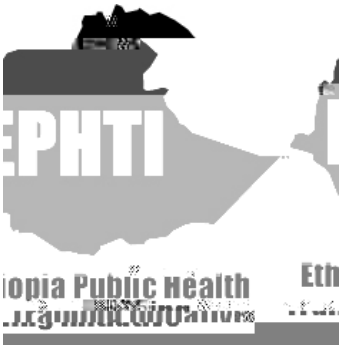
MODULE

Safe Motherhood

For the Ethiopian Health Center Team



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ITNS = Insecticide Treated Nets
IUCD = Intra Uterine Contraceptive Device
IUGR = Intra Uterine Growth Retardation
IV = Intra Venous
KOH = Potassium hydroxide
MAS = Meconium Aspiration Syndrome
MMR = Maternal Mortality Ratio/ Rate
MTCT = Mother-To-Child-Transmission
MVA = Manual Vacuum Aspirator
OR = Operation Room
P/E = Physical Examination
PID = Pelvic Inflammatory Disease
PMTCT = Prevention of Mother to Child Transmission
PNS = Post Natal Care
PPH = Post Partum Hemorrhage
PROM = Premature Rapture of Membrane
RD = Respiratory Distress
RH = Reproductive Health
ROM = Rupture of membrane
RPR = Rapid Plasma Reagin
STIs = Sexually Transmitted Infections
TAT = Tetanus Anti Toxin
TB = Tuberculosis
TBA = Traditional Birth Attendant
TT = Tetanus Toxoid
TTBA = Trained Traditional Birth Attendant
U/A = Urine analysis
UTI = Urinary Tract Infection
V/S = Vital Sign
VDRL = Venereal Disease Research Laboratory
VIP = Ventilated Improved Pit latrine

VLBW = Very Low Birth Weight

WBC = White Blood Cell

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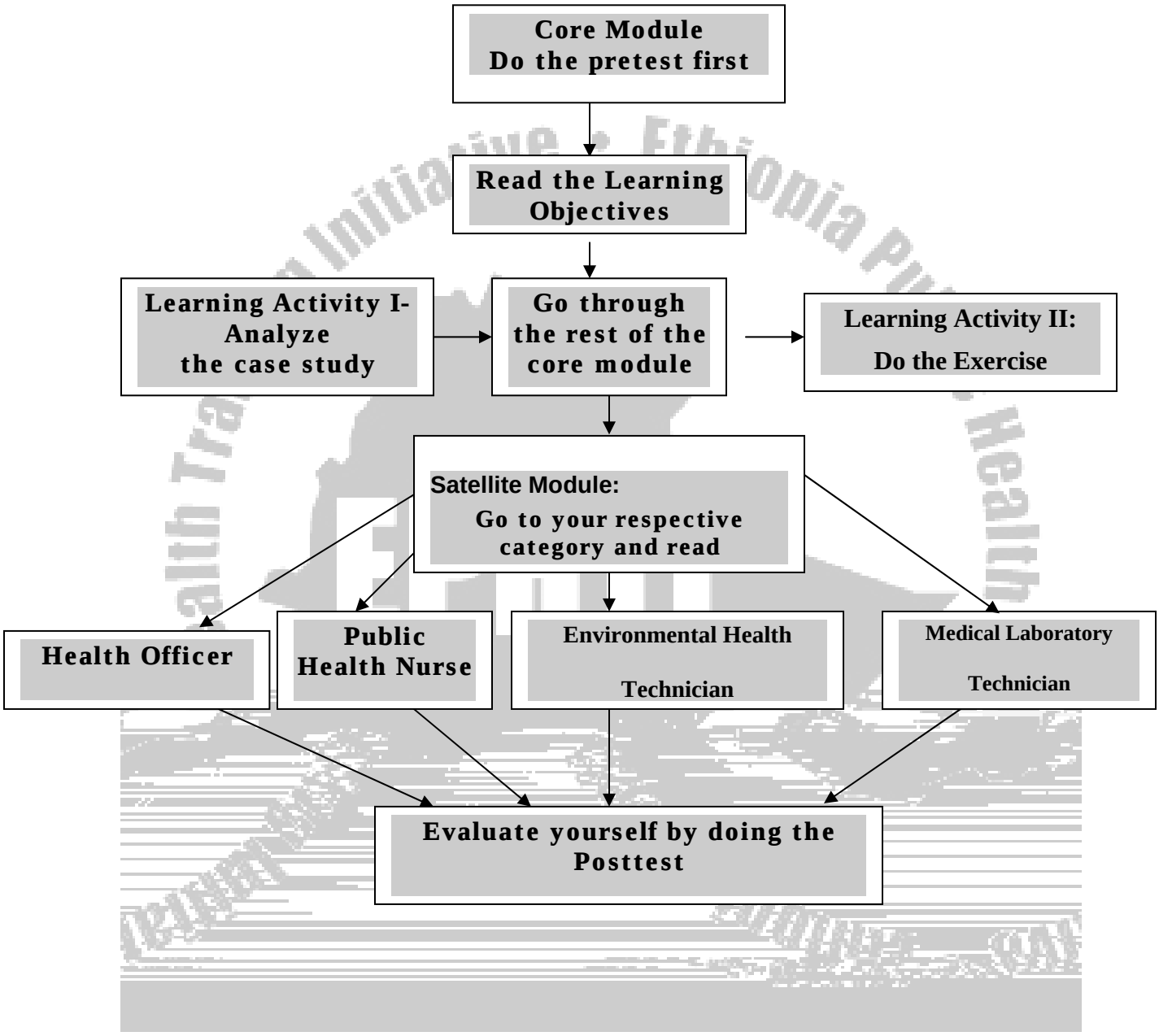
1.2 Directions for using the module

Follow the sketch below for better understanding and utilization of this module.



UNIT TWO

COREMODULE

2.1 PRETEST

Instruction: All groups should attempt to answer the following questions before reading the core module.

1. Maternal health services that make motherhood safe include:
   a. Care by skilled health personnel before, during and after childbirth
   b. Emergency care for life-threatening obstetric complications
   c. Prevention of unsafe abortion and management of problems
   d. Provision of family planning service
   e. All of the above
2. Which of the following is not a direct cause of maternal death?
   a. Hemorrhage
   b. Unsafe abortion
   c. Anemia
   d. Obstructed labor
   e. Pre-eclampsia
3. Which of the following do not have a negative effect on maternal health?
   a. Early marriage
   b. Female genital mutilation
   c. Inadequate health service coverage
   d. Breast feeding
   e. Sexual abuse
4. Which one of following methods is best to diagnose maternal anemia?
   a. White Blood Cells count
   b. Blood film examination
   c. Blood hemoglobin
   d. Differential white cell count
   e. All of the above

5. The number of mothers having follow up during pregnancy per hundred pregnant women is:

a. Attended birth
c. Antenatal Coverage
e. Maternal care
b. Health service coverage
d. Birth spacing

6. Which one of the following is/are true about the increasing incidence of Sexually Transmitted Infections (STIs)?

a. Change in the sexual attitude
b. Advancement in technologies to diagnose
c. Migration and urbanization
d. Low socio economic status
e. All of the above

7. The vaccine you give to women to prevent maternal and neonatal tetanus is:

a. TAT
b. DPT 1-3
c. Measles
d. TT 1-5
e. All of the above

8. Safe motherhood can be promoted by giving health education:

a. Before pregnancy
b. During pregnancy
c. After delivery
d. All of the above

9. Finding a high-risk mother in a health institution is an example of:

a. Passive case detection
b. Active case detection
c. Neither active nor passive case detection
d. Either active or passive case detection

10. Which one of the following is not the objective of recording and reporting?

a. To know the magnitude of mortality and morbidity
b. For health service planning

c. For resource allocation

d. For controlling health professional being at work

e. All of the above

11. Maternal mortality ratio is the number of maternal deaths per

a. 1000 pregnancies

b. 10,000 pregnancies

c. 100, 000 live births

d. 100, 000 pregnancies

e. 100,000 women aged 15-49

12. Antenatal health services include:

c. Taking bath
d. Attending health services
e. Preparing food at home

2.2. Learning Objectives

Then, the health worker responsible examined her and noticed that Worknesh was exhausted, dehydrated with full bladder and the fetus

Essential Services for Safe Motherhood

Services for safe motherhood should be readily available through a network of linked community health care providers, clinics and hospitals. Integrated services include:

1. Community education on safe motherhood
2. Prenatal care and counseling, including the promotion of maternal nutrition
3. Skilled attendance during childbirth
4. Care for obstetric complications, including emergencies
5. Postpartum care
6. Post-abortion care and, where termination of pregnancy is not against the law, safe abortion services
7. Family planning counseling, information and services
8. Reproductive health education and services for adolescents
9. Right based approach to reproductive health and services

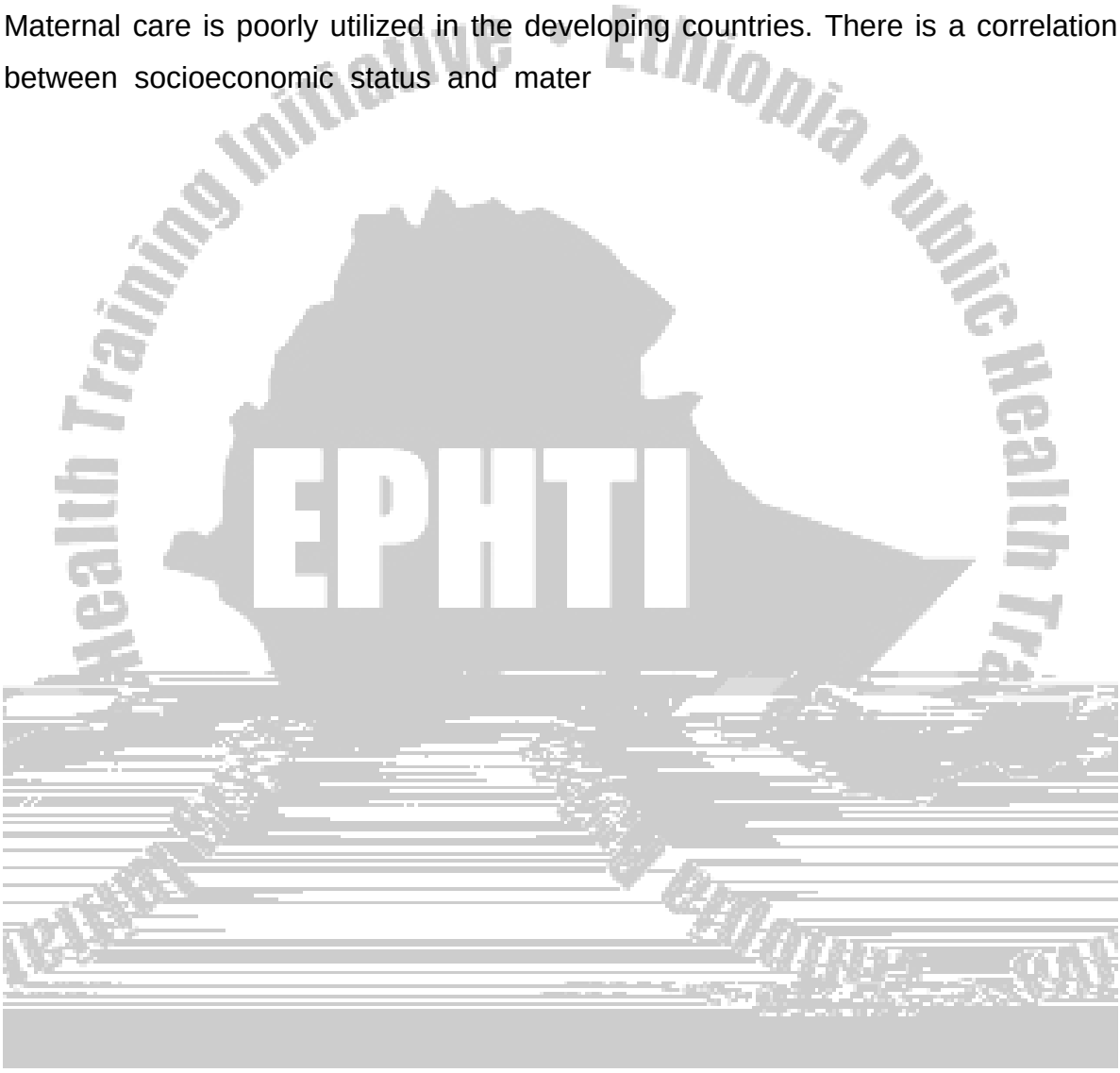
2.5 Epidemiology

Around 50 million pregnant women worldwide experience morbidity each year, of which 15% of them have long term disabilities like fistula, foot drop, vaginal scarring, uterine prolapse, anemia, infertility, etc. Over 300 million women in the developing world, currently, suffer from short term and long term illness related to pregnancy and childbirth.

In many developing countries, including Ethiopia, complications of pregnancy and childbirth are among the leading cause of death among women of reproductive age. More than one-woman dies every minute from such causes. WHO estimates that more than 600,000 women die each year worldwide. Of which, 99% occur in developing countries. Of the total 600,000, 273,000 women die each year in Africa, 46,000 women die each year in Ethiopia. Maternal deaths account to 25 % of all deaths in women aged 15-49 years.

Maternal mortality and morbidity can be reduced or avoided by providing and expanding resources and services that are principally targeted in achieving maternal health and safe motherhood.

Maternal care is poorly utilized in the developing countries. There is a correlation between socioeconomic status and mater



Seventy percent of maternal deaths are usually preventable. The commonest causes of maternal deaths include:

1. **Hemorrhage**: Includes antepartum, postpartum, abortion, and ectopic pregnancy.

   Hemorrhage accounts for 21% of maternal deaths in Ethiopia.

2. **Unsafe Abortion** It is the commonest cause of maternal death in our country accounting for 20 –40% of deaths.
3. **Hypertensive diseases in pregnancy**: This includes pre-eclampsia, eclampsia, etc. Preeclampsia and eclampsia account for 10-12% of maternal deaths.
4. **Obstructed Labor and uterine rupture**: The prevalence of obstructed labor is expected to be high in Ethiopia. It accounts for 9% of the total maternal death.
5. **Infection:** The introduction and multiplication of microbial agents in the pelvic organs and other systems having an effect on the health of the mother and newborn. It includes infection of the uterus, tubes, urinary system and fetal infection. It contributes for 10% of maternal deaths.

Women's Lifetime Risk of Death: Is the risk of an individual woman dying from pregnancy or childbirth during her lifetime.

Indirect Obstetric Death

Deaths resulting from previously existing diseases or diseases that developed during pregnancy which were aggravated by the physiologic effects of pregnancy, this includes:

1. Anemia: This is the commonest indirect cause of maternal death in our country since malaria is endemic and iron supplementation is low.
2. Other indirect causes include heart disease, diabetes mellitus, HIV/AIDS, TB, malnutrition, etc. The indirect obstetric deaths account for about 20% of maternal deaths.

Incidental/Coincidental/ causes

These are deaths that were neither due to direct nor indirect obstetric causes.

E.g. car accident, fire burn, bullet injury, etc.

B. Causes of Maternal Morbidity:

Maternal morbidity is difficult to measure due to variation in the definition and criteria to diagnose. The risk factors for maternal morbidity include prolonged labor, hemorrhage, infection, preeclampsia, etc. The most common long-term complications of pregnancy and childbirth include:

1. **Infection**: There is high risk of infection of

Economy: Socio economic status affects women's status by affecting their decision making roles in the community, educational status, health service accessibility, prostitution, etc.

Inadequate Health Service Coverage: More than 70 % mothers do not get care during pregnancy and more than 90 % of deliveries are unattended. This can be due to lack of transportation, distance from health facilities, small number of health facilities, lack of knowledge about importance of health services, lack of money, and lack of family support.

The three D's (delays)

Delay in negotiation and decision

Delay in transportation

Delay in getting proper care at the health facility

Delays can kill mothers and newborns. There are three phases during which delays can contribute to the death of pregnant and postpartum women and their newborns.

These phases are:

1. Delay in deciding to seek care

   Factors contributing to these are:

   - Failure to recognize signs of complications
   - Failure to perceive severity of illness
   - Cost consideration
   - Previous negative experience with the health system
   - Transportation difficulties

2. Delay in reaching care

   Factors contributing to these are:

   - Lengthy distance to a facility
   - Condition of roads
   - Lack of available transportation

3. Delay in receiving care

   Factors contributing to these are:

- Uncaring attitudes of providers
- Shortage of supplies and basic equipment
- Non-availability of health personnel
- Poor skills of health providers

Life threatening delays can happen at home, on the way to care, or at the place of care, which, therefore, plans and actions that can be implemented at each of these points are mandatory.

Psychological factors: Fear of childbirth, too many pregnancies, death of other children illness in family. Women are at great risk of depression after sexual abuse, divorce as a result of marriage with out consent and after Vesico-Vaginal/Recto-

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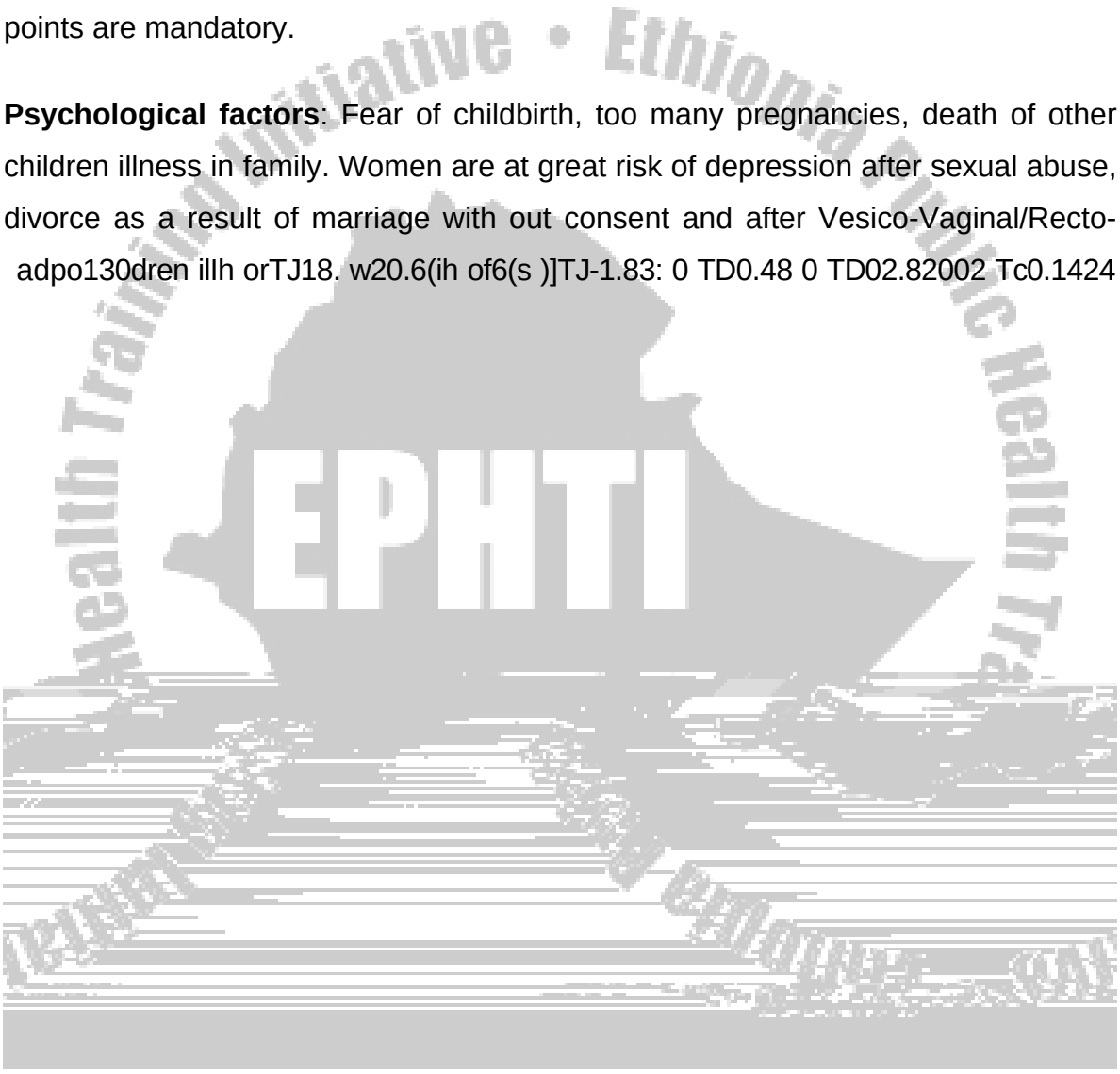


D. **Perinatal mortality rate:** refers to the number of perinatal deaths per 1000 live births e.g. 112/1000 live births for Ethiopia.

E. **Antenatal Coverage:** is the number of mothers receiving care during pregnancy per hundred women. E.g. in Ethiopia ANC coverage is 25.3%.

F. **Attended Birth:** is the percentage of pregnant mothers who receive delivery services by trained or skilled person. E.g. in Ethiopia the percentage of attended birth is 6 %.

G. **Post natal care:** is the percentage of mothers who receive health services after 42 days after delivery. E.g. in Ethiopia postnatal care is 3.5%.

H. **Birth spacing:** is the percentage of mothers who deliver after two years of the previous delivery.

I. **Women's lifetime risk of death:** The risk of death of a woman from pregnancy and childbirth during her reproductive life. For Ethiopia, it is around 1:12.

J. **Infant Mortality Rate:** is the number of deaths of infants up to the age of one year per 1000 live births in a given year. E.g. for Ethiopia it is around 97 per 1000 live births.

K. **Under Five Mortality Rate:** The number of deaths of children Under 5 years of age per 1000 children age 5 years in a year. E.g. for Ethiopia it is 166.2/ 1000 live births.

L. **Neonatal Mortality Rate:** The number of infant deaths up to 28 days of age in a calendar year per 1000 live births in a given year. For Ethiopia it is 48.7 per 1000 live births.

M. **Post Neonatal Mortality Rate:** Is the number of infant deaths between 28 days up to 1 year of age per 1000 live births in a given year. For Ethiopia it is around 48.3/ 1000 live births.

By now you must have appreciated the commonest causes of maternal mortality and morbidity. Now it is time to discuss essential maternal health services and obstetric emergencies.

2.6 Obstetric Emergencies and Common Maternal Health Problems

Timely intervention of maternal problems during pregnancy and childbirth will decrease maternal mortality and morbidity. Obstetric emergencies that need attention include:

2.6.1 Obstetric Hemorrhage: This is comprised of antepartum and postpartum hemorrhage as well as complications of first and second trimester pregnancy.

A. Antepartum hemorrhage refers to any vaginal bleeding after 28 weeks (7 months) of pregnancy up to the delivery of the fetus. The causes include placenta praevia (abnormal placentation), abruptio placentae (premature separation of the placenta), local causes, etc.

NEVER PERFORM A DIGITAL PELVIC EXAMINATION ON A PREGNANT WOMAN WHO IS BLEEDING

If these patients are not treated immediately, they usually develop shock, fetal and maternal death.

1. **Causes**

   Abruptