but also of the lower urinary tract in both men and women. It is a sexually transmitted disease.

Clinical feature: Trichomoniasis tend to be worse just after menstruation or during pregnancy .Persistent vaginal discharge is the principal symptom of trichomoniasis with or without secondary vulvar pruritis. The discharge is characteristically profuse, extremely frothy, greenish and in severe cases foul smelling.

Gentle inspection of the vaginal mucosa with a speculum may reveal generalized vaginal erythema with multiple petechiae, so called strawberry spots.

Investigation

In saline wet mount preparation of vaginal discharge the characteristic motile flagellates are seen.

Treatment

Both partners should be treated meanwhile intercourse should be avoided unless a condom is used.

Metronidazol is the drug of choice and could be used with a dosage of 250mg, **TID** for 7 days or 2gm stat.

3. VULVOVAGINAL CANDIDIASIS: Candidia albicans is the most frequent cause. Candidia albicans is frequently a normal inhabitant of the mouth, throat, large intestine and vagina.

Clinical infection is occasionally associated with systemic disorders (e.g. Diabetes mellitus), pregnancy, non-diabetic glucoseuria, debilitation, intake of corticosteroids, multiple antibiotics and possibly OCP.

Clinical feature

The patient complains intense vulvar pruritus, a burning sensation may follow urination, particularly if there is excoriation of the skin from scratching. There is often little or no discharge which is present as typically white and clumpy.

Physical examination often reveals erythema of the vulva & vaginal mucosa. A discharge which is typically thick, curdy or cheese like may be found.

Investigation

Wet mount preparation of the discharge adding 10% KOH destroys the cellular element and may facilitate the recognition of filamentous forms (pseudo hyphae) of the organism.

Treatment

Anti candidal preparation must be applied topically to be effective. The following drugs are useful in the treatment of acute vaginal candidiasis.

Clotrimazol 1 % cream, 1 applicator full (about 5 gm) inserted high in the vaginal canal at bed time for 07 nights and 7-14 days for refractory cases.

OR vaginal tablets may substitute the cream .Two 100 mg tablets inserted nightly for 3 days.

Nystatin 100,000 international unit tablet may be inserted vaginally at bedtime for 2 weeks.

Miconazol & butoconazol are other alternatives.

The underlying disorder should be managed if there is any.

8.5.3. Ectopic Pregnancy

a. Definition

Ectopic pregnancy is implantation of the fertilized ovum anywhere out side the endometrial cavity. Greater than 95% of ectopic pregnancies occur in the fallopian tubes. The rest (5%) occur in the ovaries, cervix and the peritoneal cavity. In the fallopian tubes ectopic pregnancy is seen in the ampulla (55%), fimbria end (17%), isthmic part (25%) and the interstitial part (2%) in decreasing frequency.

b. Stage of progression of tubal ectopic pregnancy

1. Stage of unruptured ectopic - initial stage where the fertilized ovum grows in the wall of the fallopian tube with progressive thinning of the wall and distension of the tube.
2. Stage of ruptured ectopic - most common end of a tubal ectopic pregnancy. The tube gives way after it is maximally distended expelling the conceptus tissue through the ruptured site mostly into the general peritoneal cavity with continuous bleeding from the edges of the tear resulting in progressive hemoperitoneum, shock and finally death of the mother. Depending on the thickness of the tube, the gestational age at which a tubal ectopic ruptures varies with the site. Therefore an ampullary ectopic usually ruptures at 8 weeks, an isthmic ectopic at 6 weeks and an interstitial ectopic at 10 weeks.
3. Stage of tubal abortion - an uncommon end to a tubal ectopic where by the conceptus tissue is expelled via the fimbrial end with or without progressive bleeding into the peritoneal cavity.

c. Diagnostic features

1. Symptoms

Before rupture

- Variable period of missed period (mostly)
- Unilateral lower abdominal pain
- Dark red scanty vaginal bleeding

At or after rupture

- The abdominal pain becomes diffuse in the lower abdomen-Occasionally shoulder pain (referred pain)
- syncopal attack at the time of rupture

2. Signs

- Vital signs -ranging from normal to unrecordable blood pressure and pulse rate depending on the amount of intra abdominal bleeding. Fever $> 38.^{\circ}\text{c}$ is uncommon finding
- Varying degrees of conjunctival pallor
- Evidence of peritoneal irritation (direct and rebound tenderness, guarding with or without rigidity initially in one of the lower quadrants later becomes diffuse after rupture)
- With significant hemoperitoneum -positive shifting dullness
- Pelvic examination - severe cervical excitation tenderness, unilateral adnexal tenderness, bulged and tender pouch of douglas (after rupture)

3. Diagnostic procedure for ruptured ectopic: Culdocentesis

- Culdocentesis reveals dark red non clotting blood
- Culdocentesis

i. Materials and instruments needed

1. Bivalve speculum
2. Tenaculum
3. Sponge forceps
4. 10cc syringe with long needle (spinal needle)
5. Antiseptic solution - chlorhexidine
6. Light source,
7. Gloves

ii. Procedure

1. Review the indication - suspected ruptured ectopic, suspected pelvic abscess
2. Describe the procedure to the patient and get consent
3. Put in lithotomy position with buttocks at the edge of the coach
4. Insert a lubricated bivalve speculum and expose the cervix
5. Clean the vagina especially the posterior fornix with antiseptic solution
6. Gently grasp the posterior lip of the cervix with tenaculum and gently pull to elevate the cervix and expose the posterior vagina
7. Place a long needle on a syringe and insert it through the posterior fornix in mid line just below the posterior lip of cervix
8. Pull back on the syringe to aspirate contents in the pouch of Douglas

iii. Result

a. Non - clotting dark red blood

- Most likely cause is ruptured ectopic
- Other rare possibilities to be considered are ruptured corpus leutum, ruptured hemorrhagic ovarian cyst

- b. Clotting blood
 - Most likely cause is punctured artery or vein, therefore repeat the culdocentesis
- c. Clear or yellow fluid
 - Rules out ruptured ectopic but not unruptured ectopic

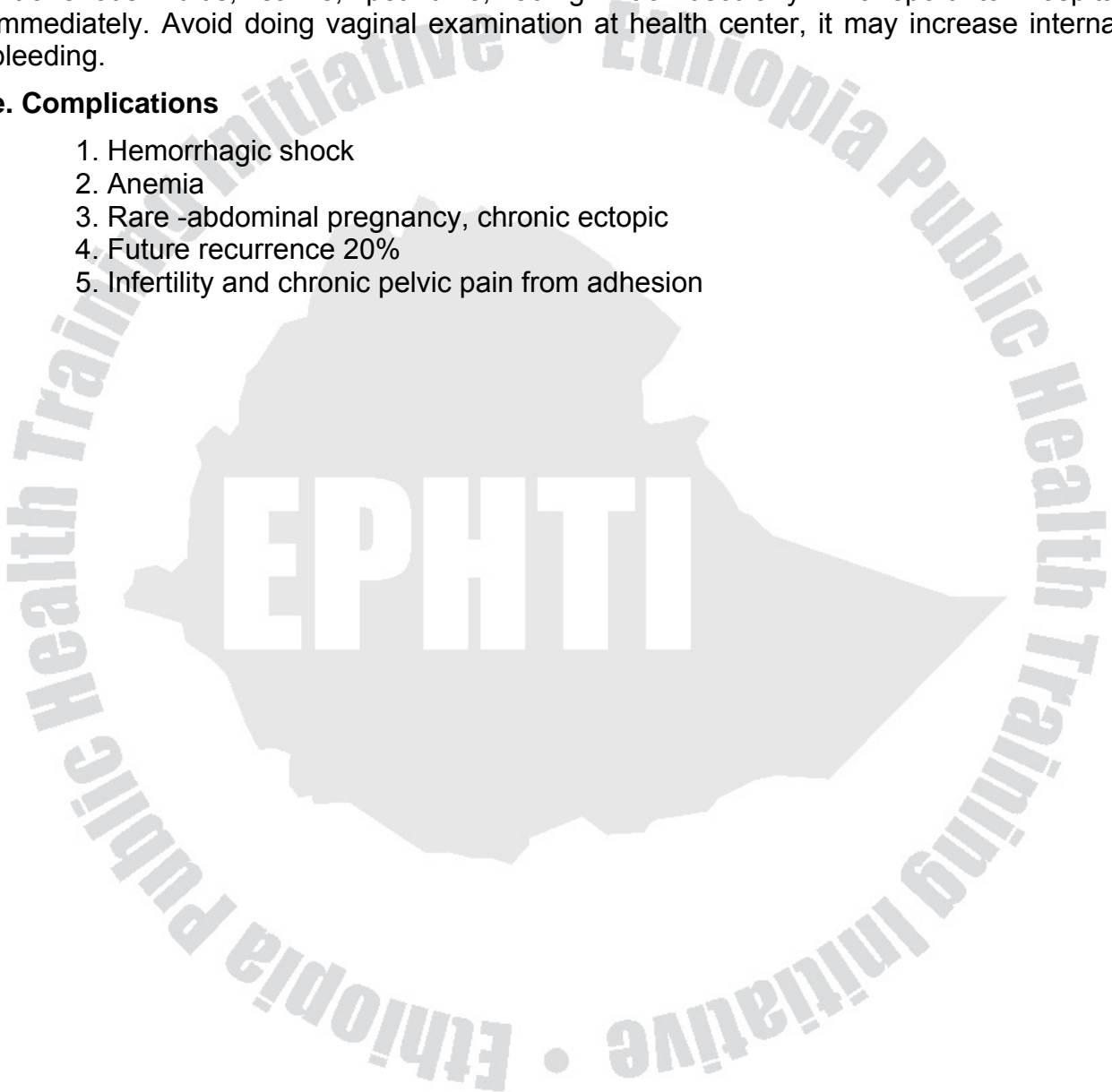
d. Management

At health center

Intravenous fluids; saline; pethidine, 50mg intramuscularly. Transport to hospital immediately. Avoid doing vaginal examination at health center, it may increase internal bleeding.

e. Complications

1. Hemorrhagic shock
2. Anemia
3. Rare -abdominal pregnancy, chronic ectopic
4. Future recurrence 20%
5. Infertility and chronic pelvic pain from adhesion



CHAPTER NINE

FAMILY PLANNING

9.1. Introduction

9.1.1. Definition

Family Planning Refers to the use of various methods of fertility control that will help individuals (men and women) or couples to have the number of children they want when they want them in order to assure the well being of children and the parents. It also deals with infertility.

Family planning simply means preventing unwanted pregnancies by safe methods of prevention. This is considered to be part of the basic human rights of all individuals or couples

9.1.2. Rationale of Family Planning

- Family Planning helps women to protect them selves from unwanted pregnancies and its effects. Maternal mortality rate decreases by effective FP services.
- Family Planning saves children's life by helping women space births. The occurrence of low birth weight, infant malnutrition and mortality rates will be reduced.
- Empower couples to determine their family size and delay having a child. This improves family well being as couples with fewer children are better able to provide them with enough food, clothing, housing and schooling.
- It can also be used because of various health conditions of the mother related to pregnancy. If the woman is at risk of endangering her health, she should be advised to employ a method of family planning to prevent any chance of pregnancy.
- The incidence and prevalence of STD including HIV/AIDS is reduced.
- Family planning helps infertile couple that wants to have children, as this is an important part of family planning.
- Family planning plays a great role in the development of communities, nations and the world at large, both socially and economically.

9.2. Hormonal Contraceptives

Hormonal contraceptives include Oral contraceptive pills, injectable and Norplants.

9.2.1. Oral contraceptive pills

Oral contraceptives are pills that a woman takes by mouth to prevent pregnancy.

Types of Oral Contraceptives Pills:

There are two types of oral contraceptive pills. Pills which combine synthetic hormones estrogen and progestin, commonly called combined oral contraceptives and pills which contain no estrogen, commonly called progestin only pills.

A. Combined Oral Contraceptive (COC) Pills

Mechanism of Action

- Inhibits ovulation
- Prevents implantation

Effectiveness

When COC pills are used correctly and consistently, their pregnancy prevention rate is greater than 99%.

Indications

COCs are best options for women who have some of the following characteristics:

- Nulliparous.
- Young, sexually active.
- Not at risk for STIs, including HIV.
- Desiring spontaneous intercourse.
- Nonlactating postpartum.
- Desiring a reversible method.
- Bothered by heavy or painful periods.

Advantages

- Highly effective
- Safe: Low dose combined pills are very safe for almost all women;
- Can be used at any age from adolescence to menopause;
- Fertility returns soon after stopping;
- No need to do anything at time of sexual intercourse;
- Can be used as emergency contraceptive after unprotected sex;
- Reduction of acne and hirsutism
- Monthly periods are regular; lighter monthly bleeding and fewer days of bleeding; milder and fewer menstrual cramps.

Disadvantages

- Challenge of daily compliance: not highly effective unless taken everyday. Difficult for some women to remember everyday.
- New packate of pills must be at hand every 28 days.
- Not recommended for breast-feeding women because they affect quality and quantity of milk.
- In few women it may cause mood changes including depression, less interest in sex.
- Do not protect against sexually transmitted infections (STI's) including AIDS.

Side - effects

The following side effects are common during the first three cycles, and then usually disappear: Break through bleeding, nausea, dizziness, breast tenderness, mild headaches, weight gain, fluid retention, depression, amenorrhea and problems with vaginal infections (Pills change the environment of the vagina and make it easier for some microorganisms to grow).

Complications

Cardiovascular disease (related to the estrogen component), breast cancer, cervical cancer and liver cancer. Fortunately, serious complications are extremely rare with low - dose COCs.

Provision of COCs: Who can provide COCs?

Doctors, Health Officers, Nurses, community health workers trained in the education and counseling of clients can provide oral contraceptives depending on local regulations and practices.

Medical eligibility check - list for COCs

Ask and listen the client, and look and feel the following conditions. If the answer is "no" to all of the questions/conditions she can use COCs if she wants.

Questions/Conditions	Yes	No
- Is she pregnant?	_____	_____
- Age above 35 and smoking habits	_____	_____
- Severe pains or swellings in the legs	_____	_____
- Symptomatic varicose veins in the legs	_____	_____
- Excessive shortage of breath after slight exercise	_____	_____
- Sever headaches and/or visual disturbances	_____	_____
- Certain pre-existing conditions (current breast cancer, benign liver tumors, liver cancer, and active viral hepatitis.	_____	_____
- High blood pressure above 140 (systolic) and/or 90 diastolic	_____	_____
- Yellow skin or yellow eyes	_____	_____
- Mass in the breast and/or discharge from nipple (e.g. blood)	_____	_____
- Severe chest pains (sudden with breathlessness)	_____	_____
- Breast feeding less than six months postpartum	_____	_____

Starting COC pills

When to start?

This depends on women's situation. Is she:

- **Having menstrual cycles**
 - Any of the first seven days after her menstrual bleeding starts if she is cycling normally.
 - Any other time if certain that she is not pregnant. And should avoid sex or also use condoms or spermicide for the next seven days.
- **Postpartum**
 - If breast-feeding: After she stops breast-feeding or 6 months after child birth (which – ever comes first).
 - If not breast-feeding: Three to six weeks after childbirth. No need to wait for menstrual period to return to be certain that she is not pregnant. After six weeks, any time it is reasonably certain that she is not pregnant. If not

reasonably certain, she should avoid sex or use condoms or spermicide until her first period starts.

- **After miscarriage or Abortion**

- In the first 7 days after first or second trimester miscarriage or abortion.
- Later any time it is reasonably certain that she is not pregnant.

Explain how to use the pill

a. Hand her a packet of the same pills that she will use, even if she will be getting her pills elsewhere later.

b. Show her:

- which kind of pill packet are you giving her - 21 pills or 28 pills?
- how to take the first pill out of the packet.
- how to follow the directions or arrows in the packet to take the rest of the pills, one each day (first the hormonal pills, then any reminder pills).

c. Give her instructions on: starting the first packet, starting the next packet, and what to do after missing pills.

i. Starting the first packet:

- See the description on the topic 'when to start'

ii. Starting the next packet:

- 28 - pill packet: When she finishes one packet she should take the first from the next packet on the very next day.
- 21 - pill packet: After she takes the last pill from one packet, she should wait 7 days and then take the first pill from the next packet.

iii. What to do after missing pills:

Missing only one (white) hormonal pill:

1. Take the missed pill as soon as she remembers.
2. Take the next pill at the regular time. This may mean taking 2 pills on the same day or even 2 at the same time.
3. Take the rest of the pills as usual, one each day

Missing two or more (white) hormonal pills in any 7 days?

1. Most important: For 7 days use condom, spermicide, or avoid sex.
2. Take one (white) hormonal pill at once.
3. Count how many (white) hormonal pills are left in the packet:
 - Seven or more (white) hormonal pills left?
 - take all the rest of the pills as usual on each day; or
 - Fewer than seven (white) hormonal pills left?
 - take the rest of the (white) hormonal pills as usual.
 - do not take any (brown) reminder pills. Throw them away.
 - start a new pack on the next day after the last (white) hormonal pill. You may miss a period. This is okay.

- Missing one or more of any (brown) reminder pills?
1. Throw the missed pills away.
 2. Take the rest of the pills as usual, one each day.
 3. Start a new packet as usual the next day.
- d. Ask her to repeat the most important instructions and show how she will take her pills using the pill packet.
- e. Inform the client about the following early warning signals for danger. They can be easily remembered by the word "ACHES"
- A - Abdominal pain (severe)
 - C - Chest pain (severe), cough or shortness of breath.
 - H - Headache (severe)
 - E - Eye problems (vision loss or blurring) or speech problems.
 - S - Severe leg pain (calf or thigh).
- f. Ask her if she has any questions, fears, or concerns, and answer her concerns respectfully and caringly.
- N.B.** Warn her to contact her health care provider immediately on feeling of the above problems.

Follow - up

During follow- up ask clients the following questions at any return visit:

Ask if the client has any questions or anything to discuss.

- Ask the client about her experience with the method, whether she is satisfied and whether she has any problems. Give her any information or help that she needs and invite her to return again any time she has questions or concerns. If she has problems that cannot be resolved, help her choose another method.
- Ask if she has had any health problems since her last visit (see the management section).

Management of side - effects /problems:

Occasionally women taking COC's may have side effects or problems. This section contains a guide to help you manage some of the common possible problems (side effects).

Side effects / problems	Possible solutions
a. High B/P	
1. Is this the first episode?	Allow 15 minutes rest, then repeat the B/P
2. Is B/P border/line	If borderline (not above 140/90) put the client on a pill with the lowest dose available. Advise her to return in 1 month for another B/P check.
3. Is B/P high or accompanied by edema and/ or headache?	If high-above 140/90 discontinue oral contraceptives and advise the client of another method of contraception.

b. Headaches	
<p>1. Minor headaches</p> <p>2. Severe headaches (e.g. migraines) i.e. Recurring severe head-pain, often on one side or pulsating that can cause nausea and worsen by light and noise or moving about.</p>	<ul style="list-style-type: none"> - Check B/P, if high B/P see above. - Suggest anti-pain (analgesics) - A woman who develops migraines while using COCs should switch to another method. She should not choose a progestin only method if she has blurred vision or brief loss of vision, see flashing lights or zigzag lines, or has brief trouble speaking or moving before or during these headaches. - Refer for care as appropriate.
<p>c. Amenorrhea If she has just a small stain not recognized as vaginal bleeding by the client.</p> <p>If it is sure she has been taking a pill regularly everyday.</p> <p>If she is not sure and might have missed the seven-day break between 2-day packets this may cause a missed period.</p> <p>If she is not sure and might have missed two or more active, hormonal pills in a row.</p> <p>If she has recently stopped taking COCs.</p>	<p>Re-assure the client and no medical treatment is necessary.</p> <p>2. Re-assure her that she is not likely to be pregnant, she should start the next packet of pills in time. Re-assure her that she probably is not pregnant.</p> <ul style="list-style-type: none"> - Assess whether she is pregnant. If she may be pregnant tell her, and inform her to stop taking COCs. Offer her condoms and/ or spermicide. She can use them until her next period comes and until it is otherwise clear whether or not she is pregnant. - If not pregnant let her know her periods may take few months to return. - If irregular periods before she took COCs it may be irregular again after she stops the pills.
<p>d. Nausea</p>	<p>Take pills with food or at bed time. If it persists switch to another method.</p>
<p>e. Spotting or Bleeding between monthly periods.</p> <p>1. If she has missed any pills</p> <p>2. If she has had vomiting or diarrhea, and is taking rifampin or medicines for seizures; these may make COCs less effective</p>	<p>Explain that missing pills can cause bleeding between periods (can occur even when taking pills every day, however). Assure her that this bleeding does not mean anything is wrong and usually diminishes after 3 months. Encourage her to use condoms and/or spermicide.</p>
<p>f. Weight gain</p>	<p>Inform about healthy eating and exercise.</p>
<p>g. Prolonged bleeding</p>	<p>Administer non - steroidal anti-inflammatory drugs. Use pill with more potent progestin. Use higher dose COCs</p>

B. Progestin - only pills

The progestin - only pill (POP) is an oral hormonal contraceptive containing only progesterone in a smaller dose than in the combined pill.

Mechanism of action

- Thicken cervical mucous making it difficult for sperm to pass through;
- It acts on the hypothalamus and pituitary and suppresses the Leutenizing Hormone (LH) surge responsible for ovulation. Ovulation is prevented in at least half of the cycles.
- It reduces development of the uterine lining and slow the movement of egg and sperm through the fallopian tubes.

Effectiveness

POPs are generally less effective than COCs. If used correctly and consistently 5 in 1000 (0.5%) women would become pregnant in the first year. In breast-feeding women however, the POP is nearly 100% effective.

Indications

POPs may be particularly appropriate for women who wish to use oral hormonal contraception and have any of the following characteristics:

- Cannot use or tolerate COCs.
- Is breast-feeding.
- Are diabetic.
- Are obese or thin.
- Have hypertension.
- Have migraine syndrome or have experienced focal migraine while using COCs.
- Have developed other Oestrogen - related complications while using COCs.
- Smoke cigarettes.
- In any age including adolescents and over 40.
- Have just had abortion or miscarriage.
- Have or not have children.

Advantages

- No estrogen side effects.
- Can be used by nursing mothers starting 6 weeks after childbirth.
- Women take one pill every day with no break. Easier to understand than 21 day combined COCs.
- Can be very effective during breast-feeding.
- May help prevent: benign breast disease, endometrial and ovarian cancer and pelvic inflammatory diseases.

Disadvantages

- Should be taken at about the same time to work best. For women who are not breast feeding, even taking a pill more than a few hours late increase the risk of pregnancy, and missing 2 or more pills increases the risk greatly.
- Lack of protection against STIs including HIV.

- Ectopic pregnancy is more likely among women who become pregnant as a result of minipill failure than among women who use other oral contraceptives.
- Interaction with anticonvulsants.

Side effects

- Menstrual cycle disturbances like break through bleeding, prolonged bleeding, spotting, and amenorrhoea.
- Headache
- Acne
- Mood changes

Provision of POPs

Who can provide POPs:(Same as for COCs)

Medical eligibility checklist for POPs

Ask and listen the client, and look and feel the following conditions. If the answer is “No” to all of the questions /conditions she can use POPs if she wants.

Questions / Conditions	Yes	No
- Is she pregnant?	<input type="checkbox"/>	<input type="checkbox"/>
- Certain pre-existing conditions: serious active liver diseases: (Jaundice, painful or enlarged liver, viral hepatitis, liver tumor)	<input type="checkbox"/>	<input type="checkbox"/>
- Has she or has she ever had breast cancer?	<input type="checkbox"/>	<input type="checkbox"/>
- Breast-feeding a baby less than six weeks old.	<input type="checkbox"/>	<input type="checkbox"/>
- Serious problems with her blood vessels and reporting blood clots.	<input type="checkbox"/>	<input type="checkbox"/>
- Taking medicine for seizures and taking rifampicin or griseofulvin.	<input type="checkbox"/>	<input type="checkbox"/>

Starting POPs

When to start? This depends on women's situation:

- Breast-feeding: as early as 6 weeks after childbirth.
- After child birth if not breast feeding: immediately on or any time in the first 4 6 weeks after childbirth. No need to wait for her menstrual period to return.
- After miscarriage or abortion: immediately or in the first seven days after either first or second trimester miscarriage or abortion.
- Having menstrual cycles:
 - any time it is reasonably certain that she is not pregnant.
 - in the first 5 days of menstrual bleeding. The first day of menstrual bleeding may be easiest to remember. No back - up method is needed for extra protection. If not starting in the first five days of menstrual period back up method is needed or avoid sex for at least the next 48 hours.

- When stopping another method:
 - immediately. No need to wait for a first period after using injectables.

Explain How to use the pill? Same as for COCs except the following.

a. Starting the next packet (28 or 35 pills of the same color packet):

When she finishes one packet, she should take the first pill from the next packet **on the very next day**. All pills are active, hormonal pills. There is no wait between packets.

b. What to do after missing pills:

- take most recent missed pill as soon as possible;
- abstain or use back-up method for 48 hours.
- Take next pill at regular time.

Follow - up

Same for COCs Except:

- If the client has developed breast cancer or active liver disease:
 - do not provide POCs,
 - refer for care,
 - help her choose a method without hormones.
- If she is taking medicines for seizures (phenytoin, carbamazepine, barbiturates, or primidone) or rifampicin or griseofulvin:
 - provide condoms or spermicide to use along with POCs;
 - if she prefers, or if she is on long term treatment, help her choose another effective method.
- If the client has developed any of the following conditions, see management of side effects/problems section.
 - Un-explained abnormal vaginal bleeding;
 - Bleeding that may suggest pregnancy or an underlined medical condition.
 - Heart disease due to blocked arteries or stroke.
 - Very bad headaches.

Management of side - effects / problems

Same as for COCs accept the following.

Side - effects /problems	Possible solution's
Amenorrhea or irregular bleeding or spotting in a breast feeding woman.	- Reassure the women that this is normal during breast-feeding, whether or not the woman is using POCs.
Amenorrhea or irregular bleeding and spotting in not - breast feeding woman.	- If she has been having regular monthly period while taking POPs and then suddenly had no period; she may have been ovulating, rule out pregnancy. - If not likely that she is pregnant, tell her that these bleeding patterns are normal with POCs. They are not harmful.
Un-explained abnormal vaginal bleeding (that suggests pregnancy or underlined medical condition)	- She can continue using packs, while her condition is being evaluated. - Explain that POCs sometimes change vaginal bleeding patterns. This is not harmful. - Evaluate and treat any underlined medical condition, including ectopic pregnancy, or refer for care.
Heart disease due to blocked arteries (ischemic heart disease) or Stroke.	-She can safely start using POCs. If, however, the condition develops after she starts using them, she should switch to a method without hormones. Refer for care as appropriate.
Very bad headaches (migraines) with blurred vision	- She can safely start using POCs. However, if these headaches start or become worse after she begins using POCs, she should switch to a method without hormones. -Refer for care as appropriate

9.2.2. Injectable Contraceptives

This section describes the most common type of injectable contraceptive DMPA (depot - medroxy Progesterone acetate) also known as Depo - provera which is given every three months. It contains a progestin, similar to the natural hormone that a woman's body makes.

There are other injectable contraceptives such as NET EN (Norethisterone enanthate) which is given every two months. Other monthly injectable contraceptives include cyclofem, cycloprovera and mesigyna.

Mechanism of action of DMPA

- Mainly stops ovulation (release of eggs from ovaries).
- Also thickens cervical mucus, making it difficult for sperm to pass.

Effectiveness of DMPA

Very effective 0.3 pregnancies per 100 women in first year of use (one in every 333) when injections are regularly spaced three months apart.

Indications for DMPA

DMPA injectable can be used in any circumstances by women who:

- Are breast feeding (starting as soon as 6 weeks after child birth)
- Smoke cigarettes.
- Have no children.
- Are any age, including adolescents and over 40.
- Are fat or thin.
- Have just had abortion or miscarriage.
- Also women with benign breast disease, headaches, high BP, iron deficiency anemia, varicose veins, vascular heart disease, irregular menstrual periods, malaria, schistosomiasis, sickle cell disease, thyroid disease, uterine fibroids, epilepsy and tuberculosis can use DMPA in any circumstances.

Advantages

- Long-term effective contraceptive.
- Private, no one can tell that a woman is using it.
- Does not interfere with sex.
- No daily pill taking.
- Allows some flexibility in return visits. Client can return from 2 to 4 weeks early (although this is not ideal) and 2 weeks and perhaps up to 4 weeks late for next injection.
- Can be used at any age.
- Can be used by nursing mothers as soon as 6 weeks after childbirth.
- No estrogen side - effects.
- Helps prevent ectopic pregnancies.
- Helps to prevent endometrial cancer.
- Helps prevent uterine fibroids.
- May help prevent ovarian cancer.
- Acceptable by many clients.

Disadvantages

- Delayed return of fertility.
- Requires another injection every 3 months.
- Does not protect against STIs including HIV/AIDS.

Side - effects

- Menstrual cycle disturbance:
 - Light spotting or bleeding. Most common at first.
 - Heavy bleeding can occur at first - Rare.
- Amenorrhea, normal, especially after first year of use.
- May cause weight gain, headaches, breast tenderness, moodiness, nausea, hair loss, less of sex drive and/or acne in some women.

Provision of DMPA

Who can provide DMPA?

Health workers who have been trained in administering injections.

Medical eligibility check list for DMPA

Ask and listen to the client for the following conditions. If the answer is NO to all of the questions/ conditions she can use DMPA if she wants.

Questions / Conditions	Yes	No
- Breast feeding a baby less than 6 weeks	_____	_____
- Certain pre - existing conditions: (Heart attack, stroke, sever chest pain with unusual shortness of breath, diabetes for more than 20 years, or damage to vision, kidneys, or nervous system caused by diabetes)	_____	_____
- High blood pressure above 160 (systolic) and above 100 (diastolic)	_____	_____
- Has she or has she ever had breast cancer?	_____	_____
- Serious active liver diseases (Jaundice, painful or enlarged liver, viral hepatitis, liver tumor).	_____	_____
- Pregnancy	_____	_____
- Unusual vaginal bleeding	_____	_____

Starting DMPA

It depends on woman's situation,

- Having menstrual cycles
 - Any time it is reasonably certain that she is not pregnant.
 - If starting during the first 7 days after menstrual bleeding starts, no back-up method is needed for extra protection.
 - If she is starting on or after day 8 of her menstrual period, she should use condoms or spermicide or avoid sex for at least the next 48 hours. If possible give her condoms or spermicide.
- Breast feeding
 - As early as 6 weeks after childbirth.
 - If menstrual periods have returned, she can start DMPA any time it is reasonably certain that she is not pregnant.
- After childbirth if not breast-feeding.
 - Immediately or at any time in the first 6 weeks after child birth.
 - After 6 weeks any time it is reasonably certain that she is not pregnant.
- After miscarriage or abortion.
 - Immediately or in the first 7 days after either first or second trimester miscarriage or abortion.
 - Later any time it is reasonably certain that she is not pregnant.
- When stopping another method.
 - Immediately.

Explaining how to use

- Explain that she should receive injection of DMPA every 3 months.
- Explain to her that she has to come back any time she has questions or problems or wants another method.
- Mention and explain the most common side - effects.

Giving the injection

a. Equipment and supplies needed:

- One dose of DMPA (150mg = 1mL)
- An antiseptic and cotton wool.
- A 2 or 5ml syringe and a 21 to 23 gauge IM needle. (All sterile).

b. Steps in giving the injection

- Wash hands and if possible wear clean gloves.
- Shake vial gently, wipe top of vial and stopper with antiseptic, and fill syringe with proper dose (150gm).
- Clean the injection site.
- Insert the sterile needle deep in to the upper arm (deltoid muscle) or gluteal muscle upper outer quadrant. For DMPA the upper arm is more convenient.
- Do not massage the injection site. Explain that this could cause DMPA to be absorbed too fast.
- Dispose needles and syringes as appropriate.

Proper handling of needles and syringes

- Use disposable needles and syringes if available.
- Dispose needles and syringes.
 - Place used disposable needles and syringes in a puncture- proof container,
 - Burn or bury the container when three - quarters full.
 - Do not put disposable needles in trash. Do not re-cup, bend or break needles before disposal.
 - Do not re-use disposable needles and syringes.
- Re-usable needles and syringes
 - Use properly sterilized or high level disinfected re-usable needles and syringes if disposable are not available.
 - The needles and syringes must be sterilized or high level disinfected again after each use.

Follow-up

- Tell the client the name of the injection and the date when the next Injection is due.
- A follow-up review may be performed at any of the visits during which the client obtains a repeat injection:
 - up-date the client's address and how to contact her.
 - assess the client's satisfaction with the method.
 - determine if the client has had any problems or side - effects and, if so, record them in the clinical record.
 - update the medical history; measure BP and weight and perform any other examination indicated by the history.
 - provide appropriate counseling and/or treatment as required.
 - encourage the client to contact the clinic any time if she has any questions, complaints or problems.
- Late repeat injections:
 - if the client comes 2 weeks late after the allowable time for repeat injection; to make certain she is not pregnant:
 - take careful history;
 - if indicated, perform a pregnancy test and/or a pelvic examination.

Management of side - effects / problems

If the client reports any of the common side - effects of DMPA:

- Do not underestimate the woman's concerns or take them lightly.
- If the woman is worried, reassure her that such side - effects are not usually dangerous or signs of danger.
- If the women is not satisfied after treatment or counseling, help her choose another method if she wishes.

9.2.3. Norplant Implants (Sub - dermal implants)

The Norplant implant system is a highly effective, long acting, reversible, low dose, progestin only contraceptive. It consists of a set of 6 small, soft, slender, silicon rubber capsules each containing 36mg of levonorgestrel.

Mechanism of action:

- Norplant inhibits ovulation;
- Thickens cervical mucus making it difficult for sperm to pass through.
- Causes changes in the uterine lining.

Effectiveness

Very effective - the failure rate in the first year is 0.1 - 0.2 pregnancies per hundred women. After 5 years, the total (commutative) pregnancy rate is only 3.7 percent.

Pregnancy rate is slightly higher among women weighing more than 70kgs.

Indications

Norplant implants are suitable method for most women of reproductive age, but they are particularly indicated for women who:

- Want a long term contraceptive method,
- Desire a method that is not coital related,
- Prefer a method that neither is taken daily nor requires frequent supply,
- Have the number of children they want, but do not wish to be sterilized,
- Are considering sterilization, but are not yet ready to make a final decision,
- Should not use estrogen containing contraceptives,
- Have problems remembering to take oral contraceptives

Advantages

- Very effective, even in heavier women,
- Long term protection, but reversible,
- No need to do anything at time of sexual intercourse,
- Increased sexual enjoyment because no need to worry about pregnancies,
- Nothing to remember. Requires no daily pill taking or repeated injections,
- No repeated clinic visits required,
- Effective within 24 hours after insertion,
- Fertility returns almost immediately after capsules are removed,
- Can be used by nursing mothers starting 6 weeks after child birth,
- No estrogen side - effect,
- Help prevent iron - deficiency anemia, ectopic pregnancies, endometrial cancer,
- High continuation rate.

Disadvantages

- Client cannot start or stop use on her own. Capsules must be inserted and removed by specially trained health care provider.
- Minor surgical procedures required to insert and remove capsules and may bother the client.

- Discomfort for several hours to one day, perhaps for several days for some clients after insertion. Removal is sometimes painful and often more difficult than insertion,
- Do not protect against STIs including HIV/AIDS,
- It is expensive,
- Local inflammation or infection at the site of implants,
- Norplant's effectiveness is lowered more significantly by anti seizure medicines and refampicin than are other hormonal contraceptives.

Side - effects

Common side - effects include:

- Changes in menstrual bleeding including,
 - light spotting or bleeding between monthly periods (common);
 - prolonged bleeding;
 - ammenorrhea.
- Other minor side - effects include:
 - weight gain (a few women lose weight).
 - headaches.
 - Nausea.
 - dizziness.
 - acne or skin rash.
 - breast tenderness and/or discharge.
 - change in appetite.
 - enlargement of ovaries or ovarian cysts.
 - hair loss or more hair growth on the face.

Provision of Norplant

Who can provide Norplant?

Doctors, health officers, nurses, midwives and other health professionals who have been trained in counseling and in insertion and removal procedures.

Medical eligibility checklist for Norplant:

Ask, listen and assess the client for the following conditions. If the answer is NO to all of the questions/conditions she can use Norplant implants if she wants.

Questions / Conditions	Yes	No
- Breast feeding a baby less than 6 weeks old	_____	_____
- Problems with blood vessels.	_____	_____
- Jaundice, sever liver cirrhosis, liver infection or tumor	_____	_____
- Have or ever had breast cancer.	_____	_____
- Unusual vaginal bleeding.	_____	_____
- Taking medicines for seizure.	_____	_____
- Pregnancy.	_____	_____

Starting Norplant Implants

This depends on woman's situation:

- **Having menstrual cycles:**
 - Any time it is reasonably certain that she is not pregnant;
 - If started during the first seven days after menstrual bleeding no backup method is needed for extra protection;
 - If starting on or after day 8 of her menstrual (period, she should use condoms or spermicide or avoid sex for at least 48 hours after insertion. If possible give her condoms or spermicide.
- **Breast-feeding:**
 - As early as 6 weeks after childbirth.
 - If menstrual periods have returned, she can start any time it is reasonably certain that she is not pregnant.
- **After child birth if not breast feeding:**
 - Immediately or at any time in the first 6 weeks after child birth. No need to wait for her menstrual period to return.
 - After 6 weeks, anytime it is reasonably certain that she is not pregnant.
- **After miscarriage or abortion:**
 - Immediately or in the first 7 days after either first or second trimester miscarriage or abortion.
 - Later, any time it is reasonably certain that she is not pregnant.
- **When stopping another method:**
 - immediately.

Explain how to use Norplant implants

Explain to the client:

- To keep the insertion area dry for 4 days, she can take off the gauze after 2 days and the adhesive bandage after 5 days.
- To remember that, after the anesthetic wears off, her arm may be sore for a few days. She also may have swelling and bruising at the insertion site. This is not a cause for alarm.
- To return to the clinic or see a nurse or doctor if the capsules come out or if soreness in her arm lasts more than a few days.
- About the most common side effects.

Insertion and removal of Norplant

Equipment for insertion of Norplant implant:

- 1 sponge - holding forceps.
- 1 iodine cup.
- 1 syringe and long needle.
- 1 scalpel with blade.
- 1 Norplant trocar and cannula
- 1 strapping tape

Insertion procedures:

- Use proper infection- prevention procedures,
- Use only local anesthesia;
- Make a small incision in the skin on the inside of the upper arm.
- Insert the capsules just under the skin. This makes the capsules easier to remove later.
- After all 6 capsules are inserted close the incision with an adhesive bandage. Stitches are not needed. The insertion is covered with a dry cloth and warped with gauze.

Equipment for removal of Norplant implant:

- 1 sponge holding forceps.
- 1 iodine cup.
- 1 syringe and long needle.
- 1 scalpel with blade.
- 2 mosquito forceps.
- 1 strapping tape.

Removal Procedures

- Use proper infection - prevention procedures.
- Use only local anesthetic.
- Make a small incision about where the capsules were inserted.
- Use an instrument to help pull the capsules out.
- Close and bandage the incision, stitches are not needed.

N.B. If a woman wants to continue using Norplant implants, the new capsules are placed elsewhere in the same arm or in the other arm.

Indications for removal

- User's firm request.
- Pregnancy (confirmed).
- Medical reasons; for example:
 - heavy menstrual bleeding.
 - symptoms of acute liver disease.
 - serious infection of insertion site not amenable to treatment with antibiotic and/or local measures.
- Repeatedly occurring severe headache or migraine type headache occurring for the first time.
- At the end of 5 years after insertion.

Follow up

- The client should be seen within one month after insertion to check insertion site. Then at least every year.
- Annual follow up:
 - update the client's address and how to contact her.
 - assess the client's satisfaction with the method.
 - determine if the client has had any problems or side effects.

- update the medical history.
- perform physical examination including BP, breast examination (with instructions for self examination), a bi-manual pelvic examination with a pap smear if this is due and possible.
- provide appropriate counseling and/or treatment as required.
- review with the client the warning signs and instructions given at the previous visit.
- encourage the client to contact the clinic any time if she has any questions, complaints or problems.

Management of side - effects / problems

If the client reports any of the common side - effects of Norplant implants:

- Do not underestimate the woman's concerns or take them lightly,
- If the woman is worried, reassure her that such side effects are not usually dangerous or signs of danger.
- If the woman is not satisfied after treatment and counseling, ask her if she wants the Norplant capsules removed. If so, remove the capsules or refer for removal even if her problems with the Norplant implants would not harm her health. If she wants a new method, help her choose one.

9.3. Barrier Methods

Barrier methods include intrauterine contraceptive device, Condoms, Diaphragms, Cervical caps and Spermicides.

9.3.1. Intrauterine Devices (IUDs)

Intrauterine devices are small flexible devices made of metal and/or plastic that come in different shapes and sizes and are inserted in the uterus through the cervix. The various shapes include ring, loop, spiral, T shape, 7 shape and others. Some are coated with copper, and some contain small amounts of the female hormone progesterone. Most IUDs have a short "tail" or string that the women can feel by putting her fingers into her vagina. The most commonly used type in most countries including Ethiopia is Copper 380A.

Mechanism of Action

The exact mechanism of action of IUDs is not completely understood. However, evidences now indicates that the IUD prevents pregnancy by a combination of mechanisms of action including:

- Inhibition of sperm migration in the upper female genitalia,
- Inhibition of ovum transport,
- Inhibition of fertilization,
- Inhibition of ovulation.

Effectiveness

Copper -T 380A has proved to be highly effective for at least 10 years with failure rate of 2.6 per 100 women. The hormone coated (Levonorgestrel) releasing IUD lasts for more than 5 years with low failure rate similar to those of the copper - T 380A.

The failure rate of IUDs tends to be lowered if:

- the IUD is medicated with copper and progesterone,
- the IUD has a larger surface area,
- the IUD has a low expulsion rate ,
- partial and complete expulsions are detected quickly,
- the IUD is inserted all the way to the top of the fundus,
- used in older women.

Indication

The IUD should be provided to any women who requests after receiving appropriate counseling and reaching an informed decision and who has no contraindications to its use.

Contraindication

- Active, recent or recurrent pelvic infection.
- Suspected or known pregnancy.
- Cancer of the uterus, cervix or ovaries.
- Congenital uterine abnormalities or benign tumor of the uterus (myoma).
- Undiagnosed abnormal uterine bleeding (AUB).
- Risk factors for exposure to STD's including HIV/AIDS.
- Risk factors for pelvic inflammatory diseases such as:
 - post partum endometritis,
 - infection following abortion that occurred in the past three months,
 - impaired response to infection,
 - diabetes /steroid treatment.
- History of ectopic pregnancy
- Impaired coagulation response
- Valvular heart disease

Advantage

- Very little supervision or follow up.
- Highly effective with low failure rate.
- Doesn't reduce breast milk (can be used by breast feeding mother).
- Can be used to menopause

Disadvantage

- Not suitable for all women because of risk of increased infection
- Needs a trained health worker for the initial screening and insertion or removal.
- Does not protect against STDs, including HIV/AIDS.
- In about 0.1% of cases there is uterine perforation during insertion.
- May increase risk of PID (Pelvic inflammatory diseases).
- May come out of the uterus without the client knowing.
- Increases menstrual blood flow and cramps.

Side Effects and Complications

- Bleeding from the wombs and pain in the abdomen (abnormal uterine bleeding).
- Spotting between periods.
- IUD expulsion.
- Pregnancy including Ectopic.
- Infertility.
- PID (increased risk within the first four months).
- Uterine perforation.
- Anemia.
- Difficult removal of the IUD.

Explanation to the Client (Information and Counseling)

All IUD clients must receive appropriate counseling for selecting and using the method. For selecting the method, discuss the following points with each client in a language she understands.

- Advantages and disadvantages, effectiveness, risks and benefits, side effects, procedures of insertion and removal and cost.
- Alternative methods of family planning.
- The type of IUD to be inserted (show a sample) and proper time for its replacement.
- The importance of regular follow - up visits

Provision of IUD

Who can insert IUDs?

Doctors, midwives, nurses and other health professionals can insert IUDs, provided that they have been properly trained.

Health Assessment before IUD insertion

The purpose of the health assessment is to determine the clients' suitability for the use of the method.

- History:** History of diabetes, anemia, immune depression, STDs including HIV/AIDS, PID and risk factors to STDs such as multiple sexual partners.
- Physical Examination:** Speculum visualization of cervix, bimanual pelvic examination and other examination as indicated by the medical history.
- Laboratory Tests:** Are not routinely done but when indicated by medical history and physical examination. Whenever possible and appropriate selected tests as part of reproductive health services can be done including:
 - Urine analysis for glucose and protein
 - VDRL (syphilis screening)
 - Hemoglobin or haematocrit
 - Pap (cervical smear)

Timing of Insertion

- If the client is not at risk of pregnancy:** Insert an IUD any time during the menstrual cycle especially at mid cycle because cervical opening is a little larger than usual.

ii. **If the client is at risk of pregnancy:** A pregnancy test should be done before inserting the IUD or it should be inserted during the next menstrual period (within five days of start of menses)

iii. **If Post partum:**

- Immediately following childbirth after the placenta has been expelled or within 1 or 2 days after delivery.

Note: It needs special training

- Six to eight weeks post partum in exclusively breast-feeding women who have amenorrhea, since pregnancy is very unlikely.

iv. **If Post abortion:** Insert immediately after uncomplicated abortion. If infection is present, treat, provide alternative method and reconsider IUD insertion three months later.

Inserting the IUD

Minimum equipment requirements for IUD insertion

- sponge - holding forceps,
- tenaculum or Allis - chalmers forceps,
- pean artery forceps, curved,
- speculum,
- uterine sound,
- iodine cup,
- pair of scissors,

Technique

The procedure should be done under aseptic technique.

1. Explain the procedure to the woman
2. Perform a careful bimanual examination
3. Cleanse the vagina and cervix with bactericidal solution
4. Insert the speculum
5. Grasp the anterior lip of the cervix and expose with tenaculum.
6. The uterine cavity should be measured with uterine sound slowly and gently. Do not attempt to insert the IUD into uterus, which sounds less than 6.5 cm.
7. Load the IUD into the inserter barrel under sterile condition.
8. Introduce the inserter barrel through the cervical canal into the uterine fundus by applying steady gentle traction on the tenaculum.
9. Insert the IUD into the cavity of the uterus either by push technique or withdrawal technique. The withdrawal technique is slightly preferred. Insertion should be done slowly and without much force.

Note: Follow the instruction of each device according to the manufacturer.

Push technique: Plugging the inner plunger into the outer barrel.

Withdrawal technique: retracting the outer barrel over the plunger

10. Gently and slowly remove the inserter barrel from the cervical canal.
11. Clip the strings. Leave about 5cm; it is always possible to trim strings at a later date, and you should be able to see the strings protruding from the cervical OS.
12. Remove the tenaculum and then the speculum

13. Ask the client how she is feeling, reassure her that some cramping is normal and ask her to remain in supine position for about 5 minutes and then help her to sit up. The recovery period may be up to 20 or 30 minutes.
14. Offer or recommend analgesics for the first 24 - 48 hours after insertion.

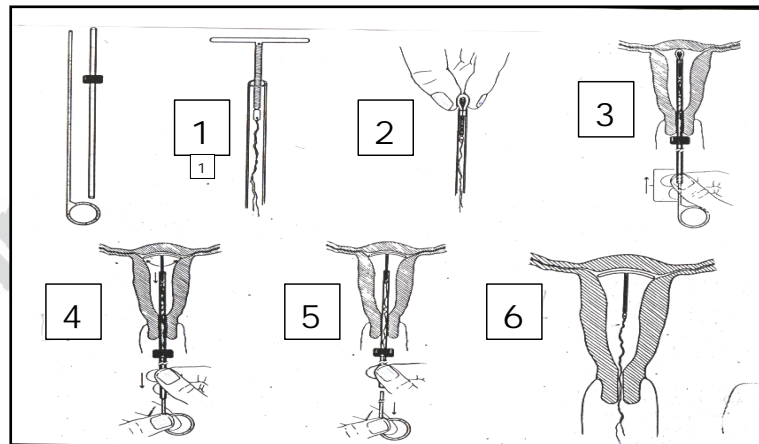


Fig. Insertion of IUD

Instruction to the client

- IUD is effective immediately as a contraceptive method.
- Check for the IUD string because IUD can expel especially during the first 6 weeks after insertion or during menstrual period.
- Methods to check:
 - Wash hands first.
 - Sit in squatting position and reach into the vagina with your two fingers, as far as you can reach and feel the strings. Be careful not to dislodge the IUD by pulling on the string.
 - Wash your hands again.

How often to check

- Every week during the first month after insertion.
- After each menstrual period and mid way between periods.
- After any of the following symptoms:
 - Cramping in the lower abdomen,
 - Spotting between period,
 - After intercourse and
 - Painful intercourse

N.B. Advise the women to return to the clinic as soon as possible if she:

- sees the following danger signs:

- P - Period late (pregnancy) abnormal spotting or bleeding,
 A - Abnormal pain, pain with intercourse,
 I - Infection exposure (such as Gonorrhoea) abnormal discharge,
 N - Not feeling well - fever, chills and
 S - String missing, shorter or longer.

- Feels the hard part of the device in the vagina or cervix
- Expels the device

N.B. In the mean time she should use a non-hormonal method of contraception such as condoms.

Follow up

Advice to visit a clinic for a routine follow up with in three months (not before the first menstrual period). The purpose of the follow up is to check that the IUD has not been expelled and there are no major complaints. There after a routine follow up is advisable every year.

Indications for removal of an IUD

- When the client makes a firm request.
- When there is a medical indication for removal such as: pregnancy, acute PID, endometrial or cervical malignancy, and abnormal and excessive bleeding with evidence of anemia.
- When the effective life span of the IUD expired (this applies for medicated IUDs).
- When the women reaches menopause (remove the IUD one year after the last period)

N.B. When there is a complication, refer to the nearest hospital.

9.3.2. Condom

I. Male Condom

Definition: male condom is a cylindrical thin sheath, which is closed at one end and worn over an erect penis before intercourse. Most of them are made of latex rubber, minority are made of animal tissue or synthetic plastic. Most condoms have lubricants, which also have spermicidal effect.

Mechanism of action

It prevents sperm from entering into the vagina.

Effectiveness

Correct and consistent use results only 3 pregnancies/100. However it has high failure with pregnancy rate of 14 per 100 users with in first year if not properly used.

Indication

- To all individuals who requested them whether or not use other alternative methods.
- Protection against STDs, including HIV transmission is needed.
- When the male partner wished to take responsibility for contraception
- A woman who is breast-feeding and needs a contraceptive.
- A female partner with cervical lesion.

Advantages

- No systemic side effects.
- Protection against STDs including HIV/AIDS.
- No medical contraindication.
- Does not require medical screening.

- Used as back up method.
- Easy to use and relatively inexpensive.

Disadvantage

- High failure rate.
- Allergic reaction in few people.
- Condoms can weaken if they are stored in hot, moist conditions or under direct sunlight.

How to use a condom

1. Put the condom on erect penis before the penis is inserted in to the vagina (partner can do this). Demonstrate by using a model, banana or fingers while explaining.
2. Wait until the vagina is well lubricated because a condom can tear if the vagina is dry.
3. Roll the condom all the way to the base of the erected penis.
4. Leave empty space at the tip of the condom. If extra lubrication is needed use water, K Y Jelly or contraceptive foam, gel or cream.

Note: Do not use petroleum jelly or oil.

5. After intercourse, withdraw the penis immediately holding on to the ring of the condom to prevent spilling.
6. Check the condom for tears. Then, throw it away in a safe place.

Instruction to the Service Provider

- Explain the instruction to the client. Ask the client to repeat the instruction to you his/her own words. If he/she has misunderstood or omitted any instruction, repeat again.
- If possible, give a three-month supply of condoms. If the client needs additional protection, give also spermicides or spermicidally lubricated condom.
- Be sure dispensed condoms have been stored away from heat and light and more than three years old.

Advice to the Client

Urge clients to return if he

1. Has symptoms of STDs.
2. Has allergic reactions to condom.
3. Needs more condoms.
4. Is dissatisfied with condoms for any reason.
5. Has any questions or problems.

II. Female Condom

The female condom is a soft transparent plastic sheath. At each end, it has a flexible soft ring, which supports it inside the vagina. Like the male condom, it is prelubricated.

Mechanism of action

The condom lines the vaginal wall and forms a barrier against sperm and organisms that cause sexually transmitted diseases including HIV/AIDS.

Effectiveness: It has failure rate of 5 - 21%.

Advantage

- It doesn't need health worker to provide it.
- Controlled by the women.
- No medical contraindications and no systemic side effects.
- Protects against STDs including HIV/AIDS.
- Can be used as back up method.
- Can be inserted many hours before sex

Disadvantage

- Currently expensive.
- High failure rate.
- Insertion is not easy.

Procedure

How to use

- Some time before sex, the woman places the closed end of the sheath high in her vagina. (Follow the instructions provided by manufacturer).
- The closed end contains a flexible, removable ring to help with insertion. A larger flexible ring around the open end of the sheath stays outside the vagina.
- Meant for one - time use.
- Can be used with other family planning methods to add STD protection.

9.4.3. The Diaphragm

It is a shallow, dome shaped, circular rubber cup with a firm but flexible rim. It is inserted into the vagina to cover the cervix and upper vagina. It has to be used with spermicide.

Mechanism of action

The diaphragm prevents pregnancy by blocking entrance of sperms to the uterus. The spermicides should be applied on both sides of the diaphragm and inactivates or kills the sperms. The diaphragm has to be left in the vagina six hours after the last intercourse but not more than 24 hours. Another intercourse act requires addition of the spermicide.

Effectiveness

The failure rate of the diaphragm is about 18%.

Indication

- The diaphragm should be provided to any woman who requests it after receiving appropriate counseling and reaching informed decision.
- It is appropriate for a woman. Who:
 - wants her own method of contraception ,
 - wishes to separate the time of application from the time of intercourse, and
 - can learn the insertion technique.

Contraindication

Contraindications are few, which include

- Chronic cervicitis.
- Genital abnormalities, which make insertion difficult.
- History of toxic shock syndrome, and allergy to latex or spermicides.

Advantage

- Can be used as back up method.
- Can be stopped at any time.
- Appropriate for women who have infrequent intercourse.
- No effect on breast cancer risk.
- Easy to insert, and be used again, (reusable)
- No side effects of hormones.

Disadvantage

- High failure rate.
- Not good to use in the first 12 weeks post partum when the pelvic organs are reorganizing.
- Not appropriate for those who are prone to urinary tract infections.

Complication/ side effects

- Urinary tract infection
- Vaginal lesion caused by diaphragm's rim.
- Toxic shock syndrome.
- Local irritation caused by sensitivity or allergy.
- Partner or user discomfort.
- Vaginal discharge and odour (if left more than 24 hours).

Equipment Needed

- Sterile sample of diaphragms in range of sizes.
- Sterile jelly or boiled water to lubricate diaphragms during fitting.
- Non sterile gloves.

N.B. Samples of diaphragms should be disinfected for the next client.

Procedure

1. Select the appropriate size by doing vaginal examination:

- with the first and second fingers in the posterior fornix, the thumb of the examining hand is placed against the first finger to mark where the first finger touches the pubic bone.
- the distance between the tip of the middle finger and the tip of the thumb is the diameter of the diaphragm that should be first tried .
- a set of test diaphragms of various size is used and the next diaphragm is inserted and checked by palpation.
- the largest diaphragm that fits comfortably should be selected. The woman does not feel the diaphragm if it fits properly. A size 65, 70, or 75 will fit most women.

2. The patient should practice insertion and should be reexamined to confirm the proper position of the device.
 - the diaphragm can be inserted several hours prior to intercourse. If intercourse is repeated she should add spermicides into the vagina without removing the diaphragm.
 - the diaphragm should be left in place at least six hours after intercourse to allow immobilization of sperm then, it is removed, washed with soap and water, allowed to dry, and stored away from heat.

How to insert

1. Hold the diaphragm with the dome down, (like a cup).
2. Apply spermicidal cream or Jelly into the cup of the diaphragm and around the rim.
3. Press opposite side of the rim together, with the dome side towards the palm of the hand push the diaphragm into the vagina as far as it goes.
4. With a finger touches the diaphragm to make sure it covers the cervix through the dome of the diaphragm. The cervix feels like the tip of the nose.

How to remove

The diaphragm should not be left for more than 24 hours (increase risk of toxic shock syndromes).

1. Insert a finger into the vagina until the rim of the diaphragm is felt.
2. Gently slides a finger under the rim and pull the diaphragm down and out.
3. Note: Be careful not to tear the diaphragm with a finger nail.
4. Wash, check for holes, dry and store in a clean, dark and cool place if possible.

Follow up

- Arrange a follow up visits in one to two weeks to re check fit and usage.
- Instruct the women to wear the diaphragm for at least 8 hours before the visit to check fitness
- Encourage the client to return at any time for problems such as side effects, losses or gains weight more than 5 kg., complains of discomfort.

9.3.4. Cervical cap

These devices, also made of soft rubber, are an alternative to the diaphragm for some women. The cup is much smaller than the diaphragm, does not contain a string in the rim and covers only the cervix. Like diaphragm they also come in different sizes.

Mechanism of action:

Act in a similar way to the diaphragm. They are used with spermicides. They block the sperm from entering the uterus.

Effectiveness

The failure rate of cervical cap varies from 18% for nulipara to 36% for multipara.

Indication

Similar to diaphragm

Contraindication and side effect

Similar to diaphragm

Advantage

- Safe, women controlled.
- Offer contraception when needed.
- No side effects from hormones.
- No effect on breast milk.
- Can be stopped at any time.
- Easy to use with little practice.

Disadvantage

- High failure rate.
- Less effective in parous women.
- Not widely available.
- Requires fitting by family planning provider.
- Sometimes may be difficult to remove.
- Cap should be washed after each use.

Procedure

Materials:

- Sterile samples of cervical caps usually size 22 and 25.
- Sterile jelly or boiled water.
- Non sterile gloves.

How to insert

1. The cervical size is estimated by inspection and palpation (using speculum)
2. Select the appropriate size.
3. The cap is 1/3 filled with spermicides.
4. The cap is inserted by compressing it through the finger and thumb and placing it through the vagina, dome outward.
5. Push the cap gently upward to fit over the cervix. The dome indented with the examiners finger to create suction against the cervix.
6. Check for evidence of suction after the cap has been in place for a minute or two by rotating the cap.

N.B.: Multiparous women usually requires a size 22 while parous women generally are fitted with a size 25. The client should be instructed to check for dislodgment after intercourse.

How to Remove

1. The cap should be left at least six hours after intercourse (it should not be left for more than 48 hours).
2. Insert a finger into the vagina until the rim of the cap is felt.
3. Press on the cap rim until the seal against the cervix is broken, and then tilt the cervix.
4. Hook a finger around the rim and pull it side ways out of the vagina.
5. Wash, dry and store like that of diaphragm.

Follow up

Similar to diaphragm

9.3.5. Cervical sponge

The contraceptive sponge is a small round, dimpled sponge containing spermicide. It is moistened with water, then placed to the vagina before sexual intercourse. Each sponge is used only once, and should be thrown away after use. As long as it is left in, it will provide contraceptive protection for up to 24 hours. It should be taken out six hours after intercourse.

Mechanism of action

The sponge prevents pregnancy by releasing spermicide, and by absorbing and acting as a barrier to semen, thus preventing sperm from entering the cervix.

Effectiveness

Failure rates of 36% for women who had children before and 18% for those who have not.

Indication / contraindication

No special indication or contraindication unless allergy to spermicides

Advantage

- Once applied used for multiple intercourse (for 24 hours).
- No side effects from hormones.
- Disposable.
- Easy to apply.
- Does not need assistance to apply or fitting.
- Does not need regular check up and can be obtained with out visit to a clinic.

Disadvantage

- Expensive if intercourse occurs frequently.
- Less effective in parous women.
- Not suitable for prolonged wear.
- Less available.
- May slip out of place during intercourse.

Side effects/ complication

- Allergy to spermicides.
- Rarely toxic shock syndrome.

Procedure

Instruction to the client

When to use

- Use when ever you have intercourse.
- Plan to insert the sponge before intercourse and when you have water.
- Never use any sponge more than once (disposable).

When not to use

- During heavy menstrual bleeding.
- Do not use it to absorb vaginal discharge.
- During the first six weeks after childbirth.

How to insert

1. Wash hands with soap and water before inserting and removing.
2. Moisten it with two table spoons of clean water and squeeze it once.
3. Locate cervix with the finger.
4. Insert; the sponge should rest with its dimple side against the cervix and the removal loop side to ward the finger.
5. Check for placement of the sponge before intercourse-check again after intercourse the cervix is still covered by the sponge.
6. If it is not in place, use another contraceptive method.
7. Leave the sponge for at least six hours after intercourse but not more than 24 hours.

9.3.6. Spermicides

Spermicides are chemicals that inactivate and kill sperm. To a certain extent they also form a barrier over the cervix. The different kinds of carriers for spermicides include creams, jellies, or gels, suppositories, foaming tablets and aerosol foams.

Mechanism of Action

Inactivate and kill sperm. Usually used as a supplement to other barrier methods. They offer protection against some STDs, but the effect against HIV has not been proved.

Effectiveness

When used alone, it is less effective than other alternative modern methods.

Failure rate it about 20%.

Indication

- To any individual who requested it.
- Appropriate for:
 - highly motivated individual to use it effectively,
 - women's natural fertility is decreased by age and breast feeding, and
 - wish to use spermicides in association with other barrier method.

Contraindication

Allergy to spermicides.

Side effect / complication

Allergy (skin irritation)

Advantages

- Some protection against STDs (bacterial).
- Easy to insert and can be used by any one.
- Serves as lubricant.
- No systemic effects of hormone.
- May protect against cervical cancer.

Disadvantages

- May interrupt sexual act (for tablets and suppository 10 - 15 minutes are needed for dissolving).
- Must be used before each act of sexual intercourse.
- Causes more wetness for vagina for several hours after intercourse.
- Tablets may cause sensation of heat to the women or the partner.
- Irritation and discomfort with frequent use.
- Less effective (high failure rate) compared to other modern method.

Procedure

Instruction to the client on how to insert

1. Wash your hands.
2. Insert foam, jelly or cream deep into the vagina just before intercourse.
3. Foam, jelly or cream are inserted using applicator as follows:
 - shake the can up and down to mix.
 - fill the applicator.
 - place the applicator high up into the vagina then push in the plunger so that their foam, jell or cream goes up into the vagina.
4. Wash the foam applicator with soap and water after use.
5. Keep a spare container of spermicides at home.
6. Tablets or suppositories are inserted:
 - wash your hands.
 - using the middle and index finger push the tablet or suppository deep into the vagina 10 - 15 minutes before intercourse.
 - withdraw the middle finger and push the tablet and suppository deeper with the index finger, until it touches the cervix.
 - Wait at least six hours after intercourse if douching is wanted.

Follow up

Remind the client to return to the clinic if side effects, dissatisfaction with the methods, symptoms of STDs otherwise, she should return when more spermicide is needed

9.4. Natural methods

9.4.1. Periodic abstinence (Fertility awareness)

Periodic abstinence is a method of contraception which provides a time barrier between spermatozoa and the ovum by avoiding sexual intercourse during the fertile phase of the menstrual cycle. This method depends on the couple's ability to identify the fertile phase of each menstrual cycle and their motivation and discipline to practice abstinence when required. Appropriate counseling, adequate teaching of the technique and supportive follow - up are essential for the effectiveness.

Periodic abstinence techniques include:

- the basal body temperature method.
- the cervical mucus or ovulation method (Billing's method),
- the calendar method or rhythm method, and
- the sympto - thermal method.

Effectiveness

The over all failure rate of natural methods of family planning is about 20%

Indication (General)

Periodic abstinence is generally indicated to couples that do not wish to use another method because of:

- fear of side effects,
- religious or other cultural constraints, and
- difficult access to other methods.

Contraindication: None**Advantage**

- No physical side effects.
- More opportunity for the couples to learn about their sexual physiology and reproductive functions.
- The responsibility of family planning by both partners.
- After initial training no additional assistance and almost no cost.

Disadvantage

- Needs high commitment and cooperation of both partners.
- Has high failure rate.
- Relatively long training is needed.
- Daily monitoring and recording of signs of fertility may be bother some women.
- Needs long periods of sexual abstinence, which may lead to marital difficulties.
- Difficult to use in woman with irregular cycles.
- Signs and symptoms which predict fertility are highly variable during breast-feeding.

A. The Basal body temperature method (BBT)

The basal body temperature is based on the increase in body temperature that occurs shortly after ovulation. The temperature rises by 0.2 - 0.4°C and remains high until the next period. The couples are advised to refrain from sexual intercourse between the first day of menstruation and the third consecutive day of elevated temperature (sexual intercourse can be done from the third day/night of temperature rise until the next menstruation)

Indication

- If the women is reluctant to touch her genitals.
- If the couple are willing to abstain from sexual intercourse for long period of time.
- If the woman has irregular menstrual cycles.

Advantage

- No systemic or long term effect.
- Encourage discussion about family planning between the couples.

Disadvantage

- High failure rate.
- Requires several days of abstinence.
- Needs longer duration to practice.
- False interpretation in case of febrile condition.
- Special thermometer may be required.

Instruction to clients

- Taking the temperature
- Use thermometer, which has a scale with a wider range (easy to read).
- Keep the thermometer near the bed within hands reach.
- Shake the thermometer to lower the mercury level at night before going to bed.
- Take the thermometer and measure the temperature immediately after waking up (before going out of bed) for any activity.

N.B.

- Make sure that the thermometer reads below 35°C before use. If not shake the thermometer again.
- The temperature should be measured at the same time each day during a particular cycle.
- If the woman is working on night shift measure the temperature during the day or in the evening after at least 3 - 5 hours of rest at the same time of each day.
- The temperature can be measured by the oral, rectal or vaginal route (rectal and vaginal route are more reliable).

Always use the same route and the same thermometer throughout one menstrual cycle as long as it functions.

Technique of Measuring

Oral route: Place the bulb of thermometer under the tongue with lips closed for five minutes.

Rectal route: Use a rectal thermometer, smear a little petroleum jelly or kyjelly on the bulb and insert the thermometer into the rectum for about 2.5 cm while lying down are on side with knees drawn up. Keep the thermometer inside the rectum for three minutes.

Vaginal route: Insert the thermometer gently in to the vagina for about 4.5 cm and leave it for three minute.

N.B. After removing the thermometer, take the reading and record it on the chart.

Clean the thermometer using cool water and return to its usual storage place.

B. Cervical mucus method

The cervical mucus method is based on recognizing and interpreting cyclic changes in cervical mucus that occur in response to changing oestrogen levels. The fertile and infertile period is determined by changes in the appearance and viscosity of the cervical mucus. There is increased amount of slippery, mucus, which reaches peak just before

ovulation. This property is called Spinnbarkeit phenomenon. The fertile phase begins when stretchy and slippery mucus is first noticed and ends four days after the last day of fertile mucus.

Indication

Similar to BBT method and if the woman are willing to touch her genitalia.

Advantage

Similar with BBT method

Disadvantage

- High failure rate.
- Requires several days of abstinence.
- Needs long duration of practice.
- Difficult to use in case of vaginal infection.
- Not appropriate for women with medical contra indications to pregnancy.

Procedure

Instruction to the client:

Checking and recording cervical mucus pattern.

1. Provide the client with a chart to record the mucus pattern.
2. Record the sensation of either dryness, moistness or wetness felt at the opening of the vagina. Observe the mucus pattern at convenient time at least twice a day with the first in the morning and the last check in the evening.
3. Check for the presence of mucus by wiping the vagina with a paper tissue or by using a finger.
4. Collect the mucus when present, on a paper tissue or at the finger tip.
5. Note the color as white, cloudy or clear, and the physical characteristics as thin and lubricate, thick and viscid.
6. Check for the elasticity by opening the paper tissue or the fingers on which their mucus has been collected.
7. Record the daily changes in the mucus and sensation felt in the vagina in the chart at night.
8. Use symbols or letters for different changes, such as:
 - D - for dry
 - M - for mucus
 - P - periodic bleeding
9. Mark the last day of the slippery mucus which is the peak by a cross (+) and the following three day as 1, 2, 3.
The peak can only be recognized retrospectively when the mucus is no longer slippery and elastic.
10. If slippery mucus reappeared after the peak has been recorded disregard the previous recording and record the second peak.

Timing of sexual intercourse

- **Sexual intercourse is permitted:**
 - immediately following menstruation until the first sign of mucus.
 - on the evening of the fourth day after the peak symptom and until menstruation starts.
- **Sexual intercourse should be avoided:**
 - from the first day that the mucus is observed after menstruation until the end of the fourth day after the peak symptom.
 - at any time if the client has any doubt about the mucus pattern.

Factors affecting the mucus pattern

1. Vaginal or cervical infection.
2. Vaginal secretions due to sexual stimulation.
3. Decongestant drugs used for cold or sinusitis.
4. Physical or emotional stress.
5. Breast-feeding.

C. The Calendar or Rhythm Method

The calendar or rhythm method is the most widely used of all periodic abstinence technique. It involved numerical calculations based on previous menstrual cycles to estimate the fertile period.

Effectiveness

It has a high failure rate (20%)

Indication

It is more convenient to use these method than other periodic abstinence technique in women who have reasonably regular cycle.

Contradiction

- When there is need for highly effective protection against pregnancy
- Inability to comply with sexual abstinence as required by the methods.
- Irregular cycles.
- Breast feeding

Advantage

Doesn't require daily monitoring of fertility signs.

Disadvantage

- High failure rate.
- Difficult to use with irregular cycle.
- Needs long time to learn.
- Sexual abstinence.

Procedure

Instruction to the client

While she is being trained she can use non hormonal contraceptive methods. Hormonal methods alter the woman cycles.

- Record the number of days in six consecutive menstrual cycles.
- Record the first day of menstruation as the first day of the cycle.
- Calculate the first fertile day by subtracting 18 from the shortest cycle.
i.e. First fertile day = shortest cycle – 18
- Calculate the last fertile day subtracting 11 from the longest cycle.
i.e. Last fertile day = longest cycle – 11

Avoid sexual intercourse during the fertile phase.

Example

The woman's last 6 cycles were 28, 26, 29, 27, 29, and 27 days

Calculation
Shortest cycle = 26
Longest cycle = 29
First day of the fertile phase = $26 - 18 = 8$
Last day of the fertile phase = $29 - 11 = 18$

The fertile period of the woman is between 8 - 18 days so she should avoid sex in this period.

N.B. With regular cycles (every 28 days or close to it).

- Since ovulation occurs about 14 days before the next period about 14 days before the next period is due, a woman should count backward 14 days from her next period is expected, to calculate the day she will ovulate.
- She should avoid sex from about 7 days before that day until about two days after.

Example:

The woman's regular cycle is 30 days.

Regular cycle $30 - 14 = 16$

- **First day of fertile phase $16 - 7 = 9$**
- **The last day of fertile phase = $16 + 2 = 18$**

Therefore, she should avoid sex between the 9th and 18th day of the cycle.

Follow up

Reason to return

- When she need to discuss her experience about the method.
- When woman's situation changes (had a baby or breast feeding or close to menopause).
- If the woman wants to stop the method or use another method.

D. Symptothermal method (Multi index)

This method consists of combined methods of periodic abstinence method. Usually cervical mucus method plus basal body temperature method. And also calendar method and cervical mucus method.

Effectiveness

Failure rate 2 pregnancies per 100 women during the first year of use. And still the effectiveness increases when used with barrier methods.

N.B. For more information refer to the respective methods.

9.4.2. Coitus interruptus

Coitus interruptus is withdrawal of the penis from the vagina before ejaculation.

Thus the semen is deposited outside the female genital tract. It requires sufficient self-control by the man to withdraw before ejaculation. This method is less effective than other contraception. Failure may result from escape of semen before ejaculation or deposition of the semen close to the vagina where the sperm cells can swim up into the female genital tract.

This method is not advisable if pregnancy is contraindicated.

9.4.3. Lactation amenorrhea method (LAM)

This method has been used traditionally for a long period of time. Women are less fertile when lactating their babies. There is delay in ovulation during this time because of hypophysial or hypothalamic stimuli from lactation. But the duration of suppression of ovulation is quite variable. In a few cases ovulation returns before the first post partum menstrual cycle and thus risk of pregnancy. Prolonged breast feeding may also lead to malnutrition of the baby as it is not adequate to meet the baby's requirements.

However, complementary methods such as condoms, diaphragms, or IUDs are recommended.

A woman who uses LAM should be given specific instructions:

1. Breastfeed often: ideally at least 8-10 times a day including at least once at night. Daytime feeding should not be more than four hours apart, and night time not more than six hours apart. Encourage the infant to breastfeed enough.
2. Breast feed properly: teach correct techniques.
3. Supplemental foods should be started by the sixth month. At this time the infant may breastfeed less and LAM may no longer be effective. Recommend additional family planning method.
4. Start another family planning method when:
 - Her menstrual period returns
 - She stops breastfeeding fully or nearly so
 - Baby is six months old
 - She no longer wants to rely on LAM for family planning

(See Chapter 8 also for details on LAM.)

9.5 Surgical Methods (Surgical Sterilization)

Sterilization is a permanent method of contraception done both for men and women. The method involves surgical procedures.

9.5.1. Vasectomy

- Vasectomy is done under local anesthesia through a small incision done in the upper aspects of the scrotum.
- Sutures or clips are put tightly around the vas and then excised.
- The failure rate with this technique is estimated to be less than 0.2%. Therefore, proper counseling is important as fertility may never be attained again.

9.5.2. Tubal Sterilization

- This is sterilization of women by surgical procedures on the fallopian tube. Different techniques are used.
- Proper pre-operative counseling is very important as this is a permanent contraception and that the woman should not regret her decision.
- Pain and menstrual disturbances are common complications after tubal ligation.
- As this procedure requires surgical skill with facilities, it is usually done in hospitals.
- Complications are infrequent, but bleeding, infection and allergic reactions may be encountered.

9.6. Emergency Contraception

9.6.1. Introduction

Emergency contraception refers to the type of contraception that is used as an emergency procedure to prevent unintended pregnancy following an unprotected act of sexual intercourse.

Mode of Action

The precise mode of action of emergency contraceptive method is uncertain and may be related to the type of emergency contraceptive and the time it is used in a woman's menstrual cycle. It is thought to prevent ovulation, fertilization and/or implantation. And thus, it is not a method of abortion.

Indication

It is used in the following situations.

1. When no contraceptive has been used.
2. When there has been a contraceptive accident or misuse.
 - condom rupture, slippage or misuse,
 - diaphragm dislodgment or early removal,
 - failed coitus interrupts,
 - miscalculation of the periodic abstinence method, and
 - IUD expulsion.
3. When the woman has been a victim of sexual assault.

9.6.2. Methods of emergency contraception

- Emergency contraceptive regimen (ECP regimens)
- Copper releasing IUDs

a. ECP regimens

I. Combined Pills

Combined estrogen - progesterone pills, containing ethinyl estradiol and norgestrel (Levonorgestrel) can be taken in a regimen known as Yuzp Method.

Example

If pills containing 50µgm ethinyl estradiol and 0.5mg norgestrel available:

- Two pills should be taken as the first dose as soon as convenient within 72 hours after unprotected intercourse. Second dose of two pills should be followed after 12 hours.

If pills containing 30µgm ethinyl estradiol and 0.3mg norgestrel

- four pills should be taken as a first dose within 72 hours after unprotected sex and another four pills 12 hours later should be taken as a second dose

II. Progestin only pills

A regimen that consists of levonorgestrel pill at least as effective as the YUZPE method but with significantly lower incidence of side effect.

- If pills containing 0.75mg levonorgestrel are available. One pill should be taken as a first dose as soon as convenient within 72 hours after unprotected intercourse. Second dose of one pill should be followed after 12 hours.
- If pills containing 0.03mg levonorgestrel are available these may be taken. But require 20 pills each dose.

Effectiveness

After a single act of unprotected sexual intercourse, about 2% of women become pregnant if they use ECPs. But the chances of pregnancy are approximately four times greater when no emergency contraceptive is used. If a woman used frequently, chance of becoming pregnant in the long term would be much higher than if she used regular contraception.

Contraindication

- Pregnancy
- Suspected pregnancy

N.B. With known diagnosis of pregnancy and if pregnancy can not be ruled out with absolute certainty it is not given.

Side-effects

- Nausea.
- Vomiting.
- Irregular uterine bleeding.
- Breast tenderness.
- Headache.

- Dizziness.

Follow up care

No follow up should be required in relation to the use of emergency contraception. Unless she has a delay in her, menstruation, suspects she may be pregnant or has other reasons or concern.

b. Copper Releasing IUDs

A copper releasing IUD can be used within five days of unprotected intercourse as an emergency contraceptive.

Effectiveness

Highly effective. After an act of unprotected sexual intercourse less than 1% of women become pregnant if they use a copper releasing IUD as an emergency contraceptive.

Indication

In addition to the indication of all emergency contraception, IUDs are especially indicated:

- when more than 12 hours have elapsed after unprotected intercourse; thus ECPs can no longer be used.
- when the client is considering using an IUD for continued long term contraception.

Contraindication

- Pregnancy
- Puerperal sepsis or post abortal sepsis with the last three months.
- Pelvic inflammatory diseases; current or within the last three months.
- STDs.
- Purulent cervicitis.
- Undiagnosed abnormal genital tract bleeding.
- Malignant gestational trophoblastic diseases.
- Known pelvic tuberculosis.

Note: Technique, of insertion, instruction and follow up are similar to IUD.

9.7. Counseling in Family Planning

9.7.1. Goal of Family Planning Counseling

The main goal of family planning is to improve the quality of life and reproductive health by empowering individuals and couple to exercise their right to safe sexuality, and to decide whether and when to have children and how many to have. This goal is to provide opportunities for people to discuss their circumstances, needs and options to help clients make informed decisions about contraception, fertility and sexual health.

9.7.2. The counselor

The counselor should be trained with regards to FP. He should also have some personal qualities. The following points can be seen in this context.

a) Bridge Knowledge Gap

- Brief anatomy and physiology of reproductive health to clients.
- Explain about the contraceptive technology - the benefits, risks, effectiveness and mode of action for all available family planning method.
- Myths and belief should be told.

b) Help Clients Make Informed Choice

- Consider that women may be unprepared to make their own choice.
- Encourage clients to take responsibility for decision- making.
- Give complete information about the method chosen by the client.

c) Provide Services

- Record should be kept for a client.
- Give family planning services.
- Should schedule follow - up visits?

9.7.3. Steps in Family Planning Counseling

Counseling new clients about family planning needs a step-by-step process. The process includes learning, making choices, making decisions and carrying them out. It can consist 6 steps. These steps can be remembered with the acronyms GATHER. Not every new client needs all the steps; some clients need more attention to one step than another.

The GATHER Steps

- G - Greet clients in an open, respectful manner. Assure the client of confidentiality. Give as much time listening as talking.
- A - Ask clients about them selves. Help client talk about their family planning practices, intentions, concerns, and wishes.
- T - Tell clients about choices. Depending on the clients need, tell the client what reproductive health choices she/he might take. Focus on methods that interest the client. Also explain other services that the client may want.
- H - Help clients make an informed choice. Help the client think about the options. Encourage the client to express opinions and ask questions. Consider medical eligibility criteria for the family planning method that interest the client. In the end make sure that the client has made clear decision.
- E - Explain fully how to use the chosen method: after a client chooses a family planning method, give her or him the supplies if appropriate. Encourage questions, and answer them openly and fully. Give condoms to any one at risk for sexually transmitted diseases (STD's) and encourage using condoms along with any other family planning method. Check that the clients understand how to use their method.
- R - Return visits should be welcomed: Discuss and agree when the client will return for follow-up or more supplies if needed. Always invite the client to return any time for any reason.

9.7.4. Adolescent Counseling on Family Planning

Most of the fertility related problems affecting adolescent come about because of family life, education both at home and school. Therefore, giving family life education and counseling are important to adolescent in order to tackle the problems.

Adolescence, married or unmarried, face several potential problems in relation to their sexual and Reproductive Health.

- Consequences of unwanted pregnancy which may result in unsafe abortion.
- High risks of early child bearing for the mother, infant and child.
- Diminished opportunities for education and education especially of females.
- Unprotected sexual intercourse exposes adolescents to a high risk of STD's.

9.7.5. Contraceptive counseling and services

- It should be made easily available and attractive to adolescents. They should not feel threatened or embarrassed by their request for such counseling or services.
- A supportive and encouraging environment is necessary for counseling. Counselors need special training to deal with adolescents. Confidentiality needs to be assured and counselors should avoid judgmental approach.
- The availability of contraceptive services for adolescent should not depend on their marital status or financial situation.
- Unnecessary clinical procedures example Pelvic examinations - may discourage adolescent from requesting contraceptive services and should be avoided.

9.8. Infertility

9.8.1. Introduction

A couple is infertile if the women have not conceived after having normal sexual intercourse two to three times a week without using any contraception for at least 12 months. Normally, 85% of young couples will achieve pregnancy within a year.

Infertility is classified as:

- Primary infertility:
 - in which no previous pregnancies have occurred.
- Secondary infertility
 - in which prior pregnancy has occurred although not necessarily a life birth.

Epidemiology

Infertility affects approximately 10% - 15% of reproductive age couples in the USA. In developing nations like Africa, prevalence of infertility is mainly associated with secondary infertility. It is believed to be high because of infections following child birth or abortion.

9.8.2. Causes of infertility

- i. Male factor
- ii. Female factor
- iii. Both male and female factors
- iv. Un - explained infertility

i. Male factor

The male factor accounts 25% - 40% of the cause. The man's role in reproduction involves producing sperm and transporting them into the woman's genital tract. Male infertility has two main causes:

a. Poor quality of semen.

Most infertile men have poor quality of semen especially a low number of sperms or sperm that cannot move.

Possible causes of poor quality of semen:

- Physical factors such as:
 - excessive heat due to wearing tight under wear or working for long periods near heat (oven or furnaces),
 - direct injury to the testles,
 - excessive smoking drinking and drug abuse,
 - generalized and chronic illness, like diabetes or thyroid disease,
 - infection of the testes.
Example: mumps infection after puberty.
 - Failure of descent of the testes from the abdomen.

b. Inability to deposit semen in the vagina.

This can be due to a number of reasons:

- Blockage of the passage. Example, due to STDs.
- Impotence, the inability to have an erection or to maintain it during intercourse.
- Premature ejaculation, sometimes the man ejaculate before the penis is inside the vagina.
- Other causes may be due to emotional, psychological or physical stress.

ii. Female factors

Female factors include:

- a. tubal factor.
- b. ovulatory factor.
- c. cervical factor,
- d. uterine factor,
- e. immunologic factor
- f. Infectious factors

a. Tubal factor

Accounts for 30% - 40% of cases of female factors. Tubal factors include damage or obstruction of the fallopian tubes usually secondary to:

- pelvic inflammatory disease,
- previous pelvic or tubal surgery,
- peritubal and peri ovarian adhesions which usually result from PID or surgery, and indometritis.

However approximately 50% of patients with documented tubal damage have no identifiable risk factors for tubal disease.

b. Ovulatory factor

Accounts for 30% to 40% of cases of female factors. These disorders are among the most easily diagnosed and most treatable causes of infertility. Women who have regular menses with minimal symptoms (such as premenstrual breast swelling and dysmenorrhea) have almost invariably ovulation. Because ovulation is prerequisite to conception, ovulation must be documented as part of the basic assessment of the infertile couple. Methods to document ovulation

- Basal body temperature
Following ovulation temperature usually rise by 0.2°C - 0.4°C.
- Midluteal serum progesterone elevations in serum levels of progesterone in the luteal phase constitute indirect evidence of ovulation. Usually a level of >3ng/ml confirms ovulation.
- LH surge (luteinizing hormone).
Ovulation occurs 34 - 36 hours after the onset of LH surge. Base line LH is determined and 2 - 3 fold elevation of serum LH levels over base line is sufficient to document LH surge.
- Endometrial biopsy: This method is more invasive than other method. The finding of secretory endometrium in endometrial biopsy confirms ovulation.
- Ultrasound monitoring.
Ovulation can be documented by monitoring the development of the dominant follicle by ultrasound until ovulation takes place.

c. Cervical factors

Accounts no more than 5% of female factors. The mucus or fluid produced by the cervix can either help or hinder the movement of the sperm into the cervix. On rare occasion the cervical mucus and fluids in the vagina may contain chemicals (antibodies) that paralyze or inhibit sperm. The potential role of cervical factors infertility is evaluated by post coital test. For these test, the woman goes to the hospital within 6 hours of having sexual intercourse. A specimen of semen combined with cervical and vaginal fluids is examined using a microscope to detect.

d. Uterine factor

Uterine abnormalities are generally associated with recurrent pregnancy loss rather than with infertility. However, certain anatomic abnormalities of the uterus such as uterine leiomyomas, intrauterine adhesions (Asherman's Syndrome). These abnormalities may interfere either with sperm transport or with embryo implantation. Other abnormalities like endometrial polyp, congenital abnormalities and intrauterine synechiae can be included as uterine factor.

In the evaluation of uterine factors hystero salpingography (HSG) is used to visualize the contours of the endometrial cavity. Hysteroscopy should be used to further define and treat abnormalities detected by HSG.

e. Immunology Factor

Spermatozoa can elicit an antibody response; thus it is possible that antiserum antibodies have been detected in human males and females. And its aetiology is not well defined.

f. Infectious Factor

The relationship between sub clinical infection and fertility has focused on two potential pathogens; Chlamydia trachomatis and Mycoplasma species.

The association of Chlamydia with PID is well established. It may produce asymptomatic infection in the uterine tube and perhaps leads to tubal damage.

Moreover, the prevalence of positive chlamydial cultures may be higher among infertile patients. Mycoplasma species have been recovered from the cervical mucus and semen of infertile couples.

iv. Unexplained infertile

When there is no factor identified as a cause of infertility in the evaluation of the infertile couple, it is considered to be unexplained infertility. It is the highest cause of infertility as male factor (48%). Generally as a cause of infertility, it accounts about 10%.

9.8.3. Approach to the infertile couple

Initial visit

The initial encounter with the infertile couple is the most important to outline the general causes of infertility and to discuss the subsequent evolution. During the first visit, obtain complete medical, surgical and in addition to the female partner include gynecologic and obstetric history. Important points in history include:

- do they have child? (together or alone),
- regularity of menstrual cycle,
- adequacy of sexual intercourse. The couple should have sexual relations every two days during the fertile portions of the woman's cycle, which is determined
- risk factors for infertility such as:
 - history of PID
 - use of IUD
 - history of pelvic surgery
 - history of endocrine disorder like pituitary, adrenal and thyroid function.
- Obtain information regarding genital surgery, infection, trauma, history of mumps for the male partner.
- Assess emotional impact of infertility on the couple and counsel accordingly.

During this visit, do through physical examination with particular attention to height, weight, body habitus, hair distribution, thyroid gland and pelvic examination.

If any abnormalities which need further evaluation are detected on pelvic examination, refer to higher center. But if no abnormalities, were detected on physical examination including speculum examination, explain to the client the basic requirements for conception.

For the Woman:

1. Woman must be ovulating (look for evidence of ovulation).
2. The tubes that connects the uterus with ovary should be patent (assessment of patency) is done by hysterosalpingo graphy (HSG).
3. The lining of the uterus should be healthy and appropriate for implantation.

For the man:

1. The man must be able to have adequate erection and ejaculate sperm.
2. The sperm must be fertile and there must be enough sperm present.
3. The tubes which transport; sperm from testis to penis should be healthy and patent.

Further evaluation

- Plan regular return visits for the couple if appropriate.
- Provide a semen analysis for the male partner. The basic semen analysis measures semen, sperm concentration, sperm morphology and in some specialized laboratory pH, fructose and white blood cell count are done.

Normal values for semen analysis

Volume	2 - 6ml
Sperm concentration	5 - 60 million/ml
Motility	> 50%
Morphology	>60%

Further evaluation needs higher center like hormone analysis, hysterosalpingography, antibody detection, [post coital mucus analysis etc.

Treatment of infertility

There is no universal treatment or cure for infertility. In general, treatment depends on the specific cause of infertility for that couple. The majority of couples who seek advice, testing and treatment for infertility do conceive. About 50% of the women become pregnant with 12 - 18 months starting investigation. When no obvious cause can be found for infertility counseling may improve the couples chance of achieving pregnancy. For example, advice of general health, regular exercise, avoid excessive drinking alcohol and smoking. And the couple should also be taught how to identify the most fertile phase in the menstrual cycle when sexual intercourse is most likely result in pregnancy.

CHAPTER TEN

POST ABORTION CARE

10.1. Introduction

10.1.1. Overview

The World Health Organization estimates that each year 585,000 women die from complications of pregnancy, child birth, and unsafe abortion. Unsafe abortion accounts for 50,000 - 100,000 maternal deaths each year even though deaths and injuries from unsafe abortion are almost wholly preventable through existing means. Most of this mortality occurs in the developing world.

This high level of maternal mortality from unsafe abortion is the result of both spontaneous abortion and clandestine induced abortion. In some countries abortion is the cause of as many as 50% of pregnancy related deaths and according to recent estimates up to 15% of pregnancy related mortality world wide is due to abortion.

In Ethiopia, the number of maternal deaths associated with complication of pregnancy and delivery is among the highest in the world. Several studies indicate that unsafe abortion accounts for up to 25 - 35% of maternal deaths in Ethiopia. Unsafe abortion is a critical public health problem in Ethiopia. With a low modern contraceptive prevalence rate (4.8%) and a high total fertility rate (6.8 - 7%) a large number of Ethiopian women are faced with unwanted pregnancies.

It is worthwhile to mention the penal code of Ethiopia regarding abortion. It states that the deliberate termination of pregnancy, at whatever stage or however affected, is punishable except otherwise provided. It also states that all parties involved will as well be punished (Refer to penal code of Ethiopia Articles 528 - 531 for complete text). However, termination of pregnancy is not punishable where it is done to save the pregnant woman from grave and danger to life or health, which it is impossible to avert in any other way, provided that it is performed in conformity with subsequent legal requirements (Please refer to the Ethiopian penal code Article 534 for the complete requirements).

Concentrating available human and financial resources on improving post abortion care is one of the most direct ways to alleviate suffering and death from unsafe abortion, particularly in countries where induced abortion is severely restricted.

In order to reduce the risk of long term illness or disability, and death to women presenting with the complications of incomplete abortion, health care systems must provide easily accessible, quality post abortion care at all health service levels.

The prevention of abortion related illness and mortality is dependent on the availability of emergency post abortion care through out the health care system. At least some components of emergency care must be available at every service delivery site in the health care system including in the community.

This post abortion care chapter, deals with basic knowledge and skill of post abortion care. It provides the basis for reducing morbidity and mortality from abortion related complications through quality care service.

10.1.2. Elements of post abortion care

1. Emergency treatment services for complications of spontaneous or unsafely induced abortion.
2. Post abortion Family Planning counseling and services.
3. Links between emergency abortion treatment services and comprehensive reproductive - health care.

10.2. Emergency treatment services

Emergency treatment of abortion and its complications includes proper counseling of patients, clinical assessment of patients, management of incomplete abortion and management of MVA.

10.2.1. Counseling of Patients

Women seeking treatment for incomplete abortion often are under severe emotional stress in addition to physical discomfort. So establishing a good, positive relationship can help ease the anxiety and concern that patients may feel. Moreover, it is important to respect women's rights and needs to provide care without expressing judgment.

- All women being treated for abortion complication have a right to information about their condition.
- A patient should know in advance the type of physical examination or procedure which is going to be under taken.
- All patients have a right to decide freely whether or not to receive treatment.
- All information that the women provides should be treated confidentially. And creating an atmosphere of privacy is critical in protecting the patients confidentiality, sense of security and dignity.

10.2.2. Clinical Assessment of Patients

A) Initial Assessment

The first step in providing care to a woman suspected of having an incomplete abortion is to assess her clinical situation. The initial assessment may reveal or suggest the presence of immediate life threatening complications such as shock, severe vaginal bleeding, infection, sepsis or intra-abdominal injury.

- Incomplete abortion should be considered in any women of reproductive age with cramps and passage of pregnancy tissue.
- The possibility of interference /criminal abortion/ should always be kept in mind while assessing patients as the patients usually do not reveal this.
- If incomplete abortion is a likely diagnosis, it is important to pick up the following life threatening conditions.
 - **Shock:** If you find fast, weak pulse, low blood pressure, sweating, anxiousness, confusion, and cold extremities, begin treatment of shock immediately.

- **Severe vaginal bleeding:** If there is heavy, vaginal bleeding with or without clots, pallor or, dizziness and fainting, begin treatment immediately to replace lost fluid and control bleeding. Do blood group and hemoglobin. If the patient requires transfusion refer the patient immediately with IV fluid.
- **Infection/Sepsis:** Infection is likely if the patient has fever, foul smelling vaginal discharge, lower abdominal tenderness and cervical motion tenderness on bimanual examination; the patient should be put immediately on broad spectrum antibiotics before attempting evacuation of the contents of the uterus.
- **Determine tetanus status:** if necessary give tetanus toxoid.
- **Intra - abdominal injury:** If the patient has distended abdomen, decreased bowel sounds, rigid abdomen, rebound tenderness associated with history of vomiting, fever and abdominal pain, intra - abdominal injury with peritonitis should be suspected. In such cases fluid restoration and IV broad spectrum antibiotics should be started and the patient should be referred to higher center for further management.

B) Medical Evaluation

History:

Complete history is very important in evaluating the patient suspected with incomplete abortion. The history should always include:

- Last menstrual period.
- Duration, amount and character of vaginal bleeding.
- The presence and character of abdominal pain.
- Passage of conceptus tissue.
- History of contraceptive use.

Physical Examination:

- Observe the general appearance of the patient.
- Check and record vital signs.
- Examine all the systems with particular emphasis to the HEENT and abdomen.

Pelvic examination:

- Remove any visible conceptus tissue and check if there is foul smelling vaginal discharge.
- Assess the amount of bleeding.
- Examine the cervix: whether it is open or not, whether there is evidence of trauma.
- Assess the size and position of the uterus by bimanual examination.

C) Clinical Classification of Abortion

Abortion is defined as the expulsion or extraction of all or part of the conceptus tissue weighing less than 1000 gm or gestational age less than 28 weeks of pregnancy.

The type of abortion usually determines the treatment modality and outcome of the treatment. The clinical classification of abortion has been summarized as follows.

1. Inevitable abortion – Abortion is inevitable when two or more of the following clinical findings are noted.
 - a- bleeding for more than 3 days
 - b- lower abdominal cramp for more than 7 days
 - c- cervical dilatation more than 3 cm
 - d- palpable conceptus tissue
 - e- passage of conceptus tissue
 - f- cervical effacement more than 80%
2. Incomplete abortion – In this case parts of the products of conception have passed from the uterine cavity. Abdominal cramps are not as severe as inevitable abortion. Bleeding from the vagina is usually persistent and severe.
3. Complete abortion – This is complete expulsion of conceptus tissue, marked by cessation of cramp and brisk, bright red bleeding. Slight bleeding may continue for some time and then stops.
4. Missed abortion – This implies that the fetus has been retained in the uterus more than two months after its death. This usually happens in the second trimester.
5. Induced abortion – Induced abortion is termination of pregnancy intentionally. It could be therapeutic, in health institution or clandestine (criminal).

Any of the above types of abortion could be infected in which case it is referred to as septic. E.g. Septic incomplete abortion

10.2.3. Management of Incomplete Abortion and MVA

Incomplete abortion is treated by removing product of conception from the uterus. The method used for emptying /evacuating/ the uterus depends on the duration of pregnancy and uterine size. Treatment of first and early second - trimester incomplete abortions can be performed by vacuum aspiration or dilation and curettage.

1. Manual Vacuum Aspiration (MVA)

Manual vacuum aspiration procedure includes introduction of a canula through cervix, attachment of vacuum source /syringe/ and removal of the contents of the uterus by suction. In case of incomplete abortion, MVA should be accomplished without delay.

MVA Instruments

Basic MVA kits for emergency treatment of incomplete abortion contain either a single valve or double valve, 60 cc syringe with a locking valve plunger handle, collar stop and silicon for lubricating the syringe ring. Kits also include sterile, flexible canulae with two opposing, offset openings for maximum effectiveness. Canulae in single - valve kits come in two sizes (out side diameter): 5 mm and 6mm. Those in double valve kits come in six sizes, 6, 7, 8, 9, 10 and 12 mm with the set of colour - coded adapters to fit each canula to the syringe.

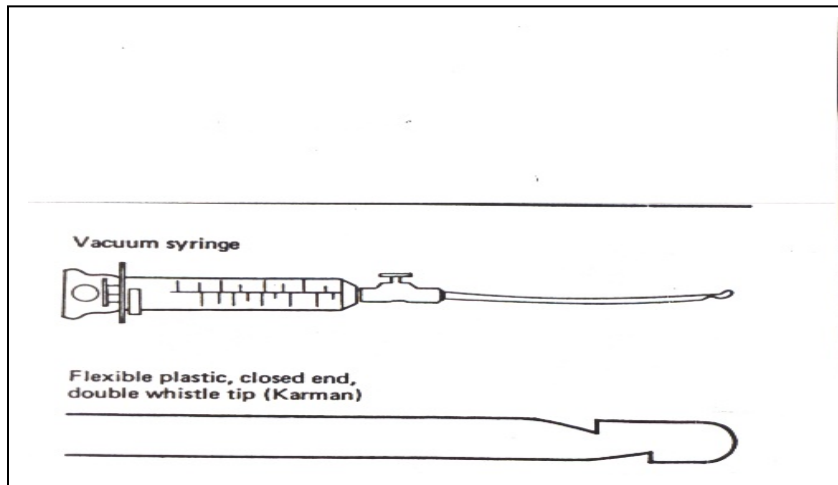


Figure: Manual Vacuum Aspiration/MVA/ Instruments

2. Preparation of the woman before the procedure

- Counsel the woman and ensure that she gives voluntary informed consent.
- Complete the medical history and physical examination.
- Let the woman know what to expect during the procedure and answer her questions about the procedure.
- If oral analgesia and/or anti-anxiety agents are used wait for them to take effect.

3. Infection Prevention Practices

- Thorough hand washing with soap and water before and after each MVA procedure.
- Sterile or high level disinfected gloves should be worn through out the procedure and gloves that are reused should be sterilized or high level disinfected between uses.
- Cleaning the cervix and vagina with an effective antiseptic before inserting any instrument through the cervix and into the uterine cavity.
- Instruments that enter the uterus must be sterile or high level disinfected.
- No - touch technique should be followed. The part of the canula that enters the uterine cavity must not touch surfaces unless the surfaces are sterile; that is it should not touch the vaginal walls, contaminated areas at the instrument tray, and gloves that have touched the woman or body fluid.
- All the instruments and gloves should be decontaminated immediately after the procedure by soaking in a solution such as 0.1 - 0.5% chlorine for 10 minutes.
- Reusable instruments should be sterilized or high level disinfected appropriately

4. Operative technique of MVA

It is important to have instruments ready and prepared before beginning the procedure. Sterile or high level disinfected gloves should be worn throughout. The steps out lined below should be followed in the procedure.

- Perform bimanual pelvic examination to check the size and position of the uterus.

- Do speculum examination to assess the presence of cervical tear or protruding conceptus tissue. If tissue fragments are present remove with sponge forceps.
- Swab the cervix and vagina using sponge forceps and gauze or cotton.
- If needed administer paracervical block with 2 - 3 ml of local anaesthetic typically at 3, 5, 7 and 9 o'clock positions and wait at least 2 - 4 minutes for the block to take effect.
- Prepare vacuum in the syringe by pulling the plunger in the barrel. While the pinch valve is closed.
- If the cervix does not admit the appropriate canula dilate the cervix with a smaerer canuula and increase the size of the canuula progressively. The dilatation of the cervix should be done very gently.
- While holding the cervix gently with the tenaculum, insert the tip of the canuula just past the internal os till the canula touches fundus of the uterus. Measure the fundal height according to the dots on the canula. The dot nearest the tip of the canula is 6cm from the tip, and the other dots are at 1cm intervals.
- Withdraw the canula slightly and fix the prepared syringe to it.
- Release the pinch valve on the syringe, so that the vacuum will be transferred to the canula. Evacuate the conceptus tissue by using a motion that combines rotation with gentile movement back and forth, but do not withdraw the canula past the internal os as this will cause the vacuum to be lost.
- Check the following signs that indicate the completion of the procedure.
 - Only red or pink foam is seen passing through the canula.
 - A gritty sensation is felt as the canula moves over the uterine wall.
 - The uterus contracts around (grips) the canula.
- Detach the syringe and withdraw the canula; and then place the canula in the decontamination solution.
- Inspect the tissue removed from the uterus for the presence and amount of conceptus tissue, to assure complete evacuation and to check for molar pregnancy.
- After being certain the procedure is complete, remove the tenaculum and speculum. Decontaminate all instruments while still wearing gloves.
- Decontaminate and dispose gloves and wash hands thoroughly with soap and water.

5. Post MVA care

- Take and record vital signs as soon as MVA is completed.
- If the woman is Rh negative, administer Rh (D) before discharge
- If treatment for complications has been started, continue the therapy and monitor her condition.
- Check bleeding at least once before discharge and recheck vital signs.
- Advice about following and fertility.
 - Should not have sexual intercourse or put into the vagina douching until bleeding stops in 5 - 7 days.
 - her fertility can return in less than 2 weeks after the MVA procedure, so she needs contraceptive counseling.
 - follow up appointment if needed.

- Additionally the woman should be informed if she encounters the following problems immediately to the health institution.
 - prolonged cramp (more than a few days)
 - prolonged bleeding (more than 2 weeks)
 - fever, chills or malaise.
 - fainting / syncope.

6. Management of problems and complications during MVA

Technical, procedural, and medical complications can occur during and after completing an MVA procedure.

A. Technical problems

- If the syringe is full (approximately > 90%)
 - Close the pinch valve.
 - Disconnect the syringe from the canula, leave the canula in place.
 - Empty the syringe into a container for inspection by opening pinch valve and pushing the plunger into the barrel. (take care not to splash the content into the eyes).
 - Re-establish a vacuum in the syringe,
- If the vacuum is lost, with the valve still open and opening of the canula is pulled into the vaginal canal, then
 - Remove the syringe and canula
 - Close the pinch valve of the syringe.
 - Detach the syringe from the canula, empty the syringe and then re-establish the vacuum in the syringe.
 - Reinsert the canula.
 - Reconnect the syringe, release the valve and continue aspiration.
- If no tissue or bubbles are flowing into the syringe the canula may be closed.
 - Close the pinch valve and withdraw the canula.
 - Remove the material from the opening in the canula using sterile forceps.
 - Reinsert the canula, attach a prepared syringe and release the pinch valve.

Note: Never try to unclog the canula by pushing the plunger back into the barrel with the canula tip still in the uterus.

- If the syringe does not hold vacuum, try to lubricate the plunger and barrel with a drop of silicon; if this doesn't, replace the o-ring /on the tip of the plunger/. If it still does not hold vacuum, discard it.

B. Procedural problems

- If you find less than expected conceptus tissue, this may indicate all product of conceptus passed before the MVA, the vaginal bleeding was not due to pregnancy, or a possibility of ectopic pregnancy.
- Incomplete evacuation may occur due to too small canula or stopping the aspiration too soon and hence resulted in hemorrhage and infection. Careful observation for the signs of completion is necessary otherwise the evacuation should be repeated.

C. Complications

MVA performed by trained providers has every low complication rate. The following complications can occur: incomplete evacuation, uterine or cervical perforation, pelvic infection, hemorrhage, hypotension, vagal reaction, acute haematometra, or air embolism.

- Uterine or cervical perforation can lead to hemorrhage, infection, and shock. Perforation should be suspected if the cannula penetrates beyond the expected depth of the uterus. If perforation is suspected the procedure should be stopped immediately. After stabilization of the woman refer to higher health institution.
- Post operative pelvic infection can cause fever or life threatening complication. So, to reduce post procedural /MVA/ infection:
 - Careful attention of infection prevention and
 - Prompt recognition and management of incomplete evacuation are necessary.

7. Treatment of second trimester incomplete abortion

In the second trimester the risks are higher for increased blood loss and uterine perforation resulting from treatment. Therefore, cases of incomplete abortion in the mid to late second trimester must be referred to higher level.

10.2.4. Post abortion family planning

A woman's fertility generally returns within two weeks after an incomplete abortion in the first trimester. Therefore, she must consider whether or not she wanted to become pregnant again soon. Many women desire not to be pregnant at this time. Thus, the woman needs to receive counseling and information about her return to fertility and available contraceptive methods.

The minimum information about family planning that a woman treated for abortion needs to understand before her discharge:

- She will be at risk of pregnancy as soon as 2 weeks from treatment.
- Safe contraceptive methods can be used immediately.
- How to use the selected method correctly.

N.B.

- Natural family planning - are not recommended until a regular menstrual pattern returns.
- Do not insert IUD until risk of infection is ruled out; until serious genital injury is healed and until acute anemia improves.
- Spermicide foams, diaphragm or cervical cap - do not use until cervical injury is healed.
- Delay starting injectable until acute anemia improves.

10.2.5. Links between emergency abortion treatment service and comprehensive reproductive health care.

Linking emergency post abortion care services with other reproductive health services is essential and logical, yet the services remain distantly separate. This separation leaves woman with out access to reproductive health care.

It is important to identify the reproductive health services that each woman may need and offer her as much services as possible. Specifically the linkages to RH services.

- Promote community awareness of HIV/AIDS and its transmission.
- Promote the use of condoms.
- If symptoms of genital tract infections and other sexually transmitted diseases, treat cases appropriately.
- Refer to all available services.
 - medical
 - social
 - community
- Outreach to back up community level service providers



CHAPTER ELEVEN

GROWTH MONITORING AND EXTENDED PROGRAM ON IMMUNIZATION (EPI)

11.1. Introduction to growth monitoring

11.1.1. Definition

Growth Monitoring (GM) has been described as the only recurrent activity in primary health care that serves to bring the mother and child in to contact with health services on a predictable and regular basis. According to Dr. David Morley: "Growth monitoring is the process of sequential measurement for the assessment of physical growth and development of individuals in the community with the purpose of promoting child health, human development and quality of life."

11.1.2. Objectives

Ashworth and Feachem gave a more comprehensive outline:

1. To promote growth monitoring as an instrument of INDIVIDUAL health and to instigate effective action in response to growth faltering.
2. To teach mothers, families and health workers how diet and illness can affect child growth and thereby stimulate individual initiative and improved practices.
3. To provide regular contact with primary health service.
4. To determine age specific characteristics of growth: Characteristics of early growth is important in the understanding of who is monitored when and what the measurements imply.

11.1.3. Rationale for Growth Monitoring

Why has it been considered the corner stone of the UNICEF and worldwide campaign for child survival?

Because,

- Steady growth is the best overall indicator of child's health
- Weight gain is the most sensitive measure of growth.
- Serial measurement of weight is a simple universally applicable tool for assessing growth.
- Weight gain monitoring is the best method for early detection of health problems whether from infection or malnutrition.

However, GM only works when it includes a defined programme of interventions for children screened positive for poor weight gain.

11.2. The Need for Growth Monitoring

Almost half of the all deaths in the third world occur before age five. In many areas, 30-50% of newborns die before their fifth birthday. The majority of those deaths is preventable and results from a combination of inadequate food intake and recurrent or serious infection. At first, breastfed babies grow well and are usually healthy. It is during and after weaning that growth falters. Without primary health care (PHC), the resultant malnutrition becomes evermore dangerous:

Malnutrition greatly increases the chance of death and it stunts and may permanently handicap the survivors. Until now, health care has focused on the severely ill child: some are hospitalized; some are rehabilitated; but mortality remains high and costs prohibitive. Clearly, a better system is needed.

11.3. How Should the Growth Monitoring Activities Be Done?

Growth monitoring is an important technique for identifying individuals, groups or communities whose growth is not keeping up with the expected pattern. Poor growth, whether as a result of infection, malnutrition or other causes, and whether evident in particular individuals or in population groups, needs to be detected early in order that corrective action may be taken. In this context, the individual child growth chart is widely accepted as an important and practical tool that can contribute significantly to the objective of health for all by the year 2000 and beyond.

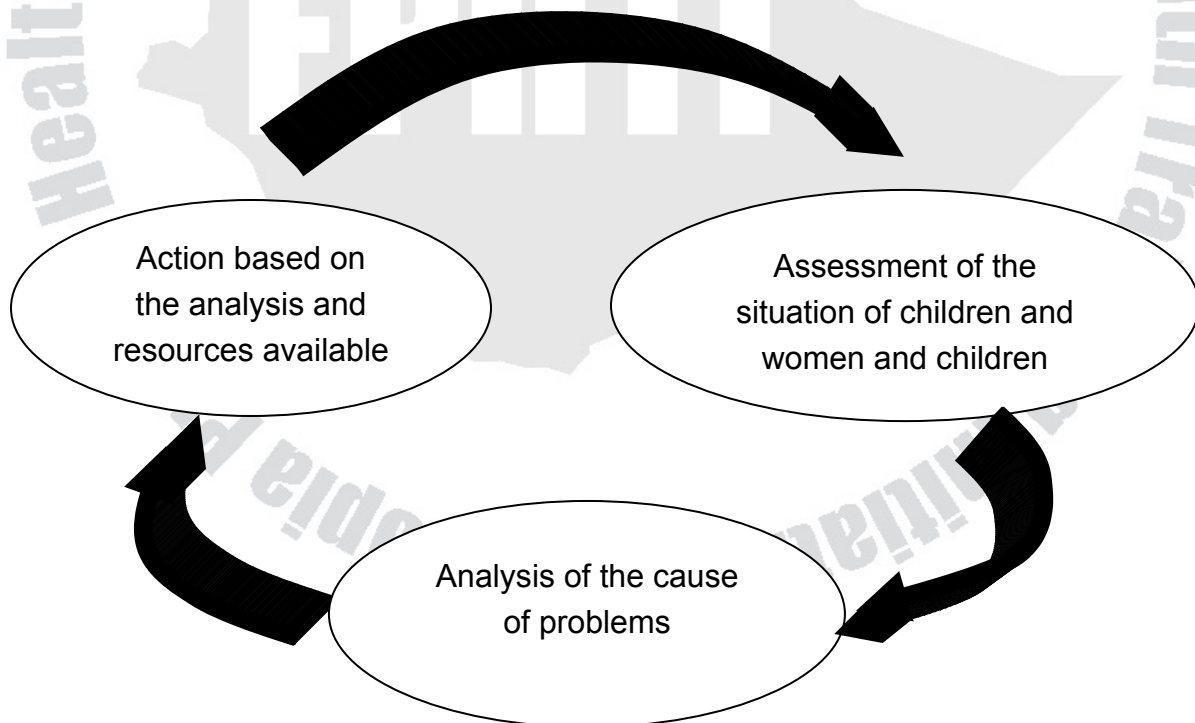


Figure 1: Triple “A” cycle in growth monitoring.

1. **Assess:** involves weighing of children on a regular bases.
2. **Analyze:** involves determination of children's growth by comparing current weight and previous weight against the standard growth curve and observing whether there is growth or retardation of growth.
3. **Action:** involves counseling the caretaker about the possible causes and making suggestions about the relevant actions. Ideally these actions are feasible and taken by the caretaker and the household. After sometime the child is weighed again and reassessment is made followed by a new analysis and a new action as necessary (UNICEF).

The Growth Chart

Growth Chart: A chart with standard growth curve used to monitor the growth performances of children less than five years (see growth chart used in the Ethiopian health care setting on the following page).

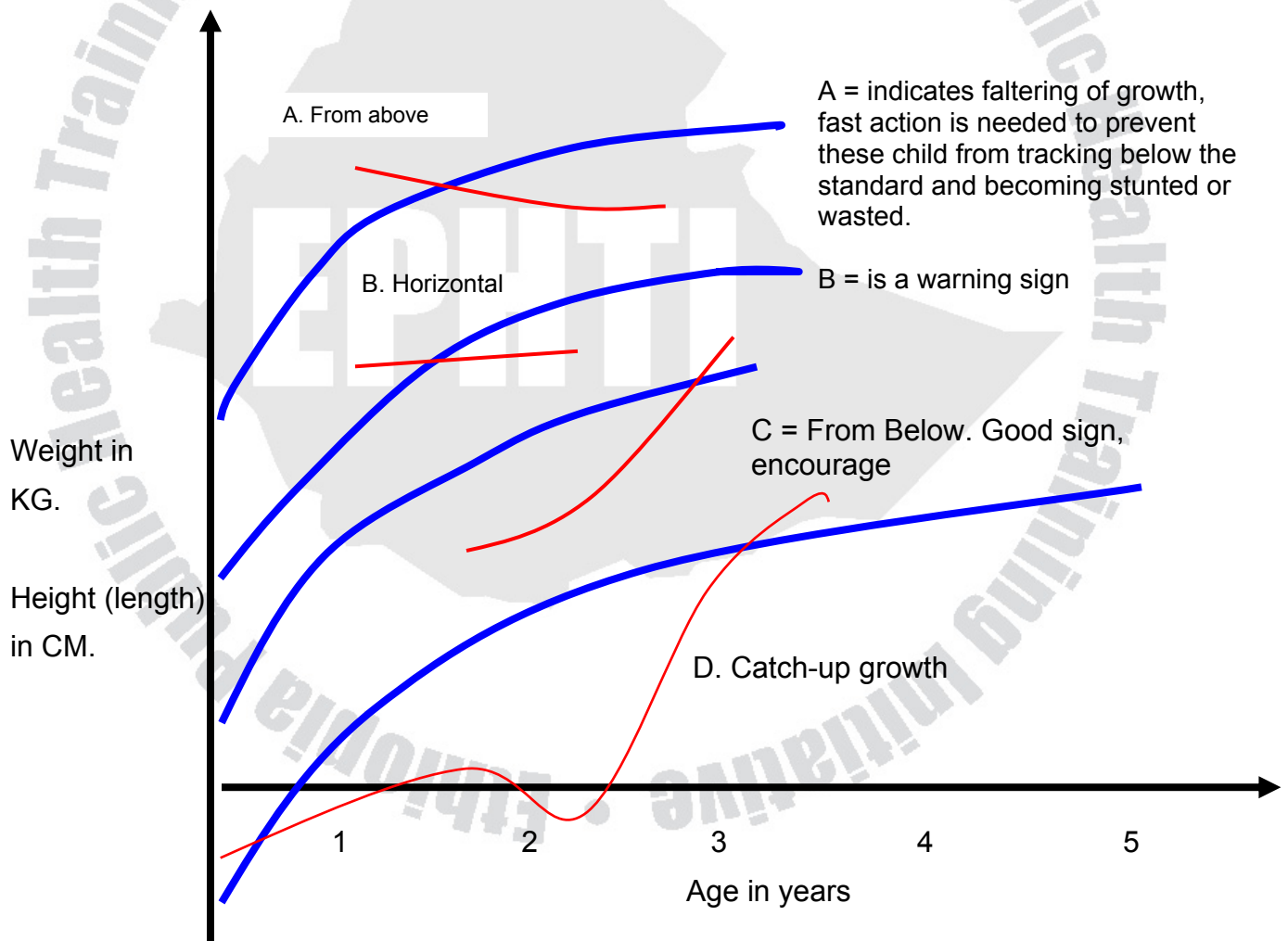


Figure 2: Showing the positions and direction of the growth curve and their implication.

Table 1: Determinant factors for malnutrition at different ages

Age of Malnourished child	Determinant factors
Birth	Maternal factors (including nutrition), Gestational age
4-6 months	Infant feeding practices, maternal ability to care for the child
6 months- 2 years	Weaning practices, exposure to infections, disease and household food as the child gets older
2-5 years	Access to household food, infections and social deprivation

Growth retardation has been observed to occur in the first 2 - 3 years of life up until then it can be regarded as failure to grow and will respond to appropriate feeding with catch-up growth. After 2 - 3 years, catch-up growth is less likely to occur, such children have probably failed to grow and are potentially stunted.

Such information indicates that:

- a. Children should be monitored from as early an age as possible to ensure that catch-up growth can still be attained.
- b. Those slightly older children who are less likely to attain catch-up growth remain at risk of future morbidity as a consequence.
- c. Low Wt/Age in 3-5 year group should be used as a signal for risk to other children in the family.

11.4. Improving Growth Monitoring Activities in Ethiopia

11.4.1. When and How Frequently Should Growth Monitoring Be Done?

How frequently children should be weighed after birth must be decided in the light of the other activities scheduled (e.g. Immunizations), the ability of the mothers to attend the health center or clinic, the time available to the personnel for this purpose, the health worker's schedule for home visiting, etc, and, for the individual case, the health condition and health risks of the child. Ideally, children should be weighed at least once every month during the first year, every two months during the second year, and every three months thereafter up to five years of age, the first three years being the most critical periods. In addition to this schedule, however, every child should be weighed and the weight plotted on the chart every time he/she is brought to the health service unit for any reason, particularly if the child is sick.

11.4.2. Who Should Do Growth Monitoring and What Activities Need to Be Carried Out During Growth Monitoring?

11.4.2.1. Health Personnel or Community Health Workers:

In order to do proper growth monitoring, the following activities should be carried out by the health personnel or community health workers:

- Communicating the mothers/care givers about the procedure properly
- Weighing infants/children accurately
- Recording the weight in the growth chart used in the service
- Inserting any other information required in the chart correctly
- Assessing normal growth and deviations from normal growth on the growth chart
- Interpreting deviations in terms of health status
- Translating the information on the growth chart in to appropriate advice and action
- Recognizing the need for, and making decisions regarding the referral of patients to a higher level of health system
- Using the growth chart as an integral part of the health care system
- Explaining to mothers the use and significance of the growth chart

In general, in educating mothers/care givers, emphasis should be placed on the factors affecting growth with special reference to the role of diet and the effects of disease on child growth. A better understanding of the process of growth and development may be obtained by using examples taken from the local setting (e.g. the growth of plants and the role of water and fertilizers: the growth of animals).

11.4.2.2. Mothers/Care Givers

Mothers/care givers also have a role in the growth monitoring and promotion activities by:

- Improving child care practices (breast feeding, proper weaning, etc.)
- Following the growth of their children
- Improving their health seeking behavior.
- Complying with the advices given by the health personnel/community health workers.

11.4.3. How Should the Growth Monitoring Be Done?

- Check the weighing scales each time it is moved by verifying that it reads zero when empty and check the reading for a known weight.
- Adjust the needle to zero before each weighing session.
- Undress the child/ infant to be weighed or make them wear a standard gown.
- Use Salter scale (spring balance) for children less than 2 years old and beam balance for children greater than 2 years.
- Read the values to the nearest 0.1 kg for children 2 years and above and to the nearest 10 grams for children < 2years.
- If your health service unit has no Salter scale, weigh the mother on a beam balance with her child and subtract the weight of the mother before recording on the chart.

- Plot the weight of the child/ infant on the growth chart and keep the records properly.
- Connect your plot with the previous records on the chart if there are any and interpret the nutritional status of the child.
- Record the data on the growth performance of children on a registration book and report.
- Discuss about the growth performance of the child with the mother/care giver and encourage her to continue if the performance is within the normal range. If you observe any sort of deviations try to find out the possible causes and solutions with the mother/ caregiver and refer the child timely to the next level if the deviation is severe.
- Follow the feedback of the referred cases (as much as possible).

N.B. Mid upper arm circumference could be used to screen children who are not growing well if we have limited number of staff and shortage of time. Even if it is not as precise as weight for age it could serve as a method of making preliminary screening in children 1-5 years. Cut off points are MUAC > 13.5 cm is normal, 12.5-13.5cm is indicator of mild to moderate malnutrition and <12.5 cm is an indicator of severe malnutrition.

11.4.4. Where Should the Growth Monitoring Be Done?

1. At Home Level

Growth monitoring and promotion efforts should start at the family level by the mothers/care givers. Caregivers should be concerned about the growth performance of their children. They should be convinced about the interplay between the growth performance and their childcare practices. They should keep their kids hygiene and their living environment, feed their children as far as possible a nutritious food in small frequent feeds, get them immunized and consult community health workers or the nearby health institution at times when their children fails to thrive. They should also strictly follow the advices given by the health personnel/community health workers.

2. At Health Service Institutions/At The Community Health Post Level

Ideally, health personnel/ community health workers should weigh every child at least once every month during the first year, every two months during the second year, and every three months thereafter up to five years of age, the first three years being the most critical periods. In addition to this schedule, however, every child should be weighed and the weight plotted on the chart every time he/she is brought to the health service unit for any reason, particularly if the child is sick.

Children found to be severely malnourished need to be admitted with their caregivers to the nutrition rehabilitation centers attached to health centers. This gives an opportunity for health personnel to demonstrate the preparation of nutritious foods from locally available food stuffs and proper ways of feeding children. Besides, seriously malnourished children will be rehabilitated both nutritionally and behaviorally.

The community health workers need to refer children whose weight for age is less than 60% of the standard and those children who:

- Are less than one year old
- Have intractable vomiting
- Have severe dehydration
- Are hypothermic (rectal temperature $< 35^{\circ}\text{C}$)
- Have sign of infection to the health institutions for possible admission to the inpatient ward or the nutrition rehabilitation center (NRC).

11.5. Expanded Program on Immunization (EPI)

Immunization is the process of protecting a person from a specific disease.

It is protection of a susceptible host from a specific disease by administration of

- A living modified agent
- A suspension of killed organism
- An attenuated toxin.

Immunization decreases susceptibility by producing antibodies or sensitized cells to fight the agent and its product.

11.5.1. Types of Immunization

- Active - Vaccine which acts in place of natural antigen
- Passive - ready made antibodies such as TAT, snake antiserum.

Another classification can be:

- Natural such as Mother to foetus, infection
- Artificially induced immunization such as vaccine (antigen), antibodies

11.5.2. Objectives of EPI

1. to reduce morbidity and mortality from six major diseases - diphtheria, pertussis, tetanus, measles, poliomyelitis and tuberculosis by immunizing all children throughout the world by 1990.
2. to promote national self-reliance in delivering immunization services within comprehensive health services.
3. to promote regional self-reliance in vaccine production and quality control.

11.5.3. The activities outlined were

- Provide immunization or information about immunization at every health contact
- Reduce dropout rates between the first and last immunizations
- Increase the priority given to control of measles, polio and neonatal tetanus
- Improve immunization services to the poor in urban areas

- Use special approaches such as national immunization days, where they strengthen the health infrastructure and contribute to a sustained improvement in coverage.

11.5.4. Strategies to conduct EPI sessions

1. Fixed (static) facilities offering immunization every day in all health institutions

Advantages

- No additional costs for transportation
- Personnel who can give injections and instructing parents are already available as is basic medical equipment
- Easier to keep vaccines at proper temperatures
- Client records may be more easily established and kept up to date

Disadvantages

- Parents must travel long distance to bring children to health centers. The further parents travel, the less likely they are to come for immunizations.
- Absence of integrated health service

2. Outreach services and mobile teams

This is important, especially for children in remote rural areas and poor urban as well as other children whose parents are unable or unwilling to come to health institutions.

Disadvantage

- Scheduling visits and adhering to schedules are difficult because of transportation problems or poor weather.
- Outreach services and mobile teams can be expensive.
- Staff need to be paid per diem
- Vehicles must be bought and maintained.
- Strict reminding is necessary for parents to be available on the days of appointment

3. Intensive immunization campaigns

This consists of regularly repeated mass campaigns which are mounted to stop epidemic by quickly immunizing as many susceptible people as possible. These campaigns have sharply increased vaccine coverage, especially, those of single dose vaccines. Such campaigns can involve non health workers for polio vaccination as it is given orally.

Antigens

Antigens given are: Bacterium Culmette Guirrin (BCG, for tuberculosis), DPT (depththeria, pertussis, tetanus), OPV (oral polio vaccine), Measles vaccine, tetanus toxoid for reproductive age and pregnant women.

11.5.5. Types of Vaccine for EPI

Vaccines can be killed micro-organisms, live but weakened (attenuated) organisms or toxoid, i.e., harmless forms of toxins or poisons that the bacteria produce.

- killed vaccines are DPT and TT, which should be kept just above freezing point in the refrigerator (0 - 8°C).
- Live attenuated vaccines are measles, polio and BCG. These should be deeply frozen, at around -20°C. Since BCG is sensitive to ultra violet (UV) light and heat, it is packaged in coloured vials and they should be protected against the sun light.

MOH recommended immunization schedule

Vaccine	Number of Doses	Minimal Age for First Dose	Minimal Interval between Successive Doses
BCG	1	At birth	
DPT	3	6 weeks of age	4 weeks apart
OPV	4	At birth 6 weeks of age	4 weeks apart
Measles	1	9 months of age	
Tetanus Toxoid	5*	For use in prevention of neonatal tetanus First dose at first contact with susceptible women.	The 2 nd 4 weeks after first dose

Routes and dosages

- BCG - 0.1cc, intradermal, right deltoid
- DPT - 0.5cc, deep intramuscular, on the thigh
- OPV - 2 - 3 drops per os
- Measles - 0.5cc, subcutaneous, left upper arm

Cold Chain

Cold chain is the equipment and people that ensure vaccine potency by keeping vaccine cold all the way from the manufacturer to the child/mother or the consumer.

Maintaining cold chain is one of the very few important activities that should be conducted, without any exception, by all concerned in the manufacturing of vaccines and delivery of immunization services.

The important and guiding concept behind cold chain is once vaccine potency is lost it cannot be regained. Using a vaccine that has lost potency is considered to cheat the mother and to leave the infant unprotected and exposed for diseases and disability and possibly to death.

Levels of cold chain

1. Central store - usually located in the nations capital
2. Regional store - located in a major regional town
3. Zonal store - located in the respective zonal town in the region
4. District store - located in the respective district health departments (usually a rural town)
5. Health institution store
6. At consumption site - either in the health institution or at the village level through outreaches



CHAPTER TWELVE

SEXUALLY TRANSMITTED DISEASES AND HIV/AIDS

12.1. STD

12.1.1. Significance and brief description of STDs

Sexually transmitted diseases (STD) are among the most common causes of illness in the world. Gonorrhoea, syphilis, and AIDS are the most widely known, but there are more than 20 other STDs. In developing countries STDs and their complications, even excluding HIV infection, rank among the top five disease categories for which adults seek health care.

STDs often exist without symptoms. In women, most gonococcal and chlamydial infections are asymptomatic. However, up to 90% of men with that same infections will have symptoms.

STDs are not only a cause of acute morbidity in adults but may result in complications with sequel such as infertility in both men and women, ectopic pregnancy, cervical cancer, premature mortality, congenital syphilis and fetal wastage, low birth weight, and prematurity and ophthalmia neonatorum.

There is a strong link between STDs and the sexual transmission of HIV infection. The presence of an untreated STD can enhance both the acquisition and transmission of HIV by a factor of up to 10. Thus STD treatment is an important HIV prevention strategy in a general population. Neglected for many years, programs to diagnose, treat and prevent these STDs are now becoming an important component of AIDS prevention programs.

The aim of STD prevention and care is to reduce the prevalence of STDs through primary prevention and effective case management. And, recent research provides evidence that the syndromic approach remains the cornerstone of STD clinical management. The syndromic approach consists of:

- classification of the main causal pathogens by the syndromes they produce
- use of flow charts to guide the management of a given syndrome
- treatment of the syndrome, covering all the pathogens with potential to cause grave manifestations and consequences
- promoting treatment of sex partners.

The syndromic approach permits STD treatment without costly laboratory tests. It offers accessibility and immediate treatment, and is effective and efficient.

The World Health Organization (WHO) recommends that the term sexually transmitted disease (STD) be replaced by the term sexually transmitted infections (STI). The term sexually transmitted infections has been adopted as it better incorporates asymptomatic infections and better relates to the concept of reproductive tract infections (RTI).

12.1.2 Definition

Sexually transmitted infections are a group of over 20 infections which are all transmitted mainly by sexual contact.

Although the etiology of STI involves a number of microorganisms the diseases present themselves mainly in four syndromes (genital ulcer, urethral discharge, vaginal discharge, lower abdominal pain).

12.1.3 Epidemiology

Sexually transmitted infections affect people in both developing and industrialized countries. Those aged 20-24 are at highest risk of infection. STIs have important repercussions on reproductive health and have been shown to increase the risk of infection with the AIDS virus.

The estimated annual incidence of curable STDs (not including AIDS or other viral STDs) is 333 million cases worldwide.

The very high incidence of STDs worldwide is of serious public health concern. The increasing morbidity of populations, urbanization, poverty, demographic changes especially in the developing countries, sexual exploitation of women and changes in sexual behavior are some of the factors which have placed and ever increasing proportion of the population at risk for STD infection.

Magnitude of the STI problem

In many developing countries STDs have for several decades ranked among the top five diseases for which adults seek health care services. Reliable surveillance is rarely in place and the exact magnitude of the problem is frequently unknown. Where data are available they show significantly greater rates in the 15-44 age group.

12.1.4 Etiology and Pathogenesis

The main STI pathogens include:

- Neisseria gonorrhoeae (causing gonorrhoea),
- Chlamydia trachomatis (chlamydial infection),
- Treponema pallidum (syphilis),
- Haemophilus ducreyi (chancroid)
- Calymmatobacterium granulomatis (granuloma inguinale, or donovanosis)

The principal viruses are:

- Human immunodeficiency virus (HIV),
- Human papillomavirus (genital warts),
- Hepatitis B virus,
- Cytomegalo virus

Trichomonas vaginalis (trichomoniasis) is another important sexually transmitted agent which causes vaginitis and has also been shown to facilitate HIV transmission.

Candida albicans, which can be sexually transmitted, is the cause of a common fungal infection responsible for vulvovaginitis in women and inflammation of the glans penis and foreskin in men.

The bacterial infections are curable, as is trichomoniasis. The viral infections are not curable, but some can be controlled.

12.1.5. Complication and consequences of STDs

STDs often exist without symptoms. In women with gonococcal and/or chlamydial infections there may be no symptoms in up to 70% of cases. Both symptomatic and asymptomatic infections can lead to the development of serious complications.

The most serious complications and sequelae (long-term consequences) of untreated STDs tend to be in women and newborn babies. These can include

- cervical cancer,
- pelvic inflammatory disease (salpingitis),
- chronic pelvic pain,
- fetal wastage,
- ectopic pregnancy
- and related maternal mortality.

Chlamydial infections and gonorrhoea are important causes of infertility, particularly in women, with far-reaching social consequences. Chlamydia is an important and significant cause of pneumonia in infants. Neonatal gonococcal infections of the eyes can lead to blindness.

Congenital syphilis is an important and significant cause of infant morbidity and mortality. In adults, syphilis can cause serious cardiac, neurological and other consequences, which can ultimately be fatal.

12.1.6. Prevention and care of STDs

The objectives of STD prevention and care are to reduce the prevalence of STDs by interrupting their transmission, reducing the duration of infection and preventing the development of complications in those infected.

Primary prevention

Primary prevention, which is concerned with the entire community, curbs the acquisition of infection and resulting illness. It can be promoted through health education, and involves practices such as safer sex behavior, including the use of condoms, and abstinence from sex. Primary prevention messages apply equally to HIV and other STDs.

Secondary prevention

Secondary prevention involves treating infected people. Except for HIV and the viral STDs, treatment cures the disease and interrupts the chain of transmission by rendering the patient non-infectious.

12.1.7. The Link between STDs and HIV/AIDS

There is growing recognition of the public health importance of STDs because of the degree of morbidity and mortality they cause and the well established evidence that STDs facilitate the transmission of infection with the human immunodeficiency virus (HIV). Thus STD treatment is an important HIV prevention strategy in a general population.

Other STDs make it easier for HIV to pass from one person to another. Chancroid, chlamydia, gonorrhoea, syphilis, and trichomoniasis may increase the risk of HIV transmission by two to nine times. The link between HIV infection and other STDs may partly explain why HIV in heterosexual populations is more prevalent in Africa than in Europe and the US, where STDs are more often treated and cured.

Infection with HIV also affects the other STDs. In people with HIV infection other STDs may be more resistant to treatment. For example, several studies have reported that one-dose treatment for chancroid failed at least six times more often in HIV-infected patients than in patients without HIV infection. Also, syphilis lesions may last longer in people infected with HIV, and these people may get gonorrhoea more often. Thus HIV enhances its own transmission: with longer-lasting STD symptoms, people with HIV infection are more likely to transmit HIV and increase the pace of the AIDS epidemic.

12.1.8. Syndromic Case Management of STDs

The traditional method of diagnosing STDs is by laboratory tests. However, such tests are very often unavailable or too expensive. For this reason, syndromic management of STDs have been recommended by WHO since 1990 for use in patients presenting with symptoms of STD. Its main features are:

- classification of the main causative pathogens by the clinical syndromes they produce
- use of flow charts derived from this classification to manage a particular syndrome
- treatment for all important causes of the syndrome
- notification and treatment of sex partners
- no expensive laboratory procedure required

For example, a man presenting with urethral discharge would be treated for both gonorrhoea and chlamydial infection. In a person with a genital ulcer, the treatment would most likely be for syphilis and chancroid.

The syndromic approach permits STD treatment without costly laboratory tests. It offers accessibility and immediate treatment, and is effective and efficient.

Studies have shown that syndromic case management of STDs using flowcharts is more cost-effective than diagnosis based on either clinical examination or laboratory tests.

A disadvantage of the syndromic approach is over-treatment in some patients. This is especially so in the case of vaginal discharge where cervicitis (due to gonorrhoea and/or chlamydial infection) is not the predominant cause of the discharge.

Diagnosis and Treatment

WHO has developed STD diagnosis and treatment flow charts-step-by-step pathways using the syndromic approach to help primary health care providers manage STD patients.

- Genital ulcer in a man or women,
- Urethral discharge in a man,
- Vaginal discharge, and
- Lower abdominal pain in a woman.

A. Genital Ulcer

Definition

A genital ulcer is defined as a loss of continuity of the skin of the genitalia. Genital ulcers may be painful or painless and are frequently accompanied by inguinal lymphadenopathy.

Importance

Genital ulcers are a common cause of consultation in tropical countries and, depending on their cause, may have serious consequences, such as late symptomatic syphilis, mutilating lesions and enhanced transmission of HIV.

Etiology

Common STD agents producing genital ulcers are

- Treponema pallidum,
 - Haemophilus ducreyi,
 - Calymmatobacterium granulomatis (Donovania granulomatis),
 - C.trachomatis, and
 - Human (alpha) herpesvirus 1 or 2 (herpes simplex virus).
- Ulcers due to trauma can become infected by bacteria.

Subjective complaints

Patients usually complain of a sore or sores on the genitalia. Uncircumcised males may complain of penile discharge or inability to retract the prepuce.

Objective findings

Physical examination: The number and characteristics of the lesions should be noted. Examination of females may be difficult in some settings but should be performed whenever possible. The presence of inguinal Lymph nodes should be noted. Gloves should be worn for palpation.

Laboratory tests: Generally, diagnostic tests for this syndrome are not useful for initial treatment decisions made at the peripheral level. Whenever available, serological test for syphilis can provide additional information.

Diagnosis

Lesions of syphilis and chancroid vary in appearance and may be indistinguishable from one another. If a shortage of drugs makes treatment for both chancroid and syphilis impossible, however, try to distinguish between the two.

- Syphilis usually produces a single painless ulcer with firm borders that feel like the tip of the nose.
- Chancroid usually produces a soft, painful, easily bleeding ulcer with an irregularly shaped border.

In women the chancroid ulcer may not be painful, however. Alternatively, providers may treat for the STD that is more common in the area.

Herpes ulcers with a secondary bacterial infection, however, may resemble syphilis and chancroid ulcers.

Syphilis and chancroid may cause enlarged lymph nodes.

- In syphilis, lymph nodes are enlarged and firm but painless.
- In contrast, chancroid, like lymphogranuloma venereum (LGV), can cause enlarged and tender lymph nodes that may burst and leak pus.

People with syphilis may not seek treatment until they have symptoms of secondary syphilis - rash, hair loss, sore throat, malaise, headache, weight loss, fever, or swollen lymph nodes.

Donovanosis and LGV also cause genital ulcers. Donovanosis begins as nodules under the skin that erupt and form usually painless, sharply defined lesions. The lesions of LGV are small papules or shallow ulcers that look like herpes blisters and heal without treatment. LGV usually causes tender inguinal buboes that may leak pus. These buboes are the usual reason that people seek treatment.

Patients may also have nonulcerative genital lesions caused by human papillomavirus (HPV) and molluscum contagiosum. Human papillomavirus causes genital warts (condylomata acuminata), which often look like a cauliflower. The lesions caused by molluscum contagiosum are white, smooth pimples that contain a white, cheeselike substance.

Treatment

Make every effort to treat syphilis because it has serious sequelae.

Treatment for LGV is doxycycline, 100 mg orally, twice daily for 14 days; OR tetracycline, 500mg orally, four times daily for 14 days.

Treatment for Donovanosis is trimethoprim, 80mg/sulfamethoxazole, 400mg or a comparable sulfonamide component, two tablets twice daily, orally for at least 14 days.

If a patient returns because a genital ulcer has not healed, HIV infection may be the reason. Refer the patient for testing.

In areas where both chancroid and syphilis are common, initial management should be appropriate to both diseases. Knowledge of the relative frequencies of the different ulcer diseases in the area is of crucial importance.

B. Urethral Discharge

Definition

In urethral discharge, exudate is present in the anterior urethra; the discharge is often accompanied by dysuria or urethral discomfort.

Importance

Urethral discharge is the most common presenting complaint of men with STD. Untreated urethritis may lead to epididymitis and complications such as infertility and urethral stricture.

Etiology

In men with a history of sexual contact, urethral discharge is usually caused by *Neisseria gonorrhoea*, *Chlamydia trachomatis* or *Ureaplasma urealyticum*, and rarely by other STD agents (e.g., *Trichomonas vaginalis*).

For practical purposes, STD - related urethritis is subdivided into; gonococcal urethritis, produced by *N.gonorrhoeae*, and nongonococcal urethritis (NGU), usually caused by *C. Trachomatis* or *U. urealyticum*.

Gonococcal urethritis tends to produce more severe symptoms and has a shorter incubation period (2-3 days) than NGU (1-3 weeks).

Consequently, some clinicians in areas with high gonococcal prevalence rely on the characteristics of the urethral discharge to differentiate between gonorrhoea (abundant, purulent) and NGU (scanty to moderate; white, mucoid, or serious). The quantity and appearance of the discharge can be used to distinguish accurately between gonococcal and nongonococcal urethritis in about 75% of patients who have not urinated recently; it can not, of course, be used to diagnose dual infections with *N.gonorrhoeae* and *C.trachomatis*.

The vast majority of cases of urethritis in the developing world are caused by *N.gonorrhoeae*, although the number of patients with concomitant *C.trachomatis* infection is increasing. In the industrialized countries, NGU is more common than gonococcal urethritis.

Subjective complaints

Most patients complain of pus dripping from the penis and/or burning or pain on urination.

Objective findings

Physical examination: The appearance of the discharge may range from abundant and purulent to scanty and mucoid. It may be necessary to “milk” the urethra in order to see the discharge, or to re-examine after the patient has held urine for at least 3 hours.

Laboratory tests: Microscopic examination of a smear of urethral discharge stained with methylene blue or safranin or by Gram's method can be carried out immediately to detect gonococcal urethritis (pus cells with characteristic intracellular diplococci). If properly performed, the sensitivity and specificity of the stained smear of urethral exudate should be greater than 95% for gonococcal urethritis. Concomitant nongonococcal infections will not be identified by this method.

Culture facilities for *C.trachomatis*, *U.urealyticum*, and other STD agents are usually not available at the PHC level and even when available, will not aid in the initial decision to treat the patient, as there is a delay of two or more days in obtaining the results. Cultures are important, however, when isolation of the gonococcus is required, as when monitoring β -lactamase production and antimicrobial susceptibility.

Diagnosis

Identify the origin of the discharge. Urethritis causes discharge from the meatus (the opening of the penis). Un circumcised men discharge from the glans or foreskin may appear to come from the meatus.

If no discharge is visible, consider applying gentle pressure to the penis. It may be possible to observe discharge by holding the head of the penis between the thumbs and gently rolling the thumbs up and down. It may be necessary to milk the urethra: Start at the base of the penis. Place one finger or the palm of the hand beneath the penis and one or two fingers on top at the base. Applying gentle pressure, move the hands outward towards the tip of the penis. Repeat if necessary. If patients are reluctant or afraid, they may milk the penis themselves.

If the patient urinated shortly before the examination, thus rinsing discharge from the urethra, the discharge may not reappear for several hours.

Treatment

The choice of an effective regimen is crucial. In countries where gonococci are still known to be sensitive to tetracyclines, the treatment regimen for NGU may also cure gonorrhoea. However, the prevalence of various types of gonococcal antimicrobial resistance is increasing in many countries and the choice of an effective treatment for gonorrhoea may be difficult.

In the absence of laboratory support, algorithm 1 should be used for a patient with urethral discharge. If microscopy facilities are available to examine a stained smear of the urethral discharge, the management protocol can be made more specific. The full treatment regimen should be used for sexual contacts.

C. Vaginal Discharge

Definition

STD-related vaginal discharges are abnormal in colour, odour and/or amount. The discharge may be accompanied by pruritis, genital swelling, dysuria, or lower abdominal or back pain.

Importance

Although vaginal discharge is the most common gynaecological complaint of sexually active women, not all vaginal discharges are abnormal or indicative of an STD.

Gonococcal or chlamydial infections can lead to pelvic inflammatory disease and complications of infertility and ectopic pregnancy. Infants born to women with untreated gonorrhoea or chlamydial infections may develop ophthalmia neonatorum if eye prophylaxis is not provided at birth.

Etiology

Trichomonas vaginalis, *Candida albicans*, and a combination of *Gardnerella vaginalis* and vaginal anaerobes (“bacterial vaginosis”) cause vaginal discharge directly, while *N. gonorrhoeae* and *C. trachomatis* do so indirectly via cervicitis and cervical discharge. Extensive first-episode human (alpha) herpesvirus 1 or 2 (herpes simplex virus) infection may also cause visible cervical, vaginal and vulval exudate. Careful history-taking should reveal whether a vaginal discharge has been caused by a chemical vaginitis, due to topical self-medication or repeated vaginal cleaning with abrasive substances.

Subjective complaints

Both the patient’s and the community’s perception of what constitutes “abnormal vaginal discharge” may vary. In general, most women with this syndrome will complain of the soiling of undergarments, excessive secretions, changes in colour and/or odour, itching, dysuria, dyspareunia, redness of the vulva, and sometimes lower abdominal pain. Pregnancy status should be determined by taking a careful menstrual history.

Objective findings

Clinical examination: A proper gynaecological examination requires an examination table, gloves, and speculum. Inspect the vulva and introitus for discharge, rashes, erosions, ulcers and palpate the lower abdomen. If an ulcer is present, consider genital ulcer. If palpation is painful, follow the algorithm for lower abdominal pain. After introducing the speculum, determine the characteristics and origin (vaginal, endocervical) of the discharge. Mucopurulent discharge exuding from the endocervix often denotes infection with *N. Gonorrhoeae* and/ or *C. Trachomatis*. If indicated, perform a bimanual pelvic examination to aid in the diagnosis of pregnancy and pelvic inflammatory disease. If mobilization of the cervix elicits pain, consider lower abdominal pain.

Laboratory tests: Although desirable, culture facilities are usually not available at the PHC level. Where a microscope is available, wet-mount microscopy may be useful in differentiating between trichomoniasis, candidiasis, and “bacterial vaginosis” (KOH test, ratio of pus cells to epithelial cells, and presence of “clue cells”). In general, Gram stains are not helpful in diagnosing gonorrhoea in females.

Diagnosis

The perception of abnormal vaginal discharge depends on the patient. Common complaints are new or increasing stains on underwear, a large volume of secretions, change in the color and consistency of the discharge, a foul odor, itching and soreness, painful urination, or pain during intercourse.

Diagnosing an STD on the basis of the consistency of vaginal discharge may be difficult. If a diagnosis can not be based on the consistency of the discharge, check the pH of the discharge if possible. Normal vaginal fluid has a pH between 4.0 and 4.5. Bacterial vaginosis raises the pH above 4.5. In candidiasis the pH of the discharge is usually less

than 4.5. Trichomoniasis discharge usually has a pH greater than 5.0. Blood in vaginal secretions or pregnancy also may make the pH greater than 4.5, however.

If the vaginal and vulva are inflamed, candidiasis or trichomoniasis may be the cause. Bacterial vaginosis usually does not cause inflammation.

Vulvar itching is also a symptom of candidiasis and trichomoniasis.

The origin of the discharge can help to identify the disease. Discharge from the cervix indicates possible gonorrheal or chlamydial infection. Discharge from the vaginal wall indicates trichomoniasis, candidiasis, or bacterial vaginosis. Trichomoniasis also can cause urethral discharge. Identifying the origin of discharge in the vaginal may be difficult, however. Wiping off the cervix with a swab can help. Discharge from the cervix may then be observed. Other signs of cervical infection are redness and bleeding when the cervix is touched with a swab.

Treatment

Factors to be taken into account in selecting treatment include pregnancy status, patient discomfort, and the most likely cause. Except in candidiasis and bacterial vaginosis, which are not usually sexually transmitted, the regular sex partner should be included in the management of all cases. Suspicion of a gonococcal or chlamydial infection warrants immediate treatment of the patient and her partner (s). Pregnant women should not receive tetracycline.

Treat male partners of women with trichomoniasis with metronidazole, 2 g in one oral dose, or 400 - 500 mg orally, two times daily for seven days.

Metronidazole crosses the placenta and may slightly increase the risk of congenital malformation. It should not be given to women in the first trimester of pregnancy. Since there are no other effective treatments for trichomoniasis, metronidazole may be used during the second and third trimesters if necessary.

Metronidazole passes into breast milk. Some think that breastfeeding women given the single 2g oral dose should interrupt breastfeeding for 24 hours. Women may not need to stop breastfeeding, however, because there is no evidence that metronidazole is harmful to babies, whereas disrupting breastfeeding could be harmful.

D. Lower Abdominal Pain

Definition

Lower abdominal pain in women is often associated with pelvic inflammatory disease. This is a diagnostically inexact term used to denote suspected or proven pelvic infections in women (e.g., salpingitis, endometritis, parametritis, oophoritis, pelvic peritonitis) caused by microorganisms which generally ascend from the lower genital tract to invade the endometrium, fallopian tubes, ovaries and peritonitis.

Importance

Sexually transmitted pelvic infections are a major cause of infertility, ectopic pregnancy, and chronic pain. Pelvic inflammatory disease is a common reason for admission to gynecological wards and emergency rooms. Complications, such as tubo-ovarian abscess, require major surgical procedures and may cause death.

Etiology

Common sexually transmitted pathogens that cause pelvic inflammatory disease are *N.gonorrhoeae*, *C.Trachomatis*, and perhaps *Mycoplasma hominis*. Postpartum and post abortion ascending infections, although usually related to lack of hygiene and poor obstetric care, may occasionally be associated with gonococcal and/or chlamydial infections. The presence of intrauterine devices (IUD) favors the development of pelvic inflammatory disease, particularly in the month following insertion.

Subjective complaints

Mild to severe lower abdominal pain, which may first be noticed during or shortly after the menses and which is sometimes associated with fever and/or other symptoms of vaginal discharge (excessive secretions, changes in colour / or odour, itching, dysuria, dyspareunia, redness of the vulva, etc.)

Objective findings

Physical examination: The clinician should exclude medical-surgical emergencies (e.g., septic abortion, intestinal obstruction, ruptured bowel, appendicitis and ectopic pregnancy) and evaluate for:

- lower abdominal tenderness,
- vaginal discharge,
- ulceration (also of external genitalia),
- presence of an IUD,
- open cervix, abortion tissue seen or felt,
- tenderness on cervical movement,
- adnexal tenderness and/or masses on bimanual examination,
- temperature ≥ 38 °C.

Laboratory tests: Direct wet-mount microscopy of a vaginal specimen is necessary. The presence of pus cells in numbers exceeding those of the epithelial cells suggests infection of the lower genital tract.

Diagnosis

Check for emergencies and refer immediately to a hospital if septic abortion, intestinal obstruction, ruptured bowel, appendicitis, or ectopic pregnancy is suspected.

In addition to lower abdominal pain pelvic inflammatory disease can cause pain during intercourse or urination, heavy or prolonged menstrual bleeding, pain during menses, nausea, and vomiting.

On speculum exam, an open cervix indicates pregnancy or abortion.

Look for signs of STDs- ulcers or vaginal discharge.

Ask the patient if she is using an IUD. Women using IUDs have a higher risk of pelvic inflammatory disease than women using no contraception, particularly if the IUD was inserted recently.

Treatment

If a diagnosis of pelvic inflammatory disease is made, at least 10 days of antibiotic treatment are necessary and treatment of recent male partners for gonorrhoea and/or chlamydial infection should be recommended.

Metronidazole treats anaerobic bacteria that may be contributing to pelvic inflammatory disease.

E. Inguinal Bubo

Definition

An inguinal bubo is an enlargement of the lymph glands in the groin area.

Etiology

Except in the case of lymphogranuloma venereum caused by *C. Trachomatis* serovars L1-L3 (chlamydial lymphogranuloma), a bubo is rarely the sole manifestation of an STD and is usually found together with the etiologically related genital ulcer. Nonsexually transmitted local or systemic infections (e.g., infections of the lower limb can also cause inguinal adenopathy).

Subjective complaints

Most patients complain of pain and swelling in the groin although buboes can be painless. It is important to find out how long there has been a problem and whether there was a preceding genital ulceration.

Objective findings

Buboes can be unilateral or bilateral. Palpation may reveal pain or fluctuation. In males, care should be taken to retract the prepuce to look for ulcers.

Treatment

Management of patients with buboes is important because inadequate treatment can lead to rupture with chronic fistulization and scarring. In a patient with inguinal bubo without accompanying genital ulcer, tetracycline treatment should be given for 2 weeks. Fluctuant buboes require aspiration through adjacent healthy skin. If buboes persist, the patient should be referred. In principle the same treatment should be offered to sexual partners, taking into account local cultural and epidemiological factors as well as the presumed causative organism.

F. Scrotal Swelling

Definition

Scrotal swelling can be caused by trauma, a tumour, torsion of the testis or epididymitis. Inflammation of the epididymis is usually accompanied by pain, oedema and erythema and sometimes by urethral discharge, dysuria, and/or frequency. The adjacent testis is often also inflamed (orchitis), producing epididymo-orchitis.

Importance

When not effectively treated, STD-related epididymitis may lead to infertility. Sudden onset of unilateral swollen scrotum may be due to trauma or testicular torsion and requires immediate referral.

Etiology

Causative sexually transmitted agents are *C. Trachomatis*, *N. Gonorrhoeae*, and very rarely *Treponema pallidum*. *Mycobacterium tuberculosis* is a relatively common cause on some developing countries, while Gram-negative bacilli, especially of the family *Enterobacteriaceae*, and *Pseudomonas aeruginosa* are common causes in older men with complicated urinary tract infections. Mumps virus is a causal agent in postpubertal males.

Epididymitis is a fairly common disease, although accurate incidence data are rarely available.

Subjective complaints

The patient presents with an acute onset of a painful swollen scrotum which is almost always unilateral. In STD-related epididymitis, there is often either a recent history of urethral discharge or such a discharge can be seen on physical examination. Sudden onset or a history of trauma or of recurrent urinary tract infection may help to identify non-STD-related causes.

Objective findings

Physical examination: This disease is usually unilateral. The scrotum may appear red and oedematous and is tender to palpation. Evidence of urethral discharge should be sought.

Laboratory tests: when feasible, a stained smear of urethral exudate or examination of urinary sediment of first-voided urine for white blood cells and bacteria may be helpful in determining whether there is an infectious cause.

Treatment

The most important concern is either to rule out surgical emergencies or, if present, to refer them immediately. Sudden onset and rapid progression of unilateral scrotal swelling in a young patient may be indicative of testicular torsion requiring specialized care.

Epididymitis should be managed with antibiotics, symptomatic treatment, and supportive measures.

G. Ophthalmia Neonatorum

Definition

Ophthalmia neonatorum is defined as acute purulent conjunctivitis of the newborn in the first month of life, usually contracted during birth from infectious genital discharge of the mother.

Importance

Ophthalmia neonatorum can lead to blindness, especially when caused by *N.Gonorrhoeae*.

Etiology

The most important sexually transmitted causes of ophthalmia neonatorum are *N.Gonorrhoeae* and *C.trachomatis*. The relative frequency of infections with the two agents depends on their prevalence in pregnant women and on the use of eye prophylaxis, which is effective against *N.Gonorrhoeae* but often not against *C.trachomatis*. In developing countries, *N.Gonorrhoeae* accounts for about 20-75% and *C.trachomatis* for 15-35% of cases brought to medical attention. Other common causes are *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Haemophilus* spp and *Pseudomonas* spp. The chemical conjunctivitis sometimes caused by 1% silver nitrate drops can be readily distinguished from infectious conjunctivitis because the former develops within 24 hours and subsides without treatment.

Epidemiology

In developing countries in Africa, the incidence of gonococcal ophthalmia neonatorum is estimated between 5 and 50 per 1000 live births, while the incidence of chlamydial conjunctivitis, which gives rise to fewer symptoms, is probably about the same. If the mother is infected at the time of vaginal delivery, the risk of transmission to the eyes of the neonate is between 30% and 50% for both *N. Gonorrhoeae* and *C. trachomatis*.

Subjective complaints

The mother presents her newborn baby because of redness and swelling of the eyelids or "sticky eyes", or because of discharge from the eye(s).

Objective findings

These include;

- discharge, which may be purulent,
- redness and swelling of the conjunctivae,
- oedema and redness of the eyelids

The use of a stained smear of conjunctival exudate to detect intracellular diplococci provides a highly sensitive and specific method of diagnosing gonococcal ophthalmia.

Treatment

Severe conjunctivitis developing in the first week of life is most probably gonococcal in origin and demands immediate treatment to prevent eye damage.

Conjunctivitis is also a marker of more generalized neonatal infection, necessitating combined systemic and topical treatment.

If clinical assessment only is possible, all ophthalmia neonatorum should be managed as gonococcal, and both eyes treated, even if only one eye appears affected. If a stained smear (methylene blue, safranin or Gram) is made, the ophthalmia neonatorum can be classified as gonococcal or nongonococcal.

Treatment of mother: The mother should be treated for gonorrhoea and /or chlamydial (nongonococcal) infection.

Treatment of mother's partner(s): The partner(s) should always be treated for urethritis, and the genitals examined for discharge or other STD syndromes.

Prophylaxis of ophthalmia neonatorum

A policy of neonatal eye prophylaxis should be implemented and include the cleaning of the eyes immediately after birth plus instillation of 1% silver nitrate eye drops or 1% tetracycline ointment. Only where the incidence of ophthalmia neonatorum is negligible can such a policy be abandoned.

12.2. Human Immunodeficiency Virus (HIV) Infection, and AIDS

HIV/AIDS

12.2.1. Introduction

The Human Immunodeficiency Virus HIV infection is caused by one or two related viruses (HIV-1 and HIV-2) resulting in a wide range of clinical manifestations varying from asymptomatic carrier states to severely debilitating and fatal disorders related to defective cell mediated immunity.

The virus is retrovirus. The virus causes immuno-suppression. By doing so it substantially reduces the capacity of human body to defend against many of the pathogenic viruses, bacteria, protozoa and fungus.

Acquired immunodeficiency syndrome (AIDS) is a secondary immunodeficiency syndrome due to HIV infection and characterized by opportunistic infections, malignancies, neurological dysfunction, and a variety of other syndromes.

Type 1 is the organism causing AIDS in Ethiopia.

HIV/AIDS has affected all parts of the world, but sub-Saharan Africa is the hardest hit. Ethiopia currently has one of the highest numbers of people affected by the problem. In Ethiopia there are indications that the epidemic has affected a large proportion of the society and that no region or zone in the country is spared. To date no prophylactic vaccine is available. However, there are anti-retroviral drugs used to prolong the life of AIDS patients. Yet, these drugs are extremely expensive and not affordable for most patients in developing countries and the respective governments fail to insure their supply. The best intervention available is prevention of the acquisition of the infection. As a result HIV/AIDS has caused an immense social, economic, cultural and political burden in addition to the pressure on the health care system. HIV/AIDS has started to influence the demographic trends in many countries by increasing mortality rates and lowering life expectancy. It has mainly affected the reproductive segments of the population and hence, has become the most important development concern across the world.

Impacts of AIDS

Demographic Impacts

AIDS will have a big impact on population size, growth and life expectancy. With the continued AIDS epidemic, the total population of Ethiopia would be 85 million by 2014, which is 7 million smaller than the projection without AIDS. However, by that time the population would still be growing at 2.3% per year.

Health Care Impacts

- **Costs of health care**

AIDS is an expensive disease that will require a considerable amount of resources from the health system. By 2014, expenditures for AIDS care could amount to one-third of the entire budget of the Ministry of Health. Clearly, this would place a tremendous burden on the public health care system to provide adequate care for AIDS patients and still try to meet all the other health needs of the population.

- **Childhood deaths**

The number of children dying from AIDS is increasing and this negatively affects the outcomes of child survival programs.

- **HIV and Tuberculosis**

With AIDS, a number of new cases of tuberculosis will develop. In the absence of HIV, the number of new TB infections would be limited to about 0.12% of the adult population. This would result in 35,000 – 55,000 new TB cases each year. If we assume that, among people with both HIV and latent TB infection, 8 percent develop TB each year, then the additional number of TB cases due to HIV infection would be 130,380 by 2014. Even this is likely to be an under-estimate since these new cases may transmit the disease to others. The impact of HIV on tuberculosis is a serious problem. Since TB can be infectious through casual contact, the increased number of TB cases due to HIV can also lead to additional TB cases among those who are not infected with HIV. Also drug-resistant strains of TB are appearing, making it much more difficult and expensive to treat tuberculosis.

Economic Impacts

AIDS has an impact on the economic development of Ethiopia in a number of ways. The loss of young adults in their most productive years of life will certainly affect overall economic output. If AIDS is more prevalent among the economically well to do, the best-educated people and with the highest paying jobs, then the impact could be much larger. The huge expenditures for care of AIDS patients will lead to reduction in investment, which could lead to a significant reduction in economic growth.

AIDS can also affect foreign exchange allocation. It has been estimated that the foreign exchange requirements for imported drugs could require from 7 to 37 weeks of the entire foreign exchange quota if all AIDS patients received complete drug treatment.

Sectors highly affected: Health, Education, Military, Transportation, Extension services, Banking, Agriculture, Industry (Loss of workers, Lost work days due to sickness, Lost work days due to funeral leave and Increased health care costs).

Social Impacts

- Grandparents will have to assume full responsibility for raising children when parents die.
- Children are more likely to be malnourished, and have fewer opportunities for education
- Increase in the number of orphans. The number of AIDS orphans could increase to 2.1 million by 2014.
- If the husband dies, the remaining wife and children can be particularly vulnerable. Some women will be over worked with family affairs and some even have to resort to commercial sex to cover costs for supporting the family.
- A widow can also be forced to sell sex if she cannot maintain herself and her children on the farm or with other occupations.
- A woman may be at risk of getting HIV even though she is faithful to her husband, because her husband could have extramarital affairs.
- At family level – an increased burden and stress for the extended family.
- At community level and national level there will be an increased burden on society to provide services for the orphaned children.

12.2.2. Epidemiology - transmission and risk factors

HIV is transmitted through the following main routes: 1) sexual intercourse - accounts to 70-80% of the global transmission of HIV infection; 2) perinatal (mother-to-baby) - 5-10%; 3) through blood and blood products - 3-5%, and 4) from unsafe injections. HIV is not transmitted by casual contact or even by close non-sexual contact that normally occurs at work, in schools or at home. In developing countries including Ethiopia, the main route of HIV-1 infection is through heterosexual transmission.

Extent of the magnitude of the epidemic

The magnitude of HIV infection is estimated using “sentinel surveillance systems”. They provide important information for planners and decision makers. Sero-surveys conducted among pregnant women attending antenatal (ANC) clinics and blood donors are often used to describe the magnitude of HIV infections in developing countries, as they are more likely to represent the general population. They are feasible to undertake and are within the resource means of the countries.

Accordingly, sero-surveys conducted on pregnant women attending ANC in 1998, 1999 and 2000 in various parts of the country showed that the prevalence of HIV infection ranged from 0.8-4.0% in Atat Hospital (1998, 1999/00), 13.0-20.8% in Bahir Dar (1992/93-1999/00). In Gambella, Dilla, Awasa, Dire Dawa and Addis Ababa prevalence rates between 13.6% and 19% were reported in the year 1999/00. According to the MOH report (AIDS in Ethiopia, 4th edition, October 2002), the prevalence of HIV infection among the general population is estimated to be 6.6%. About 2.2 million people are living with HIV/AIDS; among these 2 million are adults and the rest 200,000 are children.

Among blood donors rates ranging between 3.8% and 7.9% were found. In semi-urban and rural communities such as the Atat and Hosanna prevalence rates of 0.8% and 3.6%, respectively, have been reported (in 1998).

Among commercial sex workers, surveys conducted in several cities during the mid 1990s have documented HIV levels of 69.4% and 65.0% in Bahir Dar and Nazareth, respectively. Among sex workers in Addis Ababa, a prevalence rate of 73.4% was reported in 1999.

The level of HIV infection and its progression specifically among adolescents and young adults is not well known. This is because the ANC sentinel surveillance estimates for the age group 15-49. In towns such as Dire Dawa, the prevalence of HIV among young women attending ANC (15-24 years) was 14%. In Gambella the prevalence was 12.1%. Data from blood donors also indicated that this group accounted for a sizable proportion of infections among the general population.

Routes of transmission

The major route of transmission in Ethiopia is heterosexual. The practice of multi-partner sexual contact is the biggest risk factor for HIV transmission. A number of factors increase the risk of infection by a single act of intercourse. One of such important factors is the presence of a sexually transmitted disease (STD), such as syphilis or gonorrhoea, in either of the partners.

Crude estimate of vertical transmission (mother to newborn) is between 29% and 47%. It was estimated that about 250,000 children under the age of 5 were infected by 2000.

Transfusion with infected blood always transmits HIV. However, in Ethiopia most blood is screened for HIV. Therefore, few new infections are due to blood transfusions.

HIV can be transmitted by injection if the same needle is used to inject many people, without being sterilized after each use. Practices such as unsafe/unsterile injections can result in new HIV infections.

High risk groups and behaviors

The risk behaviors for contracting HIV/STDs:

- Having unprotected sexual intercourse (not using condoms)
- Having unprotected sexual contact with many different partners
- Having sexually transmitted disease(s)
- Alcoholism
- Drug abuse

Population groups at risk in Ethiopia and the respective risk factors

Population at risk	Exhibiting Risk Factors
Youth in and out of school	Lack of awareness, alcohol and substance abuse, helplessness associated with unemployment
Multiple partner sexual contacts and Commercial sex workers	Poor economic status, early marriage and marital discord, practicing unprotected sex, alcohol and substance abuse
Truck drivers	Low awareness, high mobility, alcohol and substance abuse, practicing unprotected sex
Merchants	Low awareness, high mobility, alcohol abuse, luxurious living
Women in child bearing age	Harmful traditional practices, divorce and poor economic status, gender inequality
Migrant workers	Unprotected sexual contact, high mobility, poor economical status, and lack of awareness

12.2.3. Pathogenesis

HIV infects a major subset of T-cells - the T4 or CD4 cells. CD4 receptors are found on T-lymphocytes, macrophages, monocytes, tissue cells (dendritic cells present in genital and anorectal area), certain brain cells (glial cells) and some other cells as well. HIV also infects non-lymphoid cells in the lungs, brain, skin and lymph nodes. Humoral immunity is also affected, leading to lymphadenopathy. CD4 counts are used in monitoring the progression of the immune suppression in the body.

The CD4 (T4) helper cells are very important in the regulation and control of the immune response by:

- directly, or indirectly, protecting the body from invasion by certain bacteria, viruses, fungi and parasites.
- clearing away a number of cancer cells.
- producing substances that are useful in the body's defenses.

They also influence the development and function of monocytes and macrophages, which act as scavenger cells in the immune system.

How does the HIV multiply in the body and cause immune suppression?

After binding to the CD4 receptor, the viral genetic material enters the host's cell (e.g., a CD4 cell). With the reverse transcriptase reaction, the virus's DNA copy becomes incorporated into the host cell. Later, when new virus particles are made, they bud off from the host cell, enter the blood stream and infect more cells. In this process, the host cells (such as CD4 T lymphocytes) are damaged and destroyed.

It takes the HIV a number of years to destroy enough of the immune system to cause immune-deficiency and immune-incompetence. It may take 3 - 7 or even more years, for a person who is HIV-infected to develop immunodeficiency and HIV-related medical conditions.

12.2.4. Clinical Features

The incubation period in adults ranges between 3 to 12 years whereas in children it ranges between 1 to 3 years. After infection there is a period of asymptomatic carrier sero-negative state, followed by a flu-like stage, and then sero-conversion occurs. AIDS Related Complex (ARC) may follow with chronic symptoms and signs of HIV infected persons without opportunistic infection or tumors to define AIDS. Wasting syndrome (massive weight loss) is also a common feature.

Natural course of infection

HIV infection may progress in the following stages. This is a general description and not every HIV infected person will necessarily follow this pattern.

The Centers for Disease Control and Prevention (CDC) in the United States published a classification system for the progression of HIV infection. This system delineates more inclusive definition and classifications that can be used for patient care, health planning, public health strategies, prevention and control activities, and epidemiological studies. Classification into groups is not intended to have prognostic significance or severity of illness designation.

From occurrence of HIV infection to onset of AIDS symptoms and disease in adults, the time period can be long or short. It can be as short as 1 - 2 years. In this case the disease may progress more rapidly, especially in persons with underlying problems, such as chronic diseases, recurrent infections, anemia, malnutrition, closely spaced and repeated pregnancies, malaria and tuberculosis.

Window Period

Detectable antibodies usually develop within 2 weeks to 3 months of infection. Most commonly, sero-conversion occurs in two to four weeks. However, individuals exposed to HIV risk should wait for three months following exposure to be tested for HIV antibodies. Otherwise, a negative result may mean there has not been enough time for antibodies to develop.

The "**Window Period**" of delayed sero-conversion is an important concept for clinicians who are assessing and counseling clients. Many HIV infected persons do tend to exhibit some clinical signs of compromised immune system function months or years before AIDS is evident.

Signs and symptoms of AIDS are due to:

- New infections, especially opportunistic infections.
- Reactivation of old, inactive or dormant infections, such as tuberculosis, herpes or unusual cancers.
- The HIV itself and its effects on various organs and tissues in the body.

Stages of Clinical manifestations

A person who becomes infected with HIV will usually go through various clinical stages that occur over a long period of time.

A. Early [Primary] HIV Infection is defined as a flu-like syndrome, with or without aseptic meningitis that is associated with sero-conversion of HIV antibody. This takes up to 3 months after exposure to HIV. Most commonly it approximately takes two to four weeks for 10-15% of HIV infected persons to develop recognizable sign and symptoms in the acute phase. Antibodies may appear three to six weeks and nearly always are present in three months.

The clinical signs and symptoms may typically include fever, sweating, headache, migraine, rash, sore throat, muscle and joint pain. Most frequently this develops in the second week of the illness. This may be accompanied with generalized lymphadenopathy involving axillary, occipital, and cervical nodes.

B. Asymptomatic infection includes patients with no signs and symptoms of HIV infection. HIV is persistent even if it is inactive or dormant; allowing for its transmission, even when the person is asymptomatic. This can take variable number of years or months.

The asymptomatic phase is usually associated with CD4 cell counts between 500 and 800 cells/mm³ or even less.

C. Persistent Generalized Lymphadenopathy [PGL] includes patients with persistent palpable lymphadenopathy with lymph node enlargement of 1 cm or greater at two or more extra sites that persist for more than three months in the absence of a concurrent illness other than HIV that explains these findings. Up to 70% of HIV infected persons show PGL. The pathologic finding in PGL is non-specific. PGL may persist for several years, even in the absence of other symptoms. PGL may be seen alone or in conjunction with systemic complaints like fatigue, fever, and major sweats. There may also be herpes zoster, skin rashes, fungal nail infections, recurrent oral ulcerations, recurrent upper respiratory tract infections and weight loss.

In this phase the CD4 cell count is between 350 and 500 cells/mm³.

D. HIV related diseases - previously known as "AIDS Related Complex" [ARC] includes patients with findings of HIV infection other than, or in addition to lymphadenopathy.

The most common signs and symptoms of this stage are as follows:

- Oral or vaginal candidiasis (thrush)
- Hairy leukoplakia on the tongue (whitish, hair-like lesions)
- Recurrent herpes simplex infection – cold sore or genital herpes infection
- Herpes zoster (shingles) involving two or more distinct episodes or more than one dermatome
- Acne-like bacterial skin infections
- Persistent and unexplained fevers (greater than 38.5°C) and night sweats
- Skin infections
- Generalized lymphadenopathy or shrinking of previously enlarged lymph nodes
- Persistent diarrhea (more than one month)
- Weight loss
- Reactivation of tuberculosis

The CD4 cell count is usually between 150 – 350 cells/mm³.

E. Severe HIV-related disease - AIDS, the severe symptomatic phase

The presence of any serious opportunistic infection is a sign that the body is not coping immunologically.

Signs and symptoms of AIDS may differ from one patient to another and depending on the infection, cancer or organ affected. Refer to the manifestations mentioned above.

AIDS is always associated with a high HIV viral load and severe immunodeficiency. This usually corresponds to CD4 cell counts below 200 cells/mm³ and to a low lymphocyte count.

Opportunistic infections

The most common opportunistic infections occurring in HIV infection:

- Tuberculosis
- Pneumonia due to
 - Group B streptococcus (usually in adults)
 - Haemophilus Influenzae (usually in children)
- Pneumocystis carinii pneumonia
- Salmonellosis
- Cryptococcosis
- Candidiasis – esophageal
- Infection with atypical mycobacteria
- Toxoplasmosis
- Various viral infections – herpes, cytomegalovirus (CMV), etc.
- Cancers – Kaposi's sarcoma and lymphomas

12.2.5. Diagnosis

A. Clinical diagnosis - African Case Definition

Diagnosis is made by using the WHO Case Definition based on major and minor criteria. Major criteria include weight loss, chronic fever and chronic diarrhea. Minor ones being chronic cough, lymphadenopathy, fungal infections of the mouth and genitalia, herpes infections, neurological abnormalities, cryptococcal meningitis, and others. Presence of one major and two minor or two major and one minor criterion is diagnosed clinically as AIDS. The main limitation of this definition is in patients with tuberculosis. The definition also lacks specificity or moderate to severe HIV disease. The WHO case definition does not include any of the now well-described neurological manifestations associated with HIV infection.

An adult would be classified as having AIDS if the CDC surveillance case definition for AIDS was fulfilled or patients had a positive test for HIV infection plus one or more of the following:

1. Greater than 10% body weight loss or cachexia, with diarrhea and/or fever, intermittent or constant cough for at least one month, not known to be due to a condition unrelated to HIV infection.
2. Tuberculosis with the features in #1; tuberculosis that is disseminated (involving at least two organs) or miliary; or extra pulmonary tuberculosis (which may be presumptively diagnosed).
3. Kaposi's sarcoma.
4. Neurological impairment sufficient to prevent independent daily activities not known to be due to a condition unrelated to HIV infection, such as trauma.

This modified case definition is simpler, more specific and sensitive, yet requires positive serologic result.

B. Laboratory diagnosis

Laboratory diagnosis is dependent on detection of either antigens or antibodies for HIV. The former is not in use currently. Antibody detection is done using two known tests. Enzyme Linked Immunosorbent Assay (ELISA) and Western Blot - an immunoelectrophoretic test which is used as confirmatory test after performing ELISA. Additionally, there are also other tests such as rapid tests and spot tests. ELISA and Rapid tests are commonly used in Ethiopia.

12.2.6. Case Management

All available drugs to date attempt to inhibit viral replication. Some of these drugs are AZT (zidovudine), nevirapine, saquinavir, indinavir, nelfinavir and others. These drugs are usually used in combination to increase effectiveness and decrease resistance. The later has proved to be more effective. All the mentioned drugs are very expensive for widespread use. See the annex for details.

12.2.7. Prevention and Control

To date there is no protective vaccine against HIV. Therefore, the control lies on prevention of the infection, which can only be achieved through modification of behavior. The following Information, Education, Communication (IEC) activities should be carried out to teach the public in general and the high risk groups in particular.

1. **Avoid unsafe sexual practices** by reducing the number and frequency of sexual contacts, avoiding high-risk practices and using barrier protection such as condoms
2. **Interruption of mother to baby transmission** by testing for antibody of HIV for women at risk for infection, and HIV infected women should be advised to defer pregnancy - (termination of pregnancy is a more acceptable alternative). Now a days antiretroviral drugs can be given in special centers to decrease transmission.
3. **Reducing transmission through parenteral drug use (drug injectors)** by educating and counseling drug users with regard to risk of sharing needles.
4. **Discourage harmful traditional practices** such as female genital mutilation, tooth – extraction, venotomy, skin incisions, etc.
5. **Others**
 - a. Testing for HIV should be offered on a confidential basis to requesting individuals but only when pre- and post-test counseling can be given.
 - b. Medical personnel should protect themselves from patient contamination.
 - c. Follow strict infection prevention rules (disinfection and sterilization) in clinical settings as well as at home.

12.2.8. HIV/AIDS Counseling

For providing effective counseling services on HIV/AIDS, one needs to undergo training on counseling.

Main purposes:

- To modify behaviors, reduce the risk of infection and transmission and cope with some problems of life.
- To encourage to take responsibility for preventing HIV infection,
- To enable clients cope best with whatever medical, emotional, social problems that may rise from having HIV/ AIDS,
- To help in finding ways to support family relatives and friends in caring for their loved ones and deal with the losses in terminal illness.

1. Pretest counseling

Pre-test counseling is offered to a person before one has the HIV test.

The Purpose of Pretest Counseling is to:

- Enable people take informed decision on whether they want to be tested or not
- Assess a person's ability to cope with the results of a test and act responsibly

Pre-test counseling helps the person to:

- Obtain accurate information on HIV/AIDS
- Change behavior to prevent the transmission
- Consider possible implications of test results
- Make informed decisions whether to have or not the test

Who should be offered pre-test counseling?

- All persons who undergo HIV testing
- Someone's blood is drawn for testing (survey or donation)

2. Post-Test Counseling

Post-test counseling is offered to person after he/she has heard of the result of an HIV test or has been informed that s/he has been diagnosed as having AIDS.

a) The purposes of post-test counseling are

- To provide emotional support to help the person cope with the news, i.e., help the person on how to plan to live with HIV, how to avoid further risk of HIV infection.
- To provide more information about HIV and AIDS.
- To discuss prevention of infection.

b) Counseling after a negative result

- Introduction
- Check whether the person understands the meaning of the result. Discuss on what a negative result could mean.
- Discuss measures that a person can take to prevent possibility of infection with HIV in future.
- Discuss any other immediate concerns the person may raise.
- Inform the person that counseling is available in future too.

c) Counseling after a positive result or Diagnosis of AIDS

- Introduction – be very sensitive
- Give the result clearly and simply – acknowledge shock, offer and provide support, encourage hope
- Give time to let the person consider the result – silence and non verbal caring, empathy, support
- Let the person talk about how s/he feels about the test result
- Discuss any immediate concerns the person may arise
- Arrange to see the person again soon

d) Issues in Post-test counseling

- Providing information
- Coping with the news (psychological adjustment)
- Prevention
- Who to tell?

- Discuss (Revise) the main ways of HIV transmission. It is also important to discuss commonly held mistaken views about HIV transmission.
- Find out how much the person understands about HIV/AIDS and what the results mean to him.
- Discussion on measures to live with the virus.
- Measures that prevent transmission of the disease.

e) Follow up (on going) counseling

Follow up counseling is offered to a person after pre and post test counseling to help the person try to live positively with HIV infection and cope with any problems s/he may face.

The aims of offering ongoing counseling

- Empower people with HIV to maintain control over their lives
- Develop healthy coping skills

3. Some of the Psychological and Social Reactions to HIV Testing

The reactions usually occur among persons who are subjected for testing for HIV are Shock, stress, anxiety, anger, denial, fear of illness, fear of desertion, isolation, depression, suicide, resentment at changes in living partners, self-blame, and loss of self esteem

Special Problems in HIV Counseling

- HIV infection in one sexual partner but not in the other.
- HIV infections in childless couples
- HIV infection in a pregnant woman
- Parents with AIDS or severe HIV infection

An HIV test does not tell whether you have AIDS. It only determines whether you have been infected with the virus.

4. Interpreting test results:

HIV Positive Test Result means

- There is definite HIV infection if there are other obvious signs of immunodeficiency.
- There is likely HIV infection and a confirmatory test should be done.
- The person is able to spread the HIV during sex, through his/her blood, or during pregnancy, childbirth and breast feeding.

The HIV positive test result does not mean:

- That the person has developed the AIDS stage of HIV disease
- That the person will definitely develop AIDS. However, most HIV positive people (95%) will develop AIDS within 7-10 years from the time of the infection (not from the time of the test!).
- It does not reveal the stage of the disease.
- It cannot determine when the person acquired the HIV infection.

HIV negative test result means

- The patient does not have HIV infection, unless the test is done during the “window period”.
- It may be falsely negative if the test is done within the first 6-12 weeks after HIV infection. If the test is done within the first 6-12 weeks after possible HIV exposure, then the test should be repeated after a total period of 12 weeks after the possible HIV exposure.
- Laboratory error

5. Advise the patients on:

Self-care to:

- Have balanced diet
- Consider nutritional supplements, such as vitamins and minerals
- Avoid smoking
- Avoid alcohol intoxication
- Do physical exercise
- Avoid taking unnecessary drugs
- Have lots of rest and sleep
- Have a positive mental attitude
- Alternative therapies (such as massages)
- Seek early treatment for medical problems

Safer sexual practices:

- Protection through condom use
- Alternative sexual methods - masturbation
- Avoid anal sex

6. Support, Counseling and Referral

Remember that there are three types of counseling for people living with HIV/AIDS (PLWHA), these are the pre-, post-test and follow up counseling.

In counseling PLWHA, the following messages should be included:

A. The natural history of HIV infection:

- i. Average time between infection and serious illness
- ii. Prospects and uses of administering anti-retroviral therapy and prophylaxis

B. Positive serology indicates viral carrier state and risk of transmission to others - counsel on how to prevent the spread.

C. Pregnancy in a seropositive woman carries a 30-35% risk of HIV infection in the infant. Viral transmission may take place in-utero, during birth or with breast-feeding. For effective prevention of pregnancy, condoms and oral contraceptives should be used simultaneously.

- D. Inform about their sexual and needle sharing partners
- E. The need for early testing and early treatment
- F. Psychological responses such as anxiety, depression, insomnia, somatic concerns, and/or suicidal thoughts need support.
- G. Medical care – treatment should include appropriate attention to nutrition, exercise, continued work, and other facets of “wellness.”
- H. Available resources for patient services and financial assistance – organizations such as Organization for Social Services for AIDS patients (OSSA), Save your Generation Association (SYGA), Dawn of Hope, etc.

12.2.9. Principles of home-based care

The health personnel should advise the caretakers of AIDS patients to provide the following care at home:

1. general hygienic measures – personal hygiene, house keeping (handling contaminated soiled materials)
2. nutrition of the patient – provide good nutrition (proper balanced diet)
3. treatment of opportunistic infections
4. physical therapy – physical exercises and massages
5. various types of support to be provided – social, spiritual, emotional, psychological and material support
6. measures on the sexual behavior of the patients – information and education to promote responsible or safe sexual behavior to prevent the spread

12.2.10. Nursing Care of AIDS patients

Nursing care is one of the most important cares that need to be given to PLWHA. Since there is no cure for HIV/AIDS nursing care and support are the main-stay of help for PLWHA.

The following are the general principles of providing care for PLWHA:

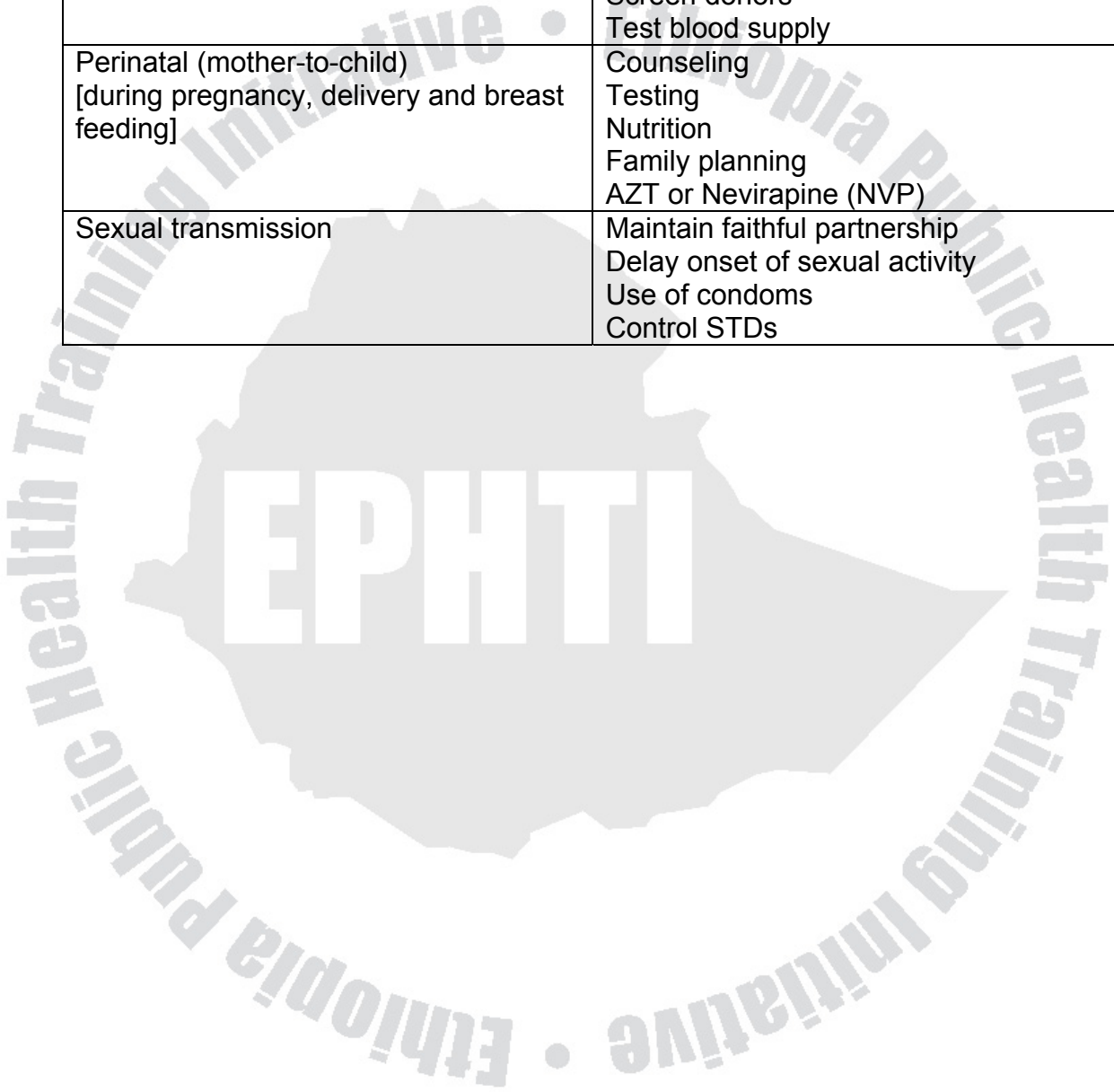
1. General hygienic measures
2. Nutrition services
3. Information and education for sexual behavior
4. Physical therapy
5. General support services
6. Treatment of opportunistic infections.

For details refer to the HIV/AIDS module.

12.2.11 Summary

HIV transmission mechanisms and interventions

Transmission Mechanisms	Interventions
Unsafe medical practices	Ensure sterile conditions
Transfusion	Eliminate unnecessary transfusions Screen donors Test blood supply
Perinatal (mother-to-child) [during pregnancy, delivery and breast feeding]	Counseling Testing Nutrition Family planning AZT or Nevirapine (NVP)
Sexual transmission	Maintain faithful partnership Delay onset of sexual activity Use of condoms Control STDs



CHAPTER THIRTEEN

VIOLENCE AGAINST WOMEN (VAW)

13.1. Definition

The World Health Organization (WHO) defines violence as: The intentional use of physical force or power, threatened or actual, against oneself, another person, or a group of community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation.

WHO defines violence against women as: Any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life. (Economic and Social Council 1992)

13.2. Historical Trend

- The 1948 Universal Declaration of Human Rights (UDHR) was drafted to apply to everyone "without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status."

However in many parts of the world women could not benefit by promoting and protecting their right as stated in the Universal Declaration.

- In 1975, at the UN International Women's Year Conference in Mexico City, violence against women was considered very much a family matter: policy recommendations emphasized the benefits of family counseling and the need for more responsive family courts.
- The Second World Conference on Women in Copenhagen in 1980 showed the increasing strength, understanding and public awareness about VAW.
- In 1985 at Nairobi, domestic violence was recognized as an obstacle to equality and a crime on human dignity.
- In 1985, the UN General Assembly passed its first resolution on violence against women, calling for concerted and multi-disciplinary action to combat domestic violence in all nations.
- The Committee which oversees the implementation of the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) recommended the scope of discrimination to include gender-based violence,
- The 1993 World Conference on Human Rights was the first conference which gave serious consideration and stated that the human rights of women are an integral and indivisible part of universal human rights. The conference also recommend all international community to be involved in the eradication of all forms of violence against women and all forms of sexual harassment.

The 1993 World Conference on Human Rights in Vienna was the landmark since it laid the basis for this integrated strategic perspective, recognizing women's rights as human rights and producing the Declaration on the Elimination of Violence against women.

- In Cairo, women introduced the issue of violence as a form of control of women's health and sexuality and as a clear obstacle to women's right to self-determination in matters related to their reproduction.
- In Beijing, gender-based violence again concentrated much of women's advocacy efforts, emerging as one of the cornerstones in the implementation of the agenda for empowerment. As stated in the Platform for Action: "Violence against women is a manifestation of the historically unequal power relations between men and women, which have led to domination over and discrimination against women by men and to the prevention of women's full advancement."
- The Fourth World Women's Conference and NGO Forum in 1995 consolidated this framework, making explicit the responsibilities of states to ensure women's right to a violence-free life and building a legal and social framework of normative expectations and obligations.

13.3. Declaration against Violence

In September 1992 the United Nations Commission on the Status of Women convened a special working group to draft a declaration against violence on women. This declaration, adopted by the General Assembly in the fall of 1993, offers for the first time an official UN definition of gender-based abuse.

According to Article 1 of the declaration, violence against women includes: any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life. (Economic and Social Council 1992)

This Declaration was a landmark document in three ways:

- It situated violence against women squarely within the discourse on human rights, affirming that women are entitled to equal enjoyment and protection of all human rights and fundamental freedoms, including liberty and security of person, and freedom from torture or other cruel, inhuman or degrading treatment or punishment;
- It enlarged the concept of violence against women to reflect the real conditions of women's lives, recognizing not only physical, sexual and psychological violence but also threats of such harm; it addressed violence against women within the family setting as well as within the community, and confronted the issue of violence perpetrated and condoned by the state;

- It pointed to the gender-based roots of violence, reflecting the fact that gender-based violence is not random violence in which the victims happen to be women and girls; the risk factor is being female.

According to the Declaration, Article 2 states that the definition to violence against women encompasses but is not limited to:

- Physical, sexual, and psychological violence occurring in the family, including battering, sexual abuse of female children, dowry-related violence, marital rape, female genital mutilation, other traditional practices harmful to women, non-spousal violence, violence related to exploitation;
- Physical, sexual, and psychological violence occurring within the community, rape, sexual abuse, sexual harassment and intimidation at work, in educational institutions and elsewhere, trafficking in women and forced prostitution;
- Other forms of violence include violations of the rights of women in situations of armed conflict, in particular murder, systematic rape, sexual slavery and forced pregnancy, forced sterilization and forced abortion, coercive use of contraceptives, female infanticide and prenatal sex-selection.

13.4. Dimensions of the Problem

Accurately estimating the global health burden of violence against women is hampered by lack of data on the incidence and the health impact of abuse. Crime statistics are virtually useless in estimating the incidence of gender based abuse because of gross underreporting.

Because of the stigma associated with sexual violation, data on rape and sexual abuse are less easily collected. In many countries women are reluctant to report abuse out of shame or out of fear of incriminating other family members. These factors suggest that the prevalence rates reported likely underestimate the abuse of women.

National context

The 1995 constitution of Ethiopia has provisions for the protection of the rights of women, and there is a gender policy. It is estimated to be 10%.

13.5. Forms and nature of violence

13.5.1. Classification based on who commits the violence act

This typology is divided into three broad categories:

1. Self directed violence
2. Interpersonal violence
3. Collective violence

Self directed violence - is violence a person inflicts upon himself or herself. It includes suicidal behavior and self-abuse. Suicidal behaviour ranges in degree from merely thinking about ending in one's life, to planning it, finding the means to do so, attempting to kill oneself, and completing it.

Interpersonal violence: is violence inflicted by another individual or by small group of individuals. It is divided into two subcategories:

1. **Family and intimate partner violence:** that is violence largely between family members and intimate partners, usually though not exclusively, taking place in the home. This includes: child abuse, violence by an intimate partner and abuse of the elderly.
2. **Community violence:** violence between individual's who are unrelated, and who may or may not know each other, generally taking place outside the home. This includes youth violence, rape or sexual assault by strangers and violence in institutional settings such as schools, work places, prisons and nursing homes.

Collective violence: is violence inflicted by larger groups such as states, organized political groups and terrorist organizations. Collective violence is the instrumental use of violence by people who identify themselves as members of a group against another group or set of individuals in order to achieve political, economic or social objectives

13.5.2. Violence throughout the life cycle or phases of life

When does in a women's life violence occurs?

Violence can occur during any phase of a woman's life; many women experience multiple episodes of violence throughout their lives.

A life-cycle perspective also reveals that violence experienced in one phase can have long-term effects that predispose the victim to severe secondary health risks, such as suicide, depression, and substance abuse. Evidence suggests that the earlier in a woman's life violence occurs especially sexual violence-the deeper and more enduring are its effects.

A life-cycle approach to gender-based victimization provides important insights into the immediate as well as the cumulative effects of violence on the lives of women and girls.

1. Prebirth

Sex-Selective abortion (China, India, Republic of Korea); battering during pregnancy (emotional and physical effects on the woman; effects on birth outcome); coerced pregnancy (for example, mass rape in war).

2. Infancy

Female infanticide; emotional and physical abuse; differential access to food and medical care for girl infants.

3. Girlhood

Child marriage; genital mutilation; sexual abuse by family members and strangers; differential access to food and medical care; child prostitution.

4. Adolescence

Dating and courtship violence (for example, acid throwing in Bangladesh, date rape in the United States); economically coerced sex (African secondary school girls having to take up with "sugar daddies" to afford school fees); sexual abuse in the workplace; rape; sexual harassment; forced prostitution; trafficking in women.

5. Reproductive age

Abuse of women by intimate male partners; marital rape; dowry abuse and age murders; partner homicide; psychological abuse; sexual abuse in the workplace; sexual harassment; rape; abuse of women with disabilities.

6. Elderly

Abuse of widows; elder abuse (in the United States, the only country where data are now available, elder abuse affects mostly of women).

13.6. Impact of sexual violence on the health of women

- Assaults result in injuries ranging from bruises and fractures to chronic disabilities such as partial or total loss of hearing or vision, and burns may lead to disfigurement.
- The medical complications resulting from FGM can range from haemorrhage and sterility to severe psychological trauma.
- Violence during pregnancy resulting in risk to the health of both the mother and the unborn foetus.
- Violence can result in the death of the woman.
- Sexual assaults and rape can lead to unwanted pregnancies, and the dangerous complications that follow from resorting to illegal abortions.
- Impact of violence on women's mental health leads to severe and fatal consequences. Battered women have a high incidence of stress and stress-related illnesses such as post-traumatic stress syndrome, panic attacks, depression, sleeping and eating disturbances, elevated blood pressure, alcoholism, drug abuse, and low self-esteem.
- Violence may also be responsible for a sizable but unrecognized share of maternal mortality, especially among young unwed pregnant women, homicide, and suicide motivated by the stigma of rape, pregnancy outside of marriage, or beatings and due to abortions.
- STD and HIV/AIDS
- Effect on using family planning: Women abused if they do not comply with men's sexual and childbearing demands

13.7. Prevention of Violence against Women

Important issue to consider when you are planning a programme to prevent violence against women

1. Any strategy to eliminate violence against women must consider the underlying cultural beliefs and social structures that perpetuate it. (You are expected to review IEC chapter of the manual in order to help you deal with the above mentioned point.)
2. In many societies women are defined as inferior and the right to dominate them is considered an essential aspect of being male. A strategy to prevent violence must therefore begin by addressing these cultural beliefs.
3. Sexuality is used to express power relations based on gender and it is important emphasis on notions of masculinity that promote aggressive sexual behavior and domination of women. Thus any effort to eradicate violence must also address the underlying power dimensions.
4. Clearly, any systematic effort to root out violence must be multidimensional, drawing on the expertise and resources of many sectors, both governmental and non-governmental.
5. Although the response of the health sector is clearly important, a strategy that seeks to go beyond treating "the symptoms" of abuse must focus on eliminating the attitudes and beliefs that legitimize violence and justify male control of female behavior. And it must improve women's access to power and resources so as to give them realistic alternatives to staying in abusive relationships.

A health worker has to encourage

"To the extent that more education, higher incomes, occupations outside of the home, access to credit etc. empower women and enhance their self esteem, and these may prove much more effective in reducing the morbidity and mortality associated with domestic violence, than more direct health sector intervention.

6. A strategy to prevent violence must also promote non violent means to resolve conflict (between all members of society-men, boys, family members).

Using violence to resolve conflicts is a learned behavior - children are exposed to violence by their parents' behavior in their homes and through television, film and videos. Important emphasis and work has to be conducted in schools. You have to organize school health programme.

7. Unlike for many health and development issues, the most important step that can be taken to combat violence is fairly clear: support and you have to play a great role in programmes and initiatives already under way.
8. Health worker has a lot of role and influence on the justice system which has a significant impact on the strategy to prevent violence against women. Because strong laws can be a considerable asset in helping women protect themselves from violence.

13.8. Short Account on Gender/Women and Development

The general lack of attention to women's needs within the development process stems from a general lack of gender awareness. Many individuals treat this issue as an undifferentiated group of "people" without recognizing the special needs of women; more likely, and worse, a male biased vocabulary is used to describe the target group which becomes "men" rather than "people." In this way the women of the target group actually disappear from sight - and from thought. Typically a project document describes the Third World farmer as "he", but in actuality, the Third world farmer is usually a woman.

Development in Third World is not merely about increased productivity and welfare, although these things are important. Development is also about meeting the needs of those that are most in need, and about increased participation and equality. Development is therefore also concerned with enabling people to take charge of their own lives, and escape from the poverty, which arises not from lack of productivity but rather from oppression and exploitation. The typical rural woman in the Third World is a hardworking producer of food who remains, with her children, short of food and malnourished: the food is consumed by the husband rather than the wife; by men rather than women and children; by landlords rather than tenants; by townspeople rather than rural people; by rich consumers rather than poor producers.

In this situation, the problem in women's development is not primarily concerned with enabling women to be more productive, more efficient, or to use their labour more effectively. These things may be important, especially in special situations. But the central issue of women's development is women's empowerment, to enable women to take an equal place with men, and to participate equally in the development process in order to achieve control over the factors of production on an equal basis with men.

There are three essential elements in gender awareness: firstly the recognition that women have different and special needs; secondly that women are a disadvantaged group, relative to men, in terms of their level of welfare and their access to and control over the factors production; thirdly that women's development entails working towards increased equality and empowerment for women, relative to men.

1. What is Development?

Development means to bring about sustained improvement in the well-being of the individuals and to bestow benefit on all.

2. Why Women and Development?

Because women comprise more than half of the world's human resources and a central to the economic as well as to the social well-being of societies, development goals cannot be fully reached without their participation.

3. Status of Women

The status of women is the position women have as a group, in different fields of society.

Wide spread agreement: Women are all but excluded form access to and control over national and international resources.

Indicators of the social status of women

- Legal rights
 - Laws that are still discriminatory qualitatively.
 - The effect of some laws on the development of the position in other fields.
- Education
 - % of girls and boys attending schools [day] at the ages of 16, 17, 18, ...
 - Comparison of the levels of education girls and boys reach.
- Societal Integration
 - Participation of women in the labor force, compared to men [specific for age, marital status, hours worked, etc]
 - Participation of women, compared to men in important societal functions: Women in the government, parliament, on provisional or local councils, etc
 - Women as directors of important institutions.
- Economic Position
 - The standards of wages of men and women in comparable function
- Social - Psychological relations
 - By constructing indices of domination-subordination variables in decision situations (in the family, on the job, in committees, in organization, etc)

4. Possible approaches to Solve Women's Problem:

The welfare approach

The human resource development approach

Equity and human right

The anti-poverty approach

The efficiency approach

The empowerment approach

CHAPTER FOURTEEN

HARMFUL TRADITIONAL PRACTICES

Harmful traditional practices are many. In this chapter only those with reproductive health relevance are considered. These are female genital mutilation, early marriage and abduction.

14.1. Female Genital Mutilation (FGM)

Geographic Distribution

It is practiced all over the world but more in Africa and Asia. In Africa alone more than 100 million women in 26 countries are subjected to genital mutilation.

14.1.1. Origin and History

1. **Origins:** When and where FGM started has not been determined. But it is believed that FGM was practiced in the Ancient Egypt. History also shows the existence of FGM in the Pre-Islamic Arabia, ancient Rome & Tsarist Russia. In England, in the 19th and 20th century, FGM was practiced for psychological disorders.
2. **FGM & Religion:** While practiced mainly in Muslim countries, FGM did not originate with the rise of Islam. Both Christians & Muslims in African countries have their daughters mutilated. It is a misbelief that female mutilation is an Islamic practice. This is evidenced by the fact that:
 1. It is not widely practiced in all Islamic countries, e.g. Saudi Arabia, Iran, Iraq, Libya, Morocco and Tunisia.
 2. It is practiced both in Christians & Muslims
 3. It was performed before Islam arrived in Africa

14.1.2. What is Female Genital Mutilation

Definition - Mutilation: "to cut off or damage an important part of body"

FGM - involved removal of parts or the whole of external genitalia of female.

Types of Female mutilation

Type 1 - Clitoridectomy: it has two forms

- Dissection & removal of foreskin of clitoris
- Removal of the whole of clitoris

Type 2 - Excision

- Total removal of clitoris, partial or total removal of the labia minora with out closure of the vulva.

Type 3 - Infibulation (Excision + Stitching)

- Clitoris, labia minora, and inner walls of labia majora are removed. The two labia are joined to seal except for urine & mensus.
- A successful infibulations means- big enough to admit a grain of corn after the procedure
- Reinfibulation: This is done if infibulation is not successful the first time, or the woman is divorced or widowed.
- Defibulation is done at marriage, during labor, or if there is absolute need for pelvic examination.

Age of the Victim when mutilation is performed

- This differs from one to another area. It could be as early as the 1st week of life, a few days before marriage, or after the 1st delivery.
- In Ethiopia it is commonly practiced during infancy, childhood or before puberty.

Condition under which FGM is practiced: it is usually done

- By untrained & unhygienic condition with un-sterile instruments
- By TBA or traditional healers
- With Instruments such as barber's knife, razor, and a piece of glass or locally made material.

14.1.3 Geographic distribution

1. In Africa alone more than 100-120 million women are circumcised in 26 countries. These include Egypt, Ethiopia, Djibouti, Somalia, Ivory Cost, Kenya, Nigeria, and Senegal. The most common type in Africa is Type II (Excision) which is done in more than 20 countries. Type I is more practiced in Egypt, Ethiopia, Gambia, Sudan & Nigeria. Infibulation is done in Djibouti, Eastern & Red Sea areas of Ethiopia & Somalia, where ethnic Somalis are found.
2. Scope of FGM in Ethiopia

It is practiced both by Muslims & Christians. About 90% of Ethiopians believed to undergo one of the 3 forms. Infibulation is more common in ethnic Harari, Somali, Mensa, Saho, Bilen, Issa, the Afar & some Oromo in Hararge. Excision is done in Gurage, Tigrai, Oromos, Shankila & Kunama. Clitoridectomy is practiced in Amharas, Muslims of Tigrai called Jeberti. FGM of any form is uncommon in Gambella, Southern region - Aezo, Doko, Dorzae, Shama, Konso and parts of Wollega & Gojjam.

14.1.4. Consequences of FGM

1. Immediate Consequence are

- Hemorrhage & Shock
- Pain
- Infection & Septicemia
- Tetanus
- Fractures
- Retention of urine
- Injury to surrounding tissues
- Delayed healing

2. Long Term effects include

- Gynecological Problems
- Ugly scar formation
- Labial fusion
- Narrowed vaginal opening
- PID
- Infertility
- Dysmenorrhea
- Hematocolpos (blood in uterine cavity)
- Urinary tract problems - UTI, ascending infection, renal failure
- Sexual problem
 - Dyspareunia
 - Vaginal laceration
- Problems in childbirth & neonate
- Fistula
- AIDS

14.2. Early Marriage

It is deep-rooted, widespread among Ethiopian Christians & Muslims. It is parent - centered marriage between two families. It has devastating effect on child, family & community.

14.2.1. Types of Marriage Arrangements

1. Promissory Marriage.
2. Child marriage: usually the girl is under the age of 10 years. It may be of two types:
 - 'Madego' - the girl is given to in-laws after wedding ceremony to serve until maturity. This is worse because of sexual and physical abuse.
 - 'Meleles' - The girl does frequent visits to the in-laws to serve till maturity.

3. Early Adolescent Marriage: age of the girl is 10-15 years of age.

After the ceremony the bride is taken to the groom's house. If she is not virgin, she is returned to her parent's the same night and the marriage is dissolved.

14.2.2. Causes of Early Marriage are

- Security for the future - while parents are young
- Competition to find in-laws who has family status
- Conformity - conform to tradition. stigmatized "Koma kerech"
- Ensure virginity
- Fertility - many children, grandchildren means security
- Material benefit - access to livestock, land, dowry
- Others - marry before menses, fame of ceremony, and service of son-in-law and fear of abduction.

14.2.3. Scope of the Problem in Ethiopia

Especially in the North marriage could take place as early as 7 years. In Wollo 22% marry between age 10-14; it is 30% in Gojjam. In Gondar the preferred age for marriage is 12.7 years.

N.B. Legally early (child) marriage is banned by national & international laws. This is violated.

Health related Problems in early marriage are

- Sexual abuse - vaginal & perinea tear
- Early pregnancy - child bearing & unwanted pregnancy
- Maternal morbidity (fistula) & mortality (hemorrhage, obstructed labor etc.)

Social Impact of early marriage

- Denied education & own choices
- Illiterate mother more often raise illiterate child
- Urban migration
- Fistula patients, avoided by the husband and society
- Psychological trauma from the 1st sexual experience
- Many children (early pregnancy)

14.3. Abduction

- It is defined as unlawful kidnapping or carrying away a girl for marriage. In almost all case rape follows it. Parents tend to keep their daughters from school for fear of abduction.
- Abduction is a civil offence in Ethiopian law.

14.3.1. Reasons given for abduction may be

- Fear of rejection by the bride's family
- Dowry is too high
- Presence of rival – another man may marry the girl
- Avoid wedding ceremony – for high cost
- Status Difference (e.g. Man from upper family wouldn't stand before low class parents)
- Voluntary abduction, the girl agrees to go with the man
- False sense of power

14.3.2. Process of Abduction

- Prepare Collaborators to carry away the girl,
- Find her alone (usually walking to or from school)
- Make it as quiet as possible
- Then abductor sends for reconciliation to her family
- Compensation given to her family and
- Marriage

If not, i.e. if her family rejects the abductor:

- Family report to police & conflict between families arise, or
- Abductor may force her to sign her consent for abduction

14.3.3. Consequences of abduction

A. Health related

- Psychological & physical trauma
 - Low esteem
 - Rejected
 - Humiliated
- Risk of STD & HIV
- Unwanted pregnancy & abortion
- Vaginal & perinea tear from sexual intercourse (usually the girl is young)
- Obstructed labor

B. Socio-economic

- An abducted mother do not send her daughter to school for fear of abduction
- Weak family founded without love.
- Forms weak society in general

14.4. Measures to be taken against HTP

- Communication methodologies - mass media has central role
- Alternative employment opportunities e.g. for the circumciser
- Legislative measures-exhibit materials and punish offenders
- Pressure group
- Promotion of girl education
- Curriculum – RH education in schools
- Establish clubs especially in schools
- Training and information – to TBA's and community leaders; and to the society as a whole.
- Advocacy (By decision -makers)
- Counseling at all possible levels.
- Community participation



CHAPTER FIFTEEN

HOME VISITING

15.1. Introduction

Home visiting also called home health service is one of the oldest types of health services in history. Phoebe was the 1st visiting nurse recorded in history (58 AD).

Modern home visiting began in 1880s by the Visiting Nurse Association with the objective of giving skilled nursing care at home or place of residence. Home environment is the most effective way of increasing family's understanding and involvement in health problems. At times, home visiting is the only way to obtain a comprehensive picture of the family health status.

15.2. Definition

Home visiting/home health service is that component of a continuum of a comprehensive health care in which health services are provided to individuals and families in their places of residence for the purpose or promoting, maintaining or restoring health, or of maximizing the level of independence while minimizing the effects of disability and illness, including terminal illness (Warhola, 1980).

Home visiting is the health visits or services provided on intermittent basis to individuals of all age groups. These services are basically beneficial to especial groups ("at risk" individuals) such as:

- Aging individuals
- Disabled
- Sick

Convalescent individuals who need care on either short or long-term basis, such as diabetic, TB patients, paraplegics, etc. Home health services are provided according to specific needs of the client as determined by a single professional or multidisciplinary team.

15.3. Advantages of home visiting

1. The family is seen in a familiar atmosphere which is more relaxed and makes communication easier than at hospital or clinic.
2. All family members can be seen and assessed by one person at one visit.
3. The health workers, who know the neighborhood, are aware of local problems, priorities, customs, difficulties, and resources.
4. High risk families can be identified and visited as a priority.
5. The health workers can observe, assess and act upon obvious and latent health problems. Health workers can follow these problems at subsequent visits.

6. Much can be assessed at one time. Example: Personal hygiene, water supply, sanitation, waste disposal, food storage, personal and emotional health.
7. Advice will be practical and suited to the family's needs.
8. Mothers and other family members can be encouraged to use local health facilities.
9. It is a means of establishing a good relationship with the family members.

15.4. Principles of Home Visiting

1. Family members should be included in all phases of the care process.
2. The health workers (team) are guests in the client's home therefore only make those interventions that the client agrees with.
3. Mutual health team-client goals and interventions may require long periods to achieve, therefore patience is necessary.
4. Home visiting can be done by health professionals employed in various ways.
5. The health team functions autonomously in the family health care provision. The family and the team develop a positively interpersonal relationship as they work to achieve the goal.
6. The health team is a visitor at a client home therefore the team must not wait to be motivated.

15.5. Guidelines to conduct a home visit

- The initial contact is very important therefore health workers should try to facilitate the establishment of a good rapport. Smiling, warm greetings, and respect may be helpful in establishing the rapport.
- During home visit the health workers have to be very observant.

15.6. Points to be assessed/observed during the visit

15.6.1. Emotional Health

- Do the family members look happy?
- Do they communicate well?
- Do they look worried?
- Are the children playing?

15.6.2. Personal Hygiene

- Are they clean-body? Hair? Clothes?
- Do the children look well cared for?

15.6.3. Nutrition

- What do they eat?
- How many meals do they eat a day?
- What are the weaning foods used?
- Do the small children have their own helping?
- Is the youngest child breastfed? Bottle-fed?
- When does the family start weaning children?
- Do the children look well nourished and happy?
- Do the children get adequate protein?

15.6.4. Young Children (0-2 years)

- Assess physical growth and developmental milestones
- Is there local infection on the head? eyes? skin?
- Is there feeding problem?
- Is there hearing problem?
- Is there vision problem?
- Is there speech and communication problem?
- Are they vaccinated for their ages?
- Is the home surrounding safe?

15.6.5. Immunization

- Are the children vaccinated for their ages?
- Is the mother vaccinated for TT?

15.6.6. Antenatal Care (ANC)

- Does the pregnant mother have an antenatal care follow up?
- Is she anemic?
- Is her nutrition adequate?
- Who will assist her during delivery
- Are there any local pregnancy customs and taboos?

15.6.7. Family Planning (FP)

- How many children do the mother/couple have?
- Are the births well-spaced?
- Does couple use contraceptives?
- Does couple have problems using contraceptives?

15.6.8. Postnatal Care

- Does the mother have postnatal care follow up?
- Is the baby well?
- Is the neonate's umbilicus clean?
- Are there any congenital abnormalities?
- Is the neonate breastfed?

- Did the neonate get BCG and OPV at birth?
- When does the mother start/restart using FP methods?

15.6.9. Environmental Health

- Is the surrounding clean?
- Does the family have latrine?
- Is the latrine clean, covered and away from the water supply?
- Is the house free of flies and dirt?
- How is waste disposed off?
- Are there domestic animals in the family's house?
- Does the family get adequate and safe water?
- How is water obtained?
- How is water stored?
- How is water used?
- How is food stored?
- Are there insects and rodents in the house and the surrounding?

15.6.10. Home Safety

- Are the cooking fires safe?
- Are poisonous substances out of young children's reach?
- Is the petrol kept safely out of young children's reach?

15.6.11. Child Abuse

- Are the children well-cared?
- Do the children go to school?
- Are the children physically abused?
- Are children forced to overwork?
- Do all the girls go to school?

15.6.12. Family Members' Health Problem

- Is any one acutely sick in the home?
- Is there any chronically sick person in the home?
- Is there any domestic violence in the home?

15.6.13. Disabled Persons

- How do they cope with normal activities of daily living (ADL) such as eating, moving, elimination, recreation, keeping clean, dressing ... etc?
- Are they participating in the family and community activities?
- Are they receiving available and necessary help, such as education, transport, finances ... etc?

CHAPTER SIXTEEN

SUPERVISION, MONITORING, EVALUATION, RECORDING AND REPORTING

16.1. SUPERVISION

Supervision is an important management tool. It can be used to improve staff performance, and to monitor, identify, and address problems as early as possible and take timely actions. Supervisor is a person(s) who checks the work of others and hence he/she should primarily be a supportive problem solver than a strict fault finder for the sake of harming others. It is important to recognize good work as it is noted and correct an inadequate performance. Supervision has three primary functions.

- 1) Technical assistance
- 2) Monitoring and evaluation
- 3) Motivation and support of workers.

It is important to build a formal system of supervision in to a health program. The specific structure of a supervisory system for any health program is determined by a number of factors. These factors include; the background of the person being supervised; the complexity of the task; the personal style of both the supervisor and the worker; the situation of the organization; and the culture in which the health program is operating. When setting up a supervisory system all the above factors must be taken into consideration. Supervision can be conducted in a group or individual. Supervision should have a strict feedback mechanism and involve the employees and other sectors including communities in the process. As much as possible, it is desirable to observe workers in the actual settings.

16.1.1. Definition

Supervision is a process which is directly concerned with the health professionals activities which are responsible for achieving the already set objectives. It is a learning process through which a specific recent success work experience and failure can be used as achieving whether planned activities are being performed toward the desired goal.

16.1.2. Purposes of supervision

- Supervision activities should be a learning and supportive activity.
- It provides an effective feedback. The feedback should be task related, prompt, action oriented, motivating and constructive. To effectively provide feedback, the supervisor should involve the employees and other concerned sectors in the progress by creating an atmosphere of teamwork.
- It helps to convert the goals, programmes, policies and resources into the provision of quality health care.

16.1.3. Styles of Supervision

Three main styles:

A. Autocratic - Do what I say!

Autocratic supervision tends to humiliate people and make them irresponsible.

- It may dry up their initiative
- It makes people feel insecure

B. Anarchic - Do what you like!

C. Democratic - Let us agree on what we are to do

Democratic supervision helps people to grow, to become responsible for their own work, and to show initiatives. People like to be consulted but instructions must be carried out.

16.1.4. What Style Should Supervisors Adopt?

The choice of style is dependent of several factors such as the educational status of the worker, the type of job, and time and situation of the work being carried out. This is to entail that there is no one supervision style that is applicable to all situation and all workers.

Good supervisors adapt their style to different needs and circumstances.

The consultative (democratic) style is most suitable

- for works that demand creativity; community involvement, research
- for competent and experienced people
- for people who are known to be reliable
- for people who are willing to take responsibility and make decisions.

In certain circumstances supervision must be authoritative / autocratic

- for tasks that demand coordination and consistency
- for tasks that are governed by strict policies or where immediate action is needed (epidemic)
- for people who have little understanding of the goals of the organization
- for people who have limited skills / experience
- for people who are know to be unreliable

An autocratic style can be used only when the staff can be closely supervised & controlled.

16.1.5 Role or Responsibilities of Supervisors

Supervisors have multiple functions or responsibilities. These may be grouped as follow:

16.1.5.1 Responsibilities towards health workers

- a. He/she should share the knowledge experience
- b. He/she should not be a fault finder rather supervisor must motivate his/her subordinates and appreciate the efficient performance of any work

- c. he/she works to win the confidence of the subordinates
- d. he/she must develop a sense of team spirit among the workers
- e. he/she must advise about work methods, procedure and schedules
- f. he/she must listen to the complaints and problems of his/her subordinates and help to solve them
- g. he/she must arrange training facilities to newly and exiting staff
- h. he/she must act as a model to his/her subordinates
- i. he/she must listen to the suggestions given by the subordinate and inturn give suggestion to his subordinates according to the situations in the health care facilities

16.1.5.2. Responsibilities towards management

- Supervisor must give feedback to his/her management, his superiors and the management of the supervised health institutions about the progress of the assignment
- Supervisor must extend his/her cooperation
- Supervisor must inform the management of the problems and difficulties faced by the subordinates

16.1.5.3. Responsibilities towards his own functions

- Supervisor must properly plan his/her work which is assigned to him/her
- Supervisor must implement the policies of the management
- He/she must make available the necessary materials & tools and inspect them regularly
- He/she must be ready or willing to share and give advice based on his knowledge and expertise
- Should review the work and determine how it is being carried out.
- Discuss the work in the context of time frame that gives a sense of perspective to the job being done
- Look ahead to future plans
- Setting individual performance objectives (the activities an employee should accomplish by a certain date) with the employee themselves so that they know what is expected of them.
- Having a regular contact with staff members through supervisory sessions to motivate and provide feedback, solve problems and provide them with guidance, assistance and support.
- Provide a positive atmosphere for discussion
- He/she should act as good liaison officer between the management and the workers
- Managing any performance problems and conflicts that arises and motivating and encouraging employees to do their best work
- Prepare a supervisory schedule. For instance, in Ethiopian health care system supervision is traditionally carried out every three months of every year

- Conduct a periodic performance appraisal. In the past, staff appraisal had 9 variables for all staff and those who have managerial post had an additional three variables. As of 1995E.C. this staff appraisal is changed and replaced with performance based appraisal and the supervisor is expected to develop the criteria in consultation with the subordinates. Based on the performance he/s recommends promotions, transfers, and pay increase.

16.1.5.4. Responsibilities towards his colleagues

- Supervisors must extend his/her cooperation to colleagues
- Supervisor must consider and accept the criticism of his/her plans posed by the colleagues
- Supervisor must supply essential information to other department, if required
- in general, he/she must delegate the work to his/her subordinates according to their ability and willingness

16.1.6. Supervision in action

a. Deciding How to Supervise

Most people prefer to work under a democratic leadership. It is not always the best.

The choice of style depends on:

- Kind of work to be done - Job factor
- Kind of people to be supervised -personal factors

i. Job Factors Include

- the complexity of the job
- the difficulty of the job
- the need for quick decisions
- the need for consistent results
- the need for creative work (new ideas)

ii. Personal Factors Include

- the skill, reliability and experience of those who do the work
- their willingness to accept responsibility and to make decisions.

b. How to conduct Supervision

Whichever style is adopted, the activities of supervision are similar. During supervisory activities, the following are the milestones of the supervision. The supervisor must address:

i. Resource use

Supervision is one method of making sure that the resource allocated is being used properly and efficiently. Supervision is one way to identify particular needs for logistic or financial support.

ii. Issues concerning Objectives of the health program

Supervision is one way to

- make sure that objectives correspond to needs
- Discuss, explain, justify, and obtain the commitment of health workers to the objective of the programme
- make sure that there are no divergences between the objectives of the management (standard of performance), the objectives of the staff and the objectives of the users.
- seek solutions to any conflict that arises between management, staff and users regarding the programme (activities) objectives.

iii. Performance

Supervision is the means to

- observe how the tasks entrusted to different categories of worker are carried out, and under what condition analyze the factors that result in satisfactory performance and the obstacles to satisfactory performance (knowledge and attitudes of workers, environment, resources).
- determine (with the health workers) the causes of difficulties.

iv. Staff motivation

supervision is one way to:

- obtain a clear picture of health worker's fundamental needs (need for respect, need to "belong", need for sense of achievement)
- help staff develop the necessary maturity to accept responsibility, esp. by discovering and discussing work-related factors that enhance or diminish motivation.
- discover short comings in staff skills in communication, problem-solving, and resolution of conflicts.
- adept the leadership style of supervisors to staff's expectations.

v. Staff competence

Supervision is one way to

- determine staff needs for information on the community, on health problems, on programme goals, and on standards to be obtained.
- determine the skills required by staff for care, management, etc..
- decide jointly on appropriate learning methods for acquiring or improving these skills
- set up a programme of continuing education

c . Steps to be considered for supervision

- prepare plan for supervision
- determine the time and frequency (supervisory schedule)
- develop check list (see Annex V)
- review objectives, job description, records, reports, previous supervision report
- solicit all the necessary resources required during supervision

- carry out the supervision
- give feed back on time and take all necessary actions

d. Making a Supervisory Schedule

A supervisory plan must be made for each year

The frequency of visits will depend on the:

- Local situation
- State and stage of the programme
- Availability of transport
- Availability of personnel etc.

Planning the schedule for supervisory visits include:

- deciding how often supervisory visits are needed
- listing all programmes
- determining the need for supervision (checklist)
- noting the aspects of health care where special assistance is required (checklist).

Step 1. Decide how often supervisory visits are needed. This is based on

- the local targets to achieve the goals
- the activities of the health workers being carried out
- the program that are going to be observed
- the progress of the program in relation to the plan
- the mix of the skill of the health workers
- the past performance of that particular health institutions
- problems encountered in the past supervision
- the urgency and the stage of the programs e.g. Epidemic prone diseases

Step 2. Listing the health programmes / activities where supervision is most need.

Programme	Extra needs for Control	Health areas			
		A	B	C	D
Antenatal	One visit/mon for 1 yr. from Hamle 1996	X		X	
Nutrition	MoA-extension workers one visit/ mon for 6 mon. from Feb.		X		
Immunization (MCH/FP)	Recognized activity Hamle 1996 to sene 1997. New HW. one visit/ mon.	X	X	X	X

Step 3. Reviewing others timetables

Any supervisor's activity should consider the timetable of the institution being supervised. This has its own problems because that may force the one who is supervising to draw unrealistic conclusion. But the advantage is that all workers could be available. This also helps the supervisor to coordinate all the activities with others.

To arrange a time table for the supervisory visits two things are needed:

- I. The plan made for the year, the definite dates allotted to fixed events (festivals, holidays, conference etc)
- II. The health unit timetable or schedule, the definite dates allotted to fixed events

Step 4. Making a yearly schedule for supervisory visits

Take into account

1. minimum needs for supervisory visits
2. programme needs for more frequent supervisory visits
3. fixed date in the annual plan
4. fixed activities that happen regularly each week

Example.

Month/2003	Area or (Name)	Program	Remark
January	A	3	
February	B	All	
December	D	1, 2, 5	

e. Preparation for Supervisory Visit

Before making a supervisory visit the supervisor should review records with regard to:

- local targets ; National/regional policies
- the health worker's activities
- progress to date of the programmes in relation to set targets
- problems in implementing the programme
- supplies needed.

E.g. In making the Feb. 2003 work plan, the supervisor notes that a visit is scheduled to health center x in a certain district because extra supervisory help is needed for the new programme of integrated MCH/FP.

To prepare for the visit the following checks are made

1. the health worker's job description is reviewed
2. The monthly report from the health worker is reviewed to determine: the number of ANC attendants, under five children visited the health institution, number of institutional delivery conducted, the number of clients who utilized EPI services etc.
3. Supervisory checklists for district -X from previous visit reviewed to identify items to be followed -up, on the job training needed, etc.
4. Inventory of medicines and supplies is checked to see whether a certain district needs supplies that the supervisor could take with the team, etc.

f. Conducting a Supervisory Visit

The most difficult part of supervision comes last i.e., conducting supervisory visit.

Supervisors must always remember that supervision is a helping process.

- Look at records (do they agree with monthly report? Are targets being met?)
- Observing how the health worker performs the activities listed in the job description.
- Talking with beneficiaries: satisfaction? dissatisfaction? other help? etc.
- Discussing with the health worker - what has been found:- good points; the need for improvement --> tell what to do, how improvements might be made.
- Remind the health worker of the date of next visit

All the observations made should be noted on the supervisory checklist for follow-up.

g. Out come of a supervision

In a supervisory activity, it is expected to achieve the results. To do so, She/he has two options.

- a. through negative supervision
 - threats to disciplinary actions
 - fault - finding
 - destructive criticism etc
- b. through positive supervision
 - leadership
 - guidance
 - motivation
 - setting a personal example etc.

Negative supervision

- Means:
- a. the staff are poorly motivated and lacking incentives
 - b. the supervisor /manager/ himself is railing as a leader.

Positive supervision

- benefits both the staff and supervisor (Manager) all leading to better results
- develop interest in their job
- a desire to improve their standard of performance
- confidence in their own abilities and in their supervisor

The requirements of positive supervision

- a. understand the team as individual personalities with differing needs and ambitions;
- b. recognizing the potential ability and intelligence of each individual; giving individuals the opportunity to control their own work activities, under guidance and direction;
- c. concentrating on the key results areas of the job (the areas of maximum effectiveness):
- d. avoiding excessively close supervision and fault-finding over minor details.
- e. anticipating causes of problems and taking preventive actions before these become unmanageable;
- f. setting standards of performance for the team, including permissible limits of tolerance within these standards;
- g. encouraging the team to participate in drawing up rules and guidelines for ensuring that standards are maintained;
- h. taking immediate corrective action when individual or team performance falls below these standards;
- i. making all criticism of performance in a constructive (positive) manner, i.e., stressing the correct way, instead of emphasizing the mistakes made.

16.1.7. Taking Corrective Actions

- Collect all the available facts
- Private interview of the health worker
- Listen to his side of the story
- Establish the extent of the deviation
- Decide on the action to be taken and explain the reasons for it
- Take the actions
- Advise any other personnel who could be affected
- Try to establish normal relationships as soon as possible then after.

16.1.8. Organization of health service in Ethiopia

According to the new health policy, the health service of the country is organized in a four tier system where Primary health Care Unit (PHCU) (one health center and five satellite health posts) is the entry to the health care delivery. Following the recent decentralization, woreda health office is responsible for both the technical and administrative issues concerning PHCU. One PHCU serves 25,000 populations. The woreda health office is staffed by five health professionals namely:

1. head of district health office- a BSc holder
2. expert of control of communicable diseases
3. plan and program head, expert
4. hygiene and environmental health, expert
5. head, pharmacy and aid drugs, expert

Whereas health centers are staffed with 13 technical staff of all category, health officer being the head of the health center. Health posts are staffed with 1) primary health worker 2) primary midwife and 3) community health agent. The first two are paid by the government and receive a nine-month intensive training whereas the community health agent is paid by the community. Concerning supervision, the woreda health office is responsible for supervising the health centers, health posts, clinics and other private health institution located within that specific district.

16.1.9. Summary

As leader and member of health team supervisors, we make many visits to workers and communities to check on the progress of activities, the knowledge and skills of workers and many other aspects of the health sector operations and performance.

For us to be effective:

1. A supervision visit should be planned in advance based on specific needs and objectives.
2. The supervisor must have prepared him/herself for the visit.
3. The visit must assess progress made towards solving problems identified in past visits, while identifying new strengths and weaknesses in performance.

Planning/Problem-Solving: During the supervision visit, the supervisor should help workers assess completed activities, plan for activities in the coming specific time period, identify any problems that are occurring and plan for the solution of those problems.

Motivating/Giving Feedback: An important part of the supervisor's job is to encourage and motivate the workers to carry out their tasks effectively. In community programs where many workers are volunteers, encouragement and praise for work well done are important incentives for continued participation. Volunteers, as well as salaried workers, will also appreciate suggestions of ways to improve their efforts, if the advice is realistic and constructive.

Assessing Skills: Supervisors should assess workers' technical and interpersonal skills through observation. This may be done by conducting activities (growth monitoring, home visits, education sessions, etc.) with workers during a supervisory visit.

In-Service Training: Supervisory visits should be used whenever possible to provide workers with new information and to upgrade their technical and interpersonal skills.

Follow - Up: Actions that will be taken by the supervisor and the workers to solve existing problems should be clearly defined during the visit. After the visit, supervisors and workers should follow through by carrying out the actions that have been agreed upon. During the next supervisory contact, the supervisor should follow up with the worker, upon giving feedback on the progress and actions that have been taken.

16.2. MONITORING

Monitoring is one of the management tool by which the health team leader if seeking information on a regular bases during the implementation of health plan. It is a method used to follow whether health activities are being carried out as nearly as possible according to the plan and that resources are not wasted. This enables the health team manger to watch the work progress and the work standards.

16.2.1. Definition

There are different definitions given to monitoring.

Monitoring may be defined as the process of regularly checking the status of the programme, by observing whether planned activities have been conducted and completed and whether they are generating the desired change (James A. Wolf)

Monitoring means watching the progress and standards of the work in a program (On-being in charge WHO).

For the purpose of this manual, the following definition could be adopted.

- A periodic but an ongoing collection and analysis of information/checking up whether the key activities are going or being carried out as planned.
- It is a mechanism for getting the right kind of information, when and where it is needed for evaluation purpose as well as immediate control purpose

16.2.2. Rationale for Monitoring

It is to find out what is going on, to avoid difficulties and problems and to have information at hand for decisions.

16.2.3. Why Monitoring?

a. Purpose of monitoring

The main purpose of monitoring is to follow implementation of health plan and to maintain work standard. It is done through measuring by using (1) check-list to observe performance and identify deficiencies of standards, input, output, procedure (Process) and (2) trace the cause of work deficiencies (technical, administrative, personal, or organizational). In summary, monitoring enables health team leader to determine whether key activities are carried out as planned and have expected effects on the target population.

Monitoring should incorporate all aspects of implementation. This may be viewed as follows:

b. Monitoring of input insures that whether

- Work progresses according to schedule
- Staff are available (in accordance with assignments)
- Resource consumption and costs are within planned limits
- The required information is available
- Community groups or individuals are mobilized as expected

c. Monitoring of process insures that whether

- The expected functions, activities and tasks are performed in accordance with norms/standards
- Meetings are held as planned
- Communications take place as necessary.
- Work standards are met
- Training are conducted as scheduled

d. Monitoring of output insures that whether

- Products/services meet specifications
- Services are delivered as planned
- Training results in new skills or higher level of skill
- Decisions are timely and appropriate
- Records are reliable and reports are issued
- Conflicts are controlled
- The community is satisfied

16.2.4. What to Monitor

- Whether the objectives of the health programs are being carried out as planned
- To assess whether the work standard are maintained
- To assess the in puts (such as human, financial, material etc) are being utilized efficiently

a. Content

- Setting
- Unused opportunities eg. Mothers coming for child health care could be persuaded for F/P, Antenatal, pre pregnancy counselling etc.
- Problems, unmet needs
- Community relationships

b. Input

Whether resources are made available for the implementation of activity at the right amount at the right place and time. Resources for health programs includes: human, time, place, money, drugs, information and others

c. Process

Includes a systematic series of action or tasks leading to a particular results/goal.

Some of the variables includes:

- Goals/objectives
- Management and coordination process
- Communication and mobilization
- Information
- Scheduling, budgeting, timing etc
- Technical performance
- Team work, community response etc.

d. Out put

Products, results or final consequences

Variables include:

- Immediate and long-term attainment of goals
- Effective leadership
- Observed change eg. Patient management
- New social, political structure
- New skill, knowledge, attitudes
- Improved socio-economic status
- Improved productivity, new products, services
- Utilization of the health programs such as reproductive health, EPI etc.
- Awareness and motivation etc

16.2.5. How to monitor?

16.2.5.1. Steps of monitoring

1. Determine what to monitor
2. Determine how to monitor
3. Checklist (standard)
4. Measure the performance
5. Compare the performance with the standard
6. Identify problems
7. Look for solutions
8. Take corrective actions

16.2.5.2. Sources of information for monitoring

- Report (weekly, monthly, quarterly, annually)
- Meeting
- Supervision
- Complaints
- Checklists

16.2.5.3. Setting Standards of Work

Work standard should be determined based on the already set objectives, the desired quantity and quality of the work itself, acceptability of the service and work by the community/clients satisfaction).

Health worker supervisors must be able to:

- use check list to observe performance and identify deficiencies in standards, outputs, procedures
- Trace the cause of work deficiencies. Administration, technical, generally health care system.

16.2.5.4. Requirements of standards

- They must achieve the desired results
- They must be attainable
- They must be measurable
- They must be understood by every body

16.2.5.5. Collecting the information performance

From reports and records, formats (warning: keep the forms as minimum as possible)

16.2.5.6. Measuring the performance

- Outputs (in units of work, quantity, and value)
- Costs (variations from budget)
- Averages, percentages
- Time factor (quarter, annual)
- Quality
- Staff turnover
- Complaints

16.2.5.7. Comparing performance against standards

- Having measured the actual performance it must now be compared with the standards which have been set.
- No individual/ group performance will ever be exactly in line with the standard, so we shall have to allow for an area of tolerance within which we must allow performance to continue without taking immediate actions.
- Serious deviations below the area of tolerance limits, call for corrective actions.
- Deviations above the tolerance line may indicate that, set standards are too low.

16.2.5.8. Actions to be taken

- **Readjusting resources supply based on the demand:** after an initial assessment of the performance if there were a gap created as result of unforeseen circumstances during the planning session on the result of the achievement, one way of the curbing the problem is probably adjusting the resources based on the demand of a services. E.g.; in a community based contraceptive distribution program, if there is excess oral contraceptives and there occurs shortage of pills in health center family planning department, the head of Woreda can redirect pills to the health center.
- **Redirecting activities:** information which comes from monitoring guides health activities. If work deficiencies are found or targets are not being met, the cause must be sought. Based on this information, changes can be made to improve the work performance. For example, in a certain health center where a clerk is assigned to carry out family planning activities and if he/she is found to be hostile to clients, the head of the health center can conduct group discussion with clients and other concerned staff and if the clerk is found to be the cause for the problem, one consider changing the person by appropriately trained female junior midwives.

- **Reconsidering the objectives or goals:** during the planning process, if unrealistic goals were set, during the monitoring process, the person in-charge should review the already set goals/objective.
- **Review the process such as managerial, technical etc.**

16.3. EVALUATION

Evaluation is one of the functions of the manager or the health team leader. It helps to measure whether objectives of the health program has been achieved as designed. It also highlights the factors, which are associated with the degree of achievements. A good plan has in-built system of measurement procedures of evaluation of performance and effectiveness of the programme utilization of services, changes in attitude and behavior of people. According to WHO expert committee of national health planning in developing countries" evaluation measures the degree to which objectives and targets are fulfilled and the quality of the results obtained. It measure the productivity of available resources in achieving clearly defined objectives besides it measures how much out put or cost effectiveness achieved."

16.3.1. Definitions

Evaluation is a periodic process, which attempts to determine as systematically and objectively as possible, the relevance, effectiveness and impact of a program in the light of specified objectives

- Evaluate /judge the result (how effective we are and its impact).
- Evaluation is a measurement of the degree of achievement of the defined objectives and efficiency of the program.

16.3.2. Why evaluation? (Purpose)

- To identify priorities and needs of the community in order to make work more relevant
- To assess whether objectives and targets are met i.e. whether programs were relevant and effective.
- To assess the improvement of services with regard to their quantity, quality, accessibility, cost etc.
- To assess the weakness and strength of the program being evaluated and use the lessons learnt for the next planning of any health program.
- To contribute to the development, modification of policies at the higher and operational levels
- In general evaluation will help improving performance, contribute to the effectiveness of the program.

16.3.3. What to evaluate?

See the Section 2.4 discussed under monitoring.

16.3.4. How to evaluate? Steps evaluation

- Determine what is to be evaluated
- Determine standards/criteria/indicators
- Plan the methodology
- Gather the necessary information and measure achievements
- Analyse the result and compare with the norms and targets
- Take action for the next plan
- Re-evaluate

16.3.5. Who evaluates?

Experts from:

- Internal assessors
- External
- Both

16.3.6. Responsibilities of evaluators

- Based on the preliminary information he/she should make sure that proper term of reference for the evaluation process.
- He/she should respect the evaluation time frame
- Unbiased and honest
- He should assess the whole process or program starting from the situational analysis all the way to the program implementation
- Should carefully analyse and interpret data
- Should give feeds back to all concerned sectors including the community.

16.3.7. When to evaluate? Frequency of evaluation

a. Pre-program (before the program evaluation)

- needs assessment - a matching-up of the needs of the community and the program
- identification of expressed and perceived needs, problems and desires of the people
- assessment of the attitudes and expectations of the people towards the intended program
- Useful as basis for making decision regarding the relevance and viability of the program

b. Formative (during the program) evaluation/monitoring evaluation

- Conducted during the development or implementation stage of the program
- Implementation methods
- Organizational procedures
- Level of motivation and attitudes
- Immediate outcomes and effects
- the purpose is to give feedback, help improve performance and to rectify implementation mistakes

c. Summative (after the program) evaluation

- conducted at the end of the program or program phases
- evaluation of the total impact of the program (immediate)

d. Follow-up evaluation

- evaluation years after the program ended
- Important in the analysis of performance long term effects/impacts and other development changes motivated by the program.

16.3.8. Evaluating Achievement

- Decide what is to be evaluated and select indicators of effectiveness
- Indicators are variables which help to measure changes
- Criteria- are standards by which actions are measured
- Collect the necessary information (literature search, document review, questionnaire surveys, key informant interviews, group interviews, observational studies etc.)
- Compare the results with the target or objectives
- Judge the degree to which the two differ
- Decide on the future course of the program

16.3.9. Indicators and criteria for evaluation

An indicator is an objectively verifiable measurement which reflects the activity, or effect being measured and allows for comparisons. Indicators are measures that can be used to help describe a health or disease situation that exist and to measure changes or trends over a period of time. They are necessary in order to:

- analyze the present situation
- make comparison
- measure changes over time

16.3.10. Characteristics of good indicators

- Simple
- Specific
- Measurable/quantifiable
- Valid
- Reliable

Some of indicators used in monitoring and evaluation

16.3.11. Examples of indicators

1. Family health indicators

- Total resources such as budget, supplies, equipment allocated
- Number of new and/or revisit clients
- Contraceptive prevalence in the community
- Prevalence of HIV/STI

2. Health policy indicators

- Political commitment
- Equity of distribution of resources
- Allocation of adequate resources
- Community involvement etc.

3. Social and Economic indicators

- Rate of population increase
- Work availability
- Gross national product (GNP)
- Income distribution
- Adequacy of housing expressed as number of persons per room
- Adult literacy rate etc.

4. Indicators of provision of health care availability

- Availability
- Utilization of services
- Physical accessibility
- Quality of care
- Economic and cultural accessibility

5. Indicators of PHC coverage

- Availability of safe water supply
- Adequate sanitary facilities
- Access of mothers and children to health care
- Availability of essential drugs etc. (for all PHC components)

6. Health status indicators

- Percentage of newborn with birth weight. ≥ 2500 gm
- Percentage of children with weight for age that corresponds to norms
- Infant mortality rate
- Child mortality rate
- Morbidity rate etc.

16.3.12. Information support (source of information)

Evaluation should be based on specific, valid, relevant, timely, and complete information.

Such information for evaluation can be obtained from

- Records
- Reports
- Key informants such as head of the programs, staff, community
- Survey
- Studies

16.3.13. Actions to be taken

Based on the finding of evaluation and depending on the stage of evaluation:

- One can use the lessons learnt during the evaluation for the next planning activity
- We may decide either to modify or stop such programs in the future
- If mid term evaluation is conducted, we can suggest some strategies to achieve the intended goals and improve performance
- It also helps for policy formulation and modification.

16.4.RECORDING

Information is a backbone of all managerial activities. Information is obtained from data either from primary or secondary sources. In health a huge amount of data is generated each day. The problem with this type of source has its own inherent problems which require proper attention because this source of information on which decisions are made, policies are developed and so on. Currently, all attempts are being exerted in improving source of information, and its quality and proper use. The system that is responsible for information in management is called management information system. In short, information is a bloodline of decision-making. In this section we concentrate only on topics of recording and reporting as dealing with management information system is broad and is hence beyond the scope of this manual.

16.4.1. Definition

Recording is the process by which data are generated.

Records are the information kept in the health unit on the work of the unit, on the health conditions in the community, on individual patients, as well as information on administrative matters such as staff, equipment, drugs etc.

Reporting is the process by which the analyzed information is sent to concerned offices or personalities for their use in making decisions and take action based on the fact.

Information is defined as data that have been deliberately selected, processed and organized to be useful of the person who is in-charge of taking action.

Data is unprocessed fact and figure

16.4.2. Data collection

Basic techniques

- Available information
- Interviews
- Surveys
- Observation

16.4.3. Characteristics of information

Useful information had the following characteristics

- a. Timeliness:- getting the information in time i.e. current information
 - b. Reliability:- the accuracy of the information which is consistent with the fact, actual or verifiable
 - c. Relevance:- how closely and how importantly the information pertains or related to the decision to appropriate for the situation
 - d. Concise:- just enough
 - e. Cost effective:- created and disseminated at a reasonable cost
- a. management information system provides data and feedback which permits organizations to operate effectively. This information is essential for:
- monitoring
 - evaluation
 - regulating the performance of individual staff members
 - inventory and re-supply
 - information for external use

16.4.4. Recording

Usually records are written information kept in notebooks or in folders; but they may be kept on tapes or in computers. Records are important tools in controlling and assessing work. When ever possible, any recording must be time, person, place specific and should include all information necessary for the event.

Records are kept to help the team leader or supervisor to

- Learn what is taking place
- Make effective decisions
- Assess progress towards goals.

Records should be accurate (true), accessible (available when needed) and useful.

Do not record information unless it will be used.

Before delegating staff members to carry out recording, make sure that you know

- Will this information be used?
- Precisely what part will be used for decision-making?
- Will the information be accessible?
- Will it be available at the right time and place?
- Can records be stored at a reasonable cost?

16.5. REPORTING

Reports are the information communicated to the other level of the health service. Reports are important managerial tools that help health team leader to influence others.

16.5.1. Types of reports

- Oral: - passing information verbally and the sender must check that the message is correctly understood by the receiver
- Radio or telephone for special cases like emergency situations
- Written in normal circumstances.

16.5.2. Contents of reports

It must include

a. Identification

- Name
- Age
- Sex
- address

b. It must give the main messages we want to report and should give all information concerning the 6 W questions (what, why, where, when, etc)

N.B. It is important to keep copies of a report by those who make them.

16.5.3. Forms

Forms are materials designed for collecting data, which is crucial for Management Information System (MIS). It is closely correlated with compliance and accuracy.

Useful form should be designed having the following characteristics

- easy to use
- quick to use
- easy to carry
- clear
- uncluttered

Forms are important that they help to get critical information for that particular activity. Well prepared forms will increase compliance by minimizing the staff time required to complete the forms. Forms can be made easier to use by using colour coding.

16.5.4. Designing a reporting format

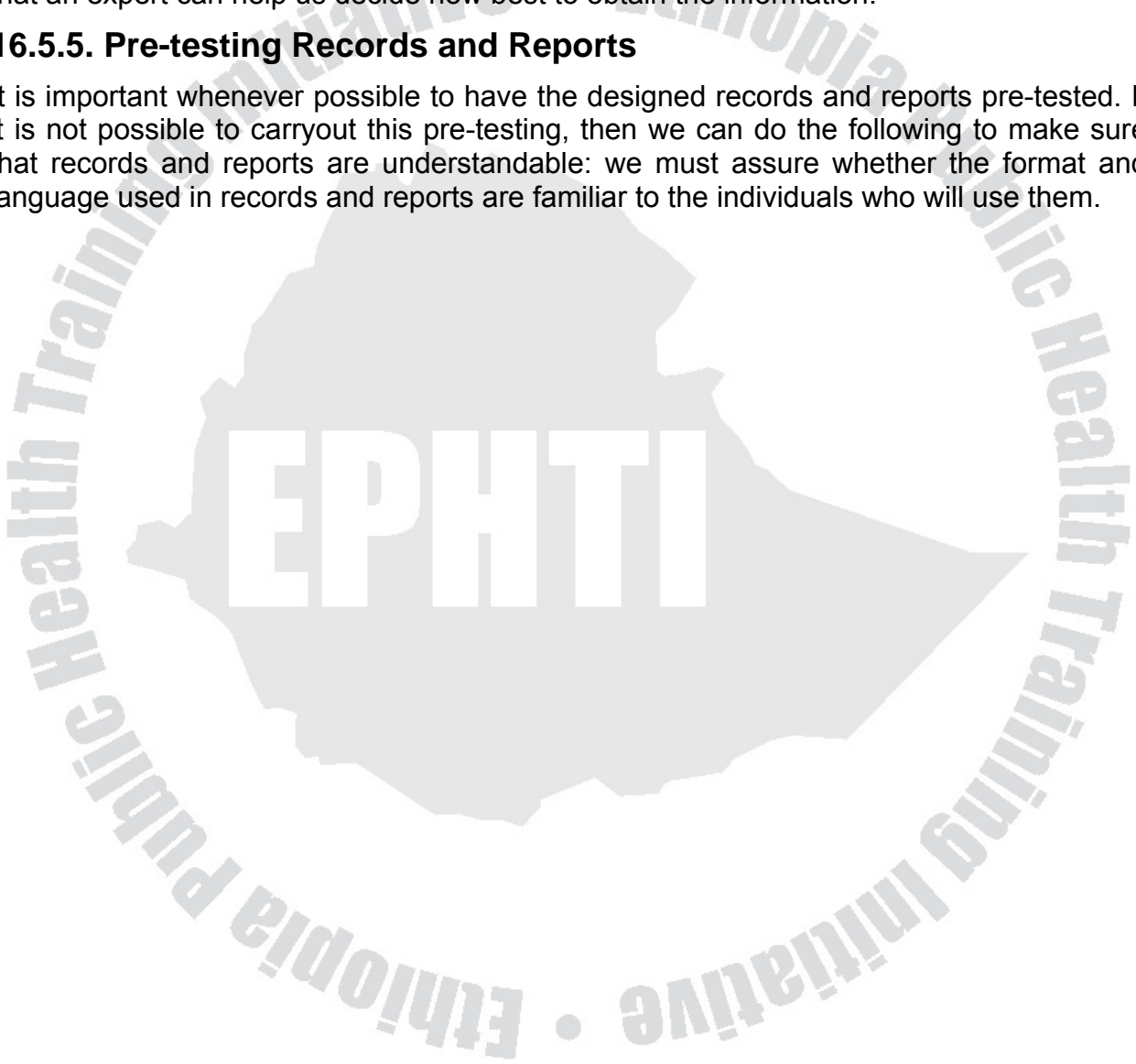
Reporting format must be clear and easy to use as data collection forms but make sure that they contain information appropriate for the level of the person collecting the information. Any report must be clear and address issues like what? Where/? When? To whom? For what? Why?

In summary when designing Records and Reports

The design of records and reports is a highly technical area. For specific new health activities or program, it is a good idea to enlist the help of an expert who can work with you to make sure everyone's needs for information are satisfied, including the community. For those on-going health activities, some type of record keeping system is usually in operation. In this case we should ask ourselves if that system is providing us with the information we need and, if it is not, how could we improve it? Again, an expert could be of great help. Remember that we must first decide what we need to know, so that an expert can help us decide how best to obtain the information.

16.5.5. Pre-testing Records and Reports

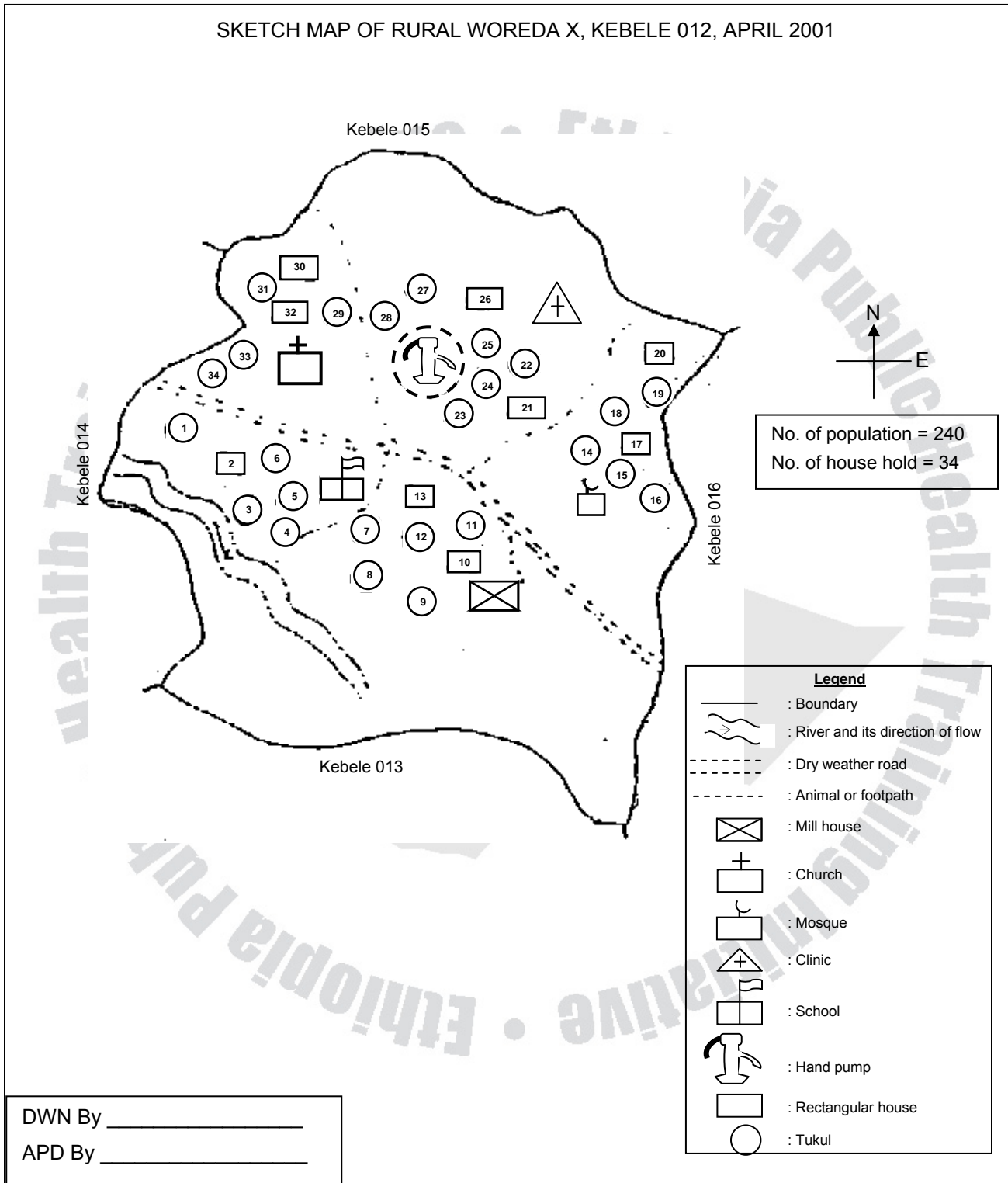
It is important whenever possible to have the designed records and reports pre-tested. If it is not possible to carryout this pre-testing, then we can do the following to make sure that records and reports are understandable: we must assure whether the format and language used in records and reports are familiar to the individuals who will use them.



Annex I

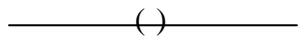
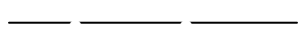
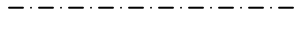

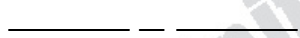



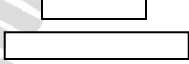
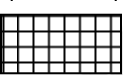
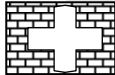












Sample map

SKETCH MAP OF RURAL WOREDA X, KEBELE 012, APRIL 2001

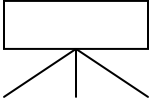
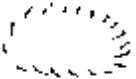



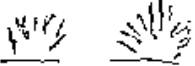
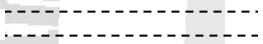


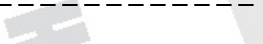






Continue... Annex I

Some Common conventional symbols used in sketch mapping

-  : National boundary
-  : Provinces boundary (regional boundary)
-  : District (Awraja) boundary
-  : Sub district (Woreda) boundary
-  : Zone boundary
-  : Sector Boundary
-  : Locality boundary
-  : River: indicate the main of the river with an arrow showing the water flow direction
-  : Bridge or ford
-  : Market place
-  : Hospital
-  : School
-  : Church
-  : Mosque
-  : Tukul
-  : Corrugated iron sheet houses
-  : Police station
-  : Airport
-  : Health center
-  : Clinic
-  : Fuel station
-  : Factory
-  : Mill house

Continue... Annex I

-  : Water Reservoir
-  : Fence of Rock wall
-  : House Destroyed
-  : House under construction
-  : Pond
-  : Swamp
-  : Dray weather road
-  : All weather road
-  : Rail way
-  : Animal or foot path
-  : Telegraph or Telephone line
-  : Electric Transmission line
-  : Lake
-  : Post office

Annex II

CENSUS FORM ON REPRODUCTIVE HEALTH

I. AREA IDENTIFICATION

REGION	ZONE	WEREDA	TOWN	KEBELE	HOUSE NUMBER

II. SOCIO-DEMOGRAPHIC AND ECONOMIC DATA

Sr No	Name	Sex	Age	Relation to Head	Marital Status	Occupation	Religion	Ethnicity	Level of Education	Monthly Income	Nationality	Remark

- | | | | | |
|--------------------------------------|----------------------|---------------------|-----------------|-----------------------------|
| I. Occupation | II. Relation to head | III. Marital status | IV Religion | V. Level of education |
| 1. Home maker | 1. Head | 1. Never married | 1. Muslim | 1. Illiterate |
| 2. House maid | 2. Spouse | 2. Married | 2. Orthodox | 2. can read only |
| 3. Local drinkeller | 3. Children | 3. Widowed | 3. Catholic | 3. can read and write |
| 4. Government/
private employment | 4. Relative | 4. Divorced | 4. Protestant " | 4. Attended up to
grade3 |
| 5. Merchant | 5. Visitor | | 5. Others | 5. Attended grade 4-6 |
| 6. Farmer | 6. Other | | | 6. " " 7-12 |
| 7. Student | | | | 7. " " >12 |
| 8. Other | | | | |

N.B Name of members of a household showed, be mentioned in the following order:

- Head, spouse, never married children married children, other relative non-relative, and visitors.
- Income should be listed in terms of birr. For example, if the respondent is a farmer, the annual product should be converted to monthly.

III. Reproductive data

A. Past reproductive performance (History)

1. Age at first marriage _____
2. Age at first delivery _____
3. Number of pregnancies _____
4. Number of living children _____
5. Number of term live births _____

6. Number of pre-term live deliveries _____
7. Number of still-births (term & preterm)
8. Number of abortions: _____
(Note: loss before 28 weeks)

B. Family planning

9. Do you use contraceptive method?
 - a. Yes _____
 - b. No _____
10. If 'yes', specify _____
 1. Pills _____
 2. IUD _____
 3. Injection _____
 4. Implant _____
 5. Condom _____
 6. Diaphragm /Foam/ Jelly _____
 7. Rhythm method /periodic abstinence _____
 8. Withdrawal _____
 9. Others _____
 11. Health and Health care service _____
12. Did you have any health problem during last pregnancy?
 - a. Yes _____
 - b. No _____
 - c. Do not remember _____
13. If 'yes', which of the following did you have/ (multiple answers are possible)
 1. Heart burn _____
 2. Constipation _____
 3. Headache _____
 4. Abdominal pain /discomfort _____
 5. Vaginal discharge /bleeding _____
 6. Backache _____
 7. Swelling in the ankle and feet _____
 8. Loss of appetite _____
 9. Others (specify) _____
14. Did you have any health problem (s) during last delivery?
 - a. Yes _____
 - b. No _____
 - c. Do not remember _____
15. If 'yes', what problem (s) did you have/
 1. Delayed labour _____
 2. Prolonged labour _____
 3. Premature rupture of membran _____
 4. Prolapse of cord _____
 5. Mal presentation _____
 6. Obstructed labour _____
 7. Perineal tear (laceration) _____
 8. Retained placenta _____
 9. Other (specify) _____
16. Did you have any health problem (s) during your last puerperium?
 1. Yes _____
 2. No _____
 3. Do not remember _____

17. If 'Yes' what problems did you have?
1. post partum hemorrhage _____
 2. Abnormal vaginal discharge _____
 3. Breast swelling and discharge _____
 4. Incontinence to urine & feces _____
 5. Other (specify) _____
18. Did you have antenatal care during your last pregnancy/ (Based on WHO's definition of one or more visit to health facility during pregnancy).
- a. Yes _____
 - b. No _____
 - c. Do not remember _____
19. If 'yes', who cared for you?
1. Community Health Agents _____
 2. Traditional birth attendant (untrained) _____
 3. Trained traditional birth attendants _____
 4. Medical professional
(Doctor, Health Officer, Nurse, Health Assistant, Mid wife, etc.) _____
 5. Other (specify) _____
20. Where was your last child delivered?
1. Home _____
 2. Health station _____
 3. Health center _____
 4. Hospital _____
 5. Other (specify) _____
21. Who delivered (cut the cord) your last child?
1. Self _____
 2. Neighbor / relative _____
 3. Traditional birth attendant _____
 4. Trained traditional birth attendant _____
 5. Medical professional _____
 6. Other (specify) _____
22. What instrument was used to cut the cord?
1. Blade _____
 2. Knife _____
 3. Others (specify) _____
23. How was the instrument treated before use?
1. Boiling _____
 2. Using alcohol/ savlon _____
 3. Washing with soap and water _____
 4. Washing with water only _____
 5. New instrument not treated _____
 6. Other (specify) _____
24. Was any thing applied to the cord stump?
- a. Yes _____
 - b. No _____
 - c. Do not remember _____
25. If 'yes', what was applied?
1. Butter _____
 2. Cow dung _____
 3. Yeast _____
 4. Soot _____
 5. Other (specify) _____

26. What material was used to tie the cord?
 1. Thread _____
 2. Cloth _____
 3. Others (specify) _____
27. What did you feed your baby following delivery?
 1. Exclusively breast milk _____
 2. Breast milk and water (with or without sugar) _____
 3. Breast milk and butter _____
 4. Breast milk and other milk _____
 5. Other milk alone (specify) _____
 6. Others (specify) _____
28. If you have breast fed your last child, when did you start giving breast milk after delivery?
 1. During the first hour after delivery _____
 2. Within 1 – 8 hours after delivery _____
 3. More than 8 hours after delivery _____
 4. Do not remember _____
29. How long do you usually breast feed your last child?
 1. Do not breast feed at all _____
 2. ≤ 3 months _____
 3. 4 – 6 months _____
 4. 7 – 11 months _____
 5. 12 – 18 months _____
 6. > 18 months _____
30. When do you usually start additional food (to milk) for your last child?
 1. ≤ 3 months _____
 2. 4 – 6 months _____
 3. 7 – 9 months _____
 4. 10 – 12 months _____
 5. > 12 months _____
31. What additional food do you usually give your last child as a supplementary diet? (Multiple answers are possible).

Milk only _____

Egg, meat _____

Oils _____

bread, Injera _____

Vegetables and fruits _____

Any available food at home (adult food) _____

Others (specify) _____

IV. Environmental Conditions

32. What is the main source of drinking water for the members of this housing unit?
 - a. Tap water
 - b. Protected well and spring
 - c. Un protected well and spring
 - d. River, lake / pound
 - e. Other

33. How long does it take to go, get water, and come back (minutes/ hours)
34. What type of toilet facilities does the housing unit have?
- None
 - Flush toilet private
 - Flush toilet share
 - Pit private
 - Pit shared
35. What type of bathing facilities does the housing unit have?
- None
 - Bath tub private
 - Bath tub shared
 - Shower private
 - Shower shared
 - Other specify
36. What is the material used for construction of the wall of housing unit
- Stone
 - Blocket
 - Wood
 - Other
37. What is the material used for construction of the roof of the housing unit?
- CIS
 - Thatch
 - Other
38. What is the material used for construction of the floor of the housing unit _____
39. How many rooms are there in the housing unit? _____
40. Does the housing unit have adequate window? _____
- Yes _____ No _____
41. If yes, number windows _____
42. What type of kitchen does the housing unit have?
- No kitchen
 - Modern kitchen private
 - Modern kitchen shared
 - Traditional kitchen private
 - Traditional kitchen shared
43. What type of fuel is mostly used for cooking in the housing unit?
- Fire wood /leaves/ cow doing
 - Kerosene
 - Char coal
 - Electric
 - Other _____
44. Does the housing unit has adequate illumination
- Yes _____
 - No _____

V. Nutritional Status

45. Nutritional Status of Women in the Reproductive age group (15 – 49)
- A. Weight (Kg)
 - B. Height (m)
 - C. BMI (Kg/m²)
- III. HIV/AIDS and other sexually Transmitted diseases
46. Have you ever heard of the virus HIV or an illness called AIDS?
Yes _____ No _____
47. If yes, from which source of information have you heard about it?
- 1. Media
 - 2. Health workers
 - 3. Churches/mosques
 - 4. Schools/teachers
 - 5. Friends/relatives
 - 6. Work place
 - 7. Posters
 - 8. Others
48. If it is possible for a healthy looking person to have the AIDS viruses.
a. Yes _____ b. No _____ c. Don't know _____
49. Can the virus that causes AIDS be transmitted from a mother to a child?
a. Yes _____ b. No _____ c. Don't know _____
50. How old were you when you first had sexual intercourse (if ever)? _____
51. Apart from HIV/AIDS, have you heard about infections that can be transmitted through sexual contact?
a. Yes _____ b. No _____
52. If yes, specify _____
53. Do you have any history of one of the following signs and symptoms of sexually transmitted diseases?
Genital discharge
Swelling genital area
Genital sore / ulcer
Genital warts
Inability to give birth
Burning pain on urination.
54. The last time you had sexual intercourse, was a condom used?
a. Yes _____ b. No _____
55. Have you ever heard of female circumcision?
a. Yes _____ b. No _____
56. Have you yourself ever been circumcised?
a. Yes _____ b. No _____
57. Have you faced any acute or long term complication following circumcision?
a. Yes _____ b. No _____
c. If yes, specify _____

58. Have any of your daughters been circumcised?
a. Yes _____ b. No _____ How many? _____
59. Who did the circumcision _____
Health professional _____
Traditional circumciser _____
Traditional birth attendant _____
Other _____
60. Do you think this practice should continue? _____
1. Continue
2. Discontinue
3. Depends
4. Don't know



Annex III

PROCESSING TABLE/TALLY SHEET FORMAT

Marital status

	<15	15 - 18	19 - 41	50+
Never married				
Married				
Widowed				
Divorced				

Religion

Sex	Catholic	Protestant	Muslim	Other
Male				
Female				
Total				

Level of Education

Educational Status	Age									
	Male					Female				
	7-11	12-15	16-17	18-19	18 ⁺	7-11	12-15	16-17	18-19	18 ⁺
Illiterate										
Read and write										
2-4 grade										
5-8 grade										
9-10 grade										
9-12 grade										
12 ⁺										

Occupation

Type of occupation	Male				Female			
	<15	15-24	25-49	50 ⁺	<15	15-24	25-49	50 ⁺
Home maker								
Home maid								
Local drink seller								
Government/private employer								
Merchant								
Farmer								
Student								
other								

Past Reproductive Performance

Age	<15	15 - 24	25 - 35	> 35
Age at first delivery				
Age at first marriage				

Number of	None	1 - 3	1 - 5	> 5
Pregnancy				
Living children				
Term live births				
Preterm live delivery				
Still birth				
Abortions				

Family Planning use of contraceptive Vs age

		< 15	15 - 24	25 - 35	> 35
Use of contraceptive	Yes				
	No				

Type of contraceptive used

Pill	
IUD	
Injection	
Implant	
Condom	
Diaphragm/ Foam / Jelly	
Rhythm / Periodic abstinence	
Withdrawal	
Other	

Health and health Care Service

		< 15	15 - 24	25 - 35	> 35
Any health problem During last pregnancy	Yes				
	No				

The health problem encountered during last pregnancy

Heart burn	
Constipation	
Headache	
Abdominal pain	
Vaginal discharge /bleeding	
Backache	
Swelling in the ankle and fob	
Loss of appetite	
Other	

Health problem during last delivery

Yes	
No	

The type of problem faced Vs Age Vs ANC following

Problem	Age							
	< 15		15 - 24		25 – 34		> 35	
	ANC	NO ANC	ANC	NO ANC	ANC	NO ANC	ANC	NO ANC
Delayed labour								
Prolonged labour								
Premature rupture of membrane								
Mal presentation								
Obstructed labour								
Perinea fear								
Retained placenta other								
Total								

Health problem during Premium

Yes	
No	

Type of problem Vs area of delivery

Type of problem	Area of Delivery				
	Home	Hospital	Health station	Health center	Other
Part partum hemorrhage Abnormal Vaginal discharge					
Breast swelling and discharge					
Incontinence to urine and feces					
Other					

Instrument used to cut the cord Vs sterility

Instrument	Technique used					
	Boiling	Washing with water and soap	Washing with water only	New instrument not treated	Alcohol/ Savlon	Other
Blade						
Knife						
Other						

Material applied to the cord stump

Material	Yes	No
Butter		
Cow dung		
Yeast		
Soot		
Other		
None		

Level of Education Vs Antenatal Care

Any ANC follow up during last pregnancy	Level of Education					
	Illiterate	Read and write	1 - 4	5 - 8	9 - 12	> 12
Yes						
No						
Don't remember						

Supplementary diet to Childs

Type of diet	Total Number
Milk only	
Egg meat	
Oils	
Bread, injure	
Vegetables & fruits	
Any available flow at home	
Other	

Water supply

Public tap _____

Tap inside the composed _____

		Protected	Un protected
1	Well		
2	Spring		
3	Other		

Time taken to fetch water (go and back to home)

< 15 minutes	15 – 20 minutes	31 – 45 minutes	46 – 60 minutes	60 minutes & above

Toilet facilities

Type of latrine	Number of houses	No. inhabitants
Flush toilet private		
Flush toilet shared		
Pit private		
Pit shared		

Latrine not available _____

Bathing facilities

Type of bathing facilities	Number of houses	No. of inhabitants
Both tab private		
Both tub shared		
Shower private		
Shower shared		
other		

Bathing facility not available _____

Materials used for the construction of the wall

Type of material	Number of houses
Stone	
Wood	
Blocket	
Others	

Materials used for construction of the roof of the housing used

Type of materials	Number of houses
Corrugated iron sheet	
Fletch	
Others	

Materials used for construction of the floor

Type of material	Number of houses
Cement	
Mud	
Others	

The number of roofs of a housing unit

Rooms condition	Number houses	No. of inhabitants
One room		
Two rooms		
Thee rooms		
Four rooms		

Ventilation (number of windows verses inhabitants)

Windows condition	No of houses	Total number of inhabitants
With out window		
One window		
Two window		
Three window		
Four and above		

Kitchen

Kitchen condition	No of house	Number of inhabitants
No kitchen		
Modern kitchen private		
Modern kitchen shared		
Traditional kitchen private		
Traditional kitchen shared		

Type of fuel used for cooking

Fuel	Number of houses	No. of inhabitants
Fire wood / leaves/ cow dung		
Kerosene		
Charcoal		
Electric		
Other		

Illumination

Illumination condition	No of houses	Number of inhabitants
Houses with adequate illumination		
Houses with out adequate illuminate		

Nutritional Status of Women (15 – 49)

Back ground characteristic	Height (m)		BMI (kg/m ²⁺)	
	<145cm	>145cm	<18.5	>18.5
Educational status				
Illiterate				
Write and Read only				
1 – 4				
5 – 8				
9 – 12				
> 12				
Age				
15 – 19				
20 – 24				
25 – 29				
30 – 34				
35 - 49				

HIV AIDS and other STIs Vs Age group

Awareness of HIV/AIDS	Age group			
	< 15	15 - 24	25 - 35	> 35
Yes				
No				

Source of information about HIV/AIDS

Type of Media	No of respondents
Media	
Health Workers	
Churches/Mosques	
Schools /teachers	
Friends / relatives	
Work place	
Posters	
Others	

Knowledge of HIV/AIDS

Knowledge	No of Respondents		
	Yes	No	Don't know
Perception about healthy person to have HIV/AIDS			
Awareness of child to mother transmission of HIV/AIDS			

History of STI Vs Age at 1st Sexual intercourse

	Age out 1 st sexual intercourse			
	< 15	15 - 24	25 - 35	> 35
History of sexually transmitted disease				
Genital discharge				
Swelling genital area				
Genital sore/ulcer				
Genital warts				
Inability to give birth				
Burning pain on urination				

History of circumcision and Complication Vs level of education

History		Level of education					
		Illiterate	Read and write	1-4	5-8	9-12	>12
History of circumcision	Yes						
	No						
Acute or long term complication	Yes						
	No						

Instrument used to tie the cord

Instrument	No of respondents
Thread	
Cloth	
Other	

Feeding of infant after delivery

Feeding type	No of respondents
Exclusively breast milk	
Beast milk and water (with and without sugar)	
Breast milk and other milk	
Other milk alone	
Other	

When did you start breast milk

Time to start breast milk	No of respondents
During the first hr. after delivery	
Within 1 – 8 hrs. after delivery	
> 6 hrs after delivery	
Don't remember	

Length of breast feed

Length of breast milk	No of respondents
Do not breast feed at all	
≤ 3 months	
4 – 6 months	
7 – 11 months	
12 – 18 months	
> 18 months	

Additional food (to milk) for last child started out

Additional food started at	No of respondents
≤ 3 months	
4 – 6 months	
7 – 9 months	
10 – 12 months	
> 20 months	

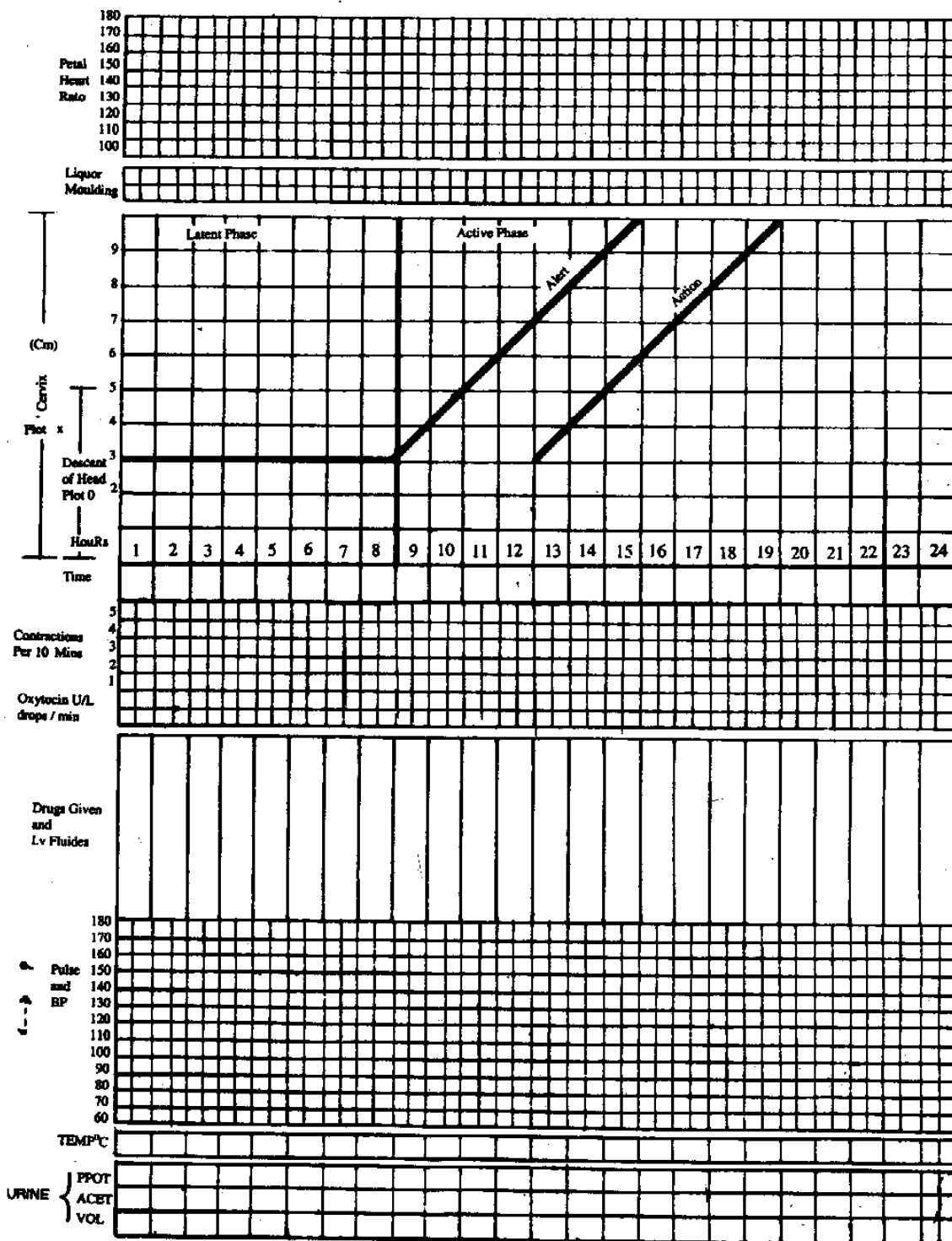
Who attended the last delivery?

Self _____
 Neighbor / relative _____
 TBA _____
 TTBA _____
 Medical professional _____
 Other _____

Annex IV

A. PARTOGRAPH

Name _____ Gravida _____ Para _____ Hospital No. _____
 Date of admission _____ Time of admission _____ Ruptured membranes _____ hrs



ic Health Train

Continue ... Annex IV

B. LABOUR AND DELIVERY CARD

1. Name _____ 2. Age _____
3. Address: Town _____ Kef: _____ Keb: _____ House No. _____
4. Admission: 1. Date _____ 2. Time _____
5. Number of previous pregnancies: 6. Number of abortions
7. Number of children born alive
8. Number of children born dead
9. Number of children alive now
10. Antenatal care 1. Yes 2. No
11. Is the patient referred from another, Health Unit 1. Yes 2. No

ADMISSION REMARKS:

12. Contractions started 1. Date _____ 2 Time _____
13. Membranes ruptured at admission 1. Yes 2. No
14. Status of liquor 1. Clear 2. Meconium stained
15. Presentation 1. Vertex 2. Breech 3. Transverie 4. Other
16. Foetal heart beat at admission 1. Present 2. Absent
17. Blood pressure _____

DELIVERY:

18. The patient delivered in your Health Unit 1. Yes 2. No
19. Delivery 1. Date _____ 2. Time _____
20. Type of driven 1. Normal 2. Forceps/ Vacuum 3. Breech
4. Caesarian Section 5. Other
21. Condition of neonate at birth 1. Alive 2. Dead
22. APGAR _____ 1st Minute _____ 5th Minute _____
23. Sex of neonate 1. Male 2. Female 24. Weight (gms) at birth _____
25. Mode of delivery of placentae 1. Spontaneous 2. Other
26. Name & Signature of the attendant midwife _____ Physician _____

POST PARTUM: Rx Ergometrin _____ Pitocin _____

27. Did the patient develop PPH 1. Yes 2. No
28. Condition of the mother on discharge 1. Alive 2. Dead
29. Condition of the neonate on discharge 1. Alive 2. Dead
30. BCG given 1. Yes 2. No 3. Polio given 1. Yes 2. No
31. Date of discharge _____ Signature: _____

Annex V

SAMPLE OF PRIMARY HEALTH CARE UNIT SUPERVISION CHECK LIST BY DISTRICT HEALTH OFFICE (DHO) TEAM

I. General background information's

1. Name of the health Institution _____
2. Distance from DHO _____
3. Total Catchment area _____ km²
4. Total number of kebles or p/A under the health institution _____
5. Total population served by the health institution _____
 - 5.1. Male _____
 - 5.2. Female _____

II. Environmental conditions

1. General structure of health institution
 - Fence Yes _____ No _____
 - 1.1 Condition of fence good _____ fair _____ bad _____
 - 1.2 Structure of the health institution building
 - 1.2.1. Floor good _____ fair _____ bad _____
 - 1.2.2. Wall good _____ fair _____ bad _____
 - 1.2.3. Ceiling good _____ fair _____ bad _____
 - 1.3 Does the building needs maintenance Yes _____ No _____
 - 1.4 Do the rooms adequate for all activities yes _____ No _____
 - 1.5 Ventilation good _____ fair _____ bad _____
2. Facilities in the health institution
 - 2.1. Light; Natural _____ Artificial _____
 - Natural good _____ fair _____ bad _____
 - Artificial good _____ fair _____ bad _____
 - 2.2. Water sappily public _____ private _____
 - 2.2.1. Source - protected spring
 - protected well
 - unprotected will source
 - others _____
 - 2.2.2. Storage of water _____
 - 2.3. Latrine availability Yes _____ No _____
 - 2.3.1. If yes type of latrine - VIP _____
 - Traditional pit _____
 - others _____
 - 2.3.2. Condition of the latrine good _____ Fair _____ bad _____
 - 2.4. Refuse disposal system Available Yes _____ No _____
 - 2.4.1. If yes good _____ Fair _____ bad _____
 - 2.4.2 Storage of solid waste Yes _____ No _____
 - 2.5. Is there health post Yes _____ No _____
 - If yes a) functional _____ b) none functional _____

- 2.6. Are there CHA Yes _____ No _____
 If yes a) function _____ b) none functional _____
- 2.7. Are there TTBAS Yes _____ No _____
 If yes a) functional _____ b) none functional _____

III. Staffing and personality

1. Total number of health workers by category _____

2. Other administrative workers

3. Do all health workers present at their working area Yes ___ No ___

4. Personality of health worker
 Good ___ Fair ___ bad ___

IV. Administrative information

1. Source of budget government _____ amount _____
 non government _____ amount _____

1.1. Total yearly budget
 Drugs _____
 Salary _____
 Running cost _____
 Perdiem _____
 Uniform and others _____
 Total _____

1.2. Models uses in the health station
 Model 19 _____
 Model 22 _____
 Model 9 _____
 Model 30 _____

1.3. Registration book for budget Yes ___ No ___

1.4. Amount of birr returnees to finance office
 From drug _____
 From running cost _____
 From others _____

V. Health programs and activities

1. Action plan for the health institution Yes ___ No ___
2. Map of the catchment area Yes ___ No ___
3. Duty program (if more than one health worker) Yes ___ No ___

4. Daily routine activity programs Yes _____ No _____
5. Ten top leading causes of morbidity Yes _____ No _____
6. List the daily routine activities performed at the health institution.

7. EPI any training given on EPI (trained person) Yes _____ No _____

Target population (less than 2 yrs) _____

Number of outreach site _____

Number of Kebele P/A covered by outreach sites _____%

Number of population covered by out reach site _____%

Number of Kebele P/A covered by static site _____%

Number of population covered by static site _____%

Number of Kebeles P/A not covered _____%

Number of population not covered _____%

Total geographical coverage by the service _____%

BCG less than 1 year ___ less than 2 year ___ polio 0 _____

DPT 1 _____%

DPT 2 _____%

DPT 3 _____%

Measles _____%

Vit A _____%

TT target population ___ plan ___ achievement

Pregnant _____

Non pregnant _____

Performance

TT1 _____

TT2 _____

TT3 _____

TT4 _____

TT54 _____

Method of evaluation of EPI program _____

8. MCH/FP service

- 8.1. ANC plan (quarter) _____ achievement _____
- New _____
- Repeat _____

- 8.2. What parameters you used to screen high risk mothers

- 8.3. Delivery service _____

- 8.4. Family planning services

New _____

Repeat _____

- 8.4.1. Available contraceptives (list)

8.4.2. What is the commonly used contraceptive?
(Women's preference) _____

8.5. Under 5 clinic service

8.5.1. Growth monitoring Yes _____ No _____

8.5.2. CDD Yes _____ No _____

8.5.3. ARI Yes _____ No _____

8.5.4. Others _____ Yes _____ No _____

8.5.5. He the charts for the diagnosis and management of diarrheal diseases and ART available (WHO) Yes _____ No _____

8.5.6. If yes do they properly sued Yes _____ No _____

If no, why _____

8.5.7. Training given on management of CDD and ARI

Yes _____ No _____

Ten top disease among under 5 children (list)

- | | |
|----|-----|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

9. Poly clinic

Plan _____

Performance _____ - achievement _____

9.1 Ten top disease (list)

- | | |
|----|-----|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

9.2. How do you examine and treat pettiness routinely- using individual card _____
using registration book _____

10. Health education given at health institution

Yes _____ No _____

10.1. If yes how often _____

10.2. If no why? _____

10.3. What are the common topics for H/E? /List/

11. Recording system (mention) _____

12. Reporting system – weekly

- Monthly
- Quarterly
- Half annually
- Annually

13. Referral system

- Written paper _____
- With out written paper _____

VI. Equipment

1. Evaluation of medical instrument of the health institution

- 1.1. Type of refrigeration electrical ___ Kerosene _____ Solar _____
- 1.2. If kerosene, amount of kerosene used per month _____ ltr.
- 1.3. Daily temperature chart available Yes ___ No _____
- 1.4. Cleanliness of the refrigerator good _____ fair _____ bad _____
- 1.5. Utilized for EPI only (vaccines only) Yes _____ No _____
- 1.6. Vaccine balance sheet available Yes _____ No _____
- 1.7. Arrangement of vaccines in the cold child good _____ bad _____ fair _____
- 1.8. Expiry date of vaccine ___ expired _____ not expired _____
- 1.9. No of vaccine carrier (Double and single)
Functional _____ non functional _____
- 1.10. EPI card utilized properly Yes ___ No _____

2. MCH/FP

2.1. NC-Antenatal registration book

- coach for examination
- gloves
- V:S set

2.2. Delivery

- 2.2.1. Delivery coach available Yes ___ No _____
- 2.2.2. If yes how is the cleanliness
good _____ fair _____ bad _____
- 2.2.3. Delivery set
Cleanliness good _____ fair _____ bad _____
Preparation good _____ bad _____ fair _____
- 2.2.4. Method of sterilization _____
- 2.2.5. Gloves adequately available Yes _____ No _____
- 2.2.6. Suturing materials available Yes _____ No _____
- 2.2.7. Apron available Yes _____ No _____
- 2.2.8. Registration book for deliveries Yes _____ No _____

2.3. F/P

- 2.3.1. Availability of contraceptive adequately Yes _____ No _____
- 2.3.2. Balance sheet Yes _____ No _____
- 2.3.3. Weight scale available Yes _____ No _____

- 2.3.4. B/P apparatus Yes _____ No _____
- 2.3.5. Examination tables Yes _____ No _____
- 2.3.6. Specula tables Yes _____ No _____
- 2.4. Under 5
- Thermometers Yes _____ No _____
- Wt scale Yes _____ No _____
- ORT set Yes _____ No _____
- Growth monitoring Yes _____ No _____
- Stethoscope Yes _____ No _____
3. Poly Clinic
- 3.1. Examination room
- Chairs _____
- Tables _____
- Examination table _____
- 3.2. Dressing and injection room
- 3.2.1. General cleanliness of the room
- Good _____ fair _____ bad _____
- 3.2.2. Dressing and suturing set
- adequately available _____
 - not adequate _____
- 3.2.3. Method of sterilization (mention) _____
4. Drug supply
- 4.1. Storage
- good _____ fair _____ bad _____
- 4.2. Expiry date of drugs checked _____ not checked _____
- 4.3. Stock cards of Drugs Yes _____ No _____
- 4.4. Dispensary room cleanliness
- good _____ fair _____ bad _____
- 4.5. Dispensing system and material
- good _____ fair _____ bad _____
- 4.6. Models used for drugs (list) _____

VII. Problems encountered by the clinic

1. Budget
2. human power
3. Drug
4. building
5. MCH/FP
6. EPI
7. Examination room
 - Injection room
 - Dressing room
 - Delivery room
 - ORT corner

- 8. Light _____
- 9. Water _____
- 10. Administration problem
 - Safety problem _____
 - Equipment _____
 - General medical supplies _____
 - What action did they take? _____
 - What is their recommendation solution? _____

The group

External Environment	1	2	3	4	5
Internal sanitation of the health institution					
Punctuality					
Charts					
Use of medical equipment in general					
Use of drugs					
Programs schedules					
EPI					
Arrangement of medical equipment according to their usages and care					
MCH/FP activities					
Budget utilization					
Other activity					
Their agreement one with each other					
Interest in work					
Personality					
General organization of health institution					

Abbreviations

AIDS – Acquired Immuno Deficiency Syndrome
ANC – Antenatal Care
APH – Anti-Partum Hemorrhage
AUB – Abnormal Uterine Bleeding
AZT – Zidovudin
BBT – Basal Body Temperature
BCG – Bacillus Currie
BOD – Burden of Disease
BP – Blood Pressure
CBC – Complete Blood Count
CDC – Center for disease control and prevention
C/S – Cesarean Section
CHA – Community Health Agent
CHW – Community Health Worker
COC – Combined Oral Contraceptive
CPR – Contraceptive prevalence rate
CSF – Cerebro Spinal Fluid
DHO – District Health Office
DHS – Demographic and Health Survey
DMPA – Depot – Medroxy Progesterone Acetate
DPT – Diphtheria, Pertusis, Tetanus
E.C – Ethiopian Calendar
ECP – Emergency Contraception Pills
EPHTI – Ethiopia Public Health Training Initiative
EPI – Extended Program of Immunization
FGM – Female Genital Mutilation
FP – Family Planning
GM – Growth monitoring

GM/P – Growth monitoring and promotion.

GNP – Gross National Product

HE – Health Education

HIV/AIDS – Human Immuno Deficiency Virus/Acquired Immunodeficiency Syndrome

HSG – Hystero Salpingography

IEC – Information, Education and Communication

IM – Intra-muscular

IUD – Intra-uterine Device

IV – Intra Venous

KABP – Knowledge, Attitude, Belief, Practice

KAP – Knowledge, Attitude, Practice

LAM – Lactate Amenorrhea Method

LBW – Low Birth Weight

LGV – Lymphogranuloma Venerium

LH – Leuthinizing Hormone

MCH – Maternal and Child Health

MLHW – Mid-level Health worker

MOA – Ministry of Agriculture

MOH – Ministry of Health

MVA – Manual Vaccum Aspiration

NGO – Non-governmental organization

NVP – Nevirapin

OCP – Oral contraceptive pills

OPV – Oral Polio Vaccine

ORT – Oral Rehydration Therapy

OSSA – Organization for Social Services for AIDS Patients

PHC – Primary Health Care

PHCU – Primary Health Care Unit

PID – Pelvic Inflammatory Disease
PLWHA – People Living with HIV/AIDS
POC – Progestin Only Contraception
PPH – Post-Partum Hemorrhage
PROM – Premature Rupture of Membrane
RH – Reproductive Health
RTI – Reproductive Tract Infection
STD – Sexually Transmitted Disease
STI – Sexually Transmitted Infections
TAT – Tetanus Anti-toxin
TB – Tuberculosis
TBA – traditional Birth Attendant
TT – Tetanus Toxoid
TTBA – Trained, Traditional Birth Attendant
UDHR – Universal Declaration of Human Rights
UN – United Nations
VAW – Violence against women
VDRL – Venereal Disease Research Laboratory
WHO – World Health Organization

Glossary

- Abruption placenta** – Premature separation of placenta from the uterus causing bleeding (usually before labor starts)
- Access** – The opportunity to obtain or use a service.
- Adolescent** – individual between puberty and adulthood
- Apnea** – absence of breathing
- Actual usage** – The number of times a service is really used.
- Anthropometric measurement** – Measurement of body dimensions and proportions at different levels of nutrition performance of the child.
- Asphyxia** – impaired or absent exchange of oxygen and carbon dioxide on a ventilatory basis
- Bloody show** – Sign of impending labor, characterized by the discharge from the vagina of a small amount of blood-tinged mucus representing the extrusion of the mucous plug which has filled the cervical canal during pregnancy
- Bradycardia** – slowness of the heartbeat, usually defined as a rate under 60 beats per minute
- Catchments area (health area)** – The geographic area assigned to a given health institution
- Catch up growth** – A rapid increase in weight and height of children after a period of nutritional deprivation in response to corrective dietary interventions.
- Cephalohematoma** – a blood cyst of the scalp in a new born infant
- Dysmenorrhea** – Painful menstruation
- Dyspareunia** – Pain during sexual intercourse
- Health service coverage** – number of people actually reached by a health service
- Cyanosis** – dark or bluish discoloration of the lips and mucous membrane due to lack of oxygen in the blood
- Defining Target Population** – This is a way of identifying the population group that should benefit from health services.
- Desired usage** – The number of times a service would be used if members of the target population came when they needed the service. It is usually greater than actual usage.
- Development** – Is a qualitative change progressively demonstrated by a growing individual as assessed by specific cognitive, psychomotor and affective skills

Ectopic pregnancy – pregnancy occurring outside the uterine cavity e.g. tubes, abdomen

Effectiveness – is the extent to which a programme has made desired changes or met its objective through the delivery of services.

Efficiency – the extent to which a program has used resources appropriately and completed activities in a timely manner.

Endometritis – inflammation of the inner lining of the uterus

Episode – A single occurrence of a health problem

Estimate – To make the best possible judgment based on available information.

Evaluation – is a process of gathering and analysing information for the purpose of determining whether a program is carrying out the activities that it has planned and the extent to which the program is achieving its stated objectives (through these activities).

Feed back – the process that allows for two-way communication between field and the office (or an employee and a supervisor), for the purpose of modifying, correcting, and strengthening performance and results.

Fertility – the state of being fertile, specifically, the ability to produce young

Growth – a quantitative increase in the young individuals as assessed by an increase in weight and height.

Growth Chart – A chart with standard growth curve used to monitor the growth performances of children less than five years.

Growth faltering – Failure to thrive or increase physical size less than what is expected for the age and sex.

Health team – are group of different health professionals working for a common goal.

Height for age – Height of the child over height of the normal (reference or standard) child of the same age times hundred.

Hematometra – Retention of blood in the uterine cavity.

Hydramnios – excessive amniotic fluid (poly hydramnios)

Hypothermia – body temperature abnormally low

Impact – the anticipated effects by specific health programme on groups or population

Impact indicator – a measure showing the long-term effect of the programme activities on the overall population such as changes in fertility rates.

Index – Is a combination of two anthropometric measurements or one anthropometric measurement and age (e.g. Weight for age, Height for age, weight for height, Body mass index)

Indicator – an observable phenomenon which can be measured and analyzed for the purpose of establishing baseline information and measuring programme change.

Input – are resources provided for an activity, and include money, human, equipment, time, place, information etc.

Jaundice – yellowish discoloration of the eyes and skin

Job description – a document that lists the job title and the responsibilities of a particular job and the skills and qualification required of the employees.

Lochia – discharges from the vagina of mucus, blood and tissue debris, following childbirth

Malnutrition – deviations from normal nutritional status, which could be over-nutrition, or under nutrition.

Management Information system (MIS) – a system designed by an organization to collect and report information on a programme, and which allows managers to plan monitor and a valid operation and performance of the whole programme,

Mastitis – Inflammation of the breast

Menometrorrhagia – excessive amount of plus increased frequency of menstruation

Monitoring – the process of regularly checking the status of the programme, by observing whether planned activities have been conducted and completed and whether they are generating the desired changes.

Missed Opportunity – Failure to involve children 0-5 years of age coming to the health care service unit for other purposes like EPI, or any other health problem.

Morbidity – a disease state

Mortality – a fatal outcome

Multipara – a woman who delivered more than one baby

Nutritional status – Classification of the child's state of nourishment based on data obtained from anthropometric measurements, clinical assessment, biochemical analysis and dietary survey, which may be: well nourished, over nourished or undernourished.

Nutritional surveillance – a continuous and regular scrutiny of the food and nutrition situation of a country or a region in a country with the aim at detecting early warning signs for famine and vulnerability.

Objectives – the anticipated results or outcomes of a programme, representing changes in the knowledge attitude and behaviour of the programmes clients, describe in measurable terms and indicating a specific period of time during which these results will be achieved.

Out come – the changes in health status as a result of specific health program.

Out put – the type and quantities of goods and services produced by a process or a programme.

Out-put indicator – a measure showing the product or accomplishment (in numerical terms) of the activities of an individual, over specific period of time.

Oligohydramnios – deficiency in the amount of amniotic fluid

Performance appraisal – an established procedure for evaluating employees performance conducted at pre determined intervals usually annually and semi annually.

Performance indicator – a measure that signifies the extent which the programme is meeting its long-term objectives.

Performance information – information that is needed to plan programme objectives and to evaluate the impact of the programme activates on the target populations.

Placenta previa – the placenta is near or at the internal cervical OS.

Planning – a continuing process of analyzing programme data, making decisions, and formulating plans for action ion the future, aimed at achieving programme goals.

Polyhydramnios – excess amount of amniotic fluid

Postpartum – after child birth

Prenatal – preceding birth

Primigravida – a woman with her first pregnancy

Process – are organizational operations of a continuous and supporting nature.

Process indicator – a measure showing the activities that will be completed to achieve a specific objective over specified period of time.

Programme components – the functional unit of an organization that provide services aimed at accomplishing organizational goals.

Puerperium – the period within 45 days of delivery

Result indicator – a measure showing the immediate effect of the programme activities in the target population in relation to the objective of the programme.

Sexuality – the sum of a person's sexual behavior and tendencies

Stillbirth – the birth of an infant who shows no evidence of life after birth

Stunting – A state of chronic malnutrition characterized by normal weight for height (> 80%) and low height for age (< 80%) according to Waterlow's Classification

Supervisory schedule – A written plan of supervisory session showing the name of employee involved and the date time and content of upcoming supervisory session.

Surveillance – the collection, analysis and dissemination of data

Tachypnea – increased rate of breathing for the given age

Target – A goal to work towards, expressed as a number or rate.

Target population – The people for whom a service is primarily or solely intended.

Total fertility rate – the number of children a woman delivers during her fertile period

Usage – The extent to which a service is used.

Use of a service – What you count to measure usage, for example, new episodes treated or times the service is given.

Wasting – A state of acute malnutrition characterized by normal height for age (>80%) and low (<80%) weight for height according to Waterlow's Classification.

Waterlow classification – classification of malnourished children which uses two indexes, i.e. weight for height and height for age for detection of acute and chronic forms of malnutrition in the community.

Weight for height – weight of the child over weight of the normal (standard or reference) child of the same height times hundred.

Weighing scale – An instrument used to measure weight

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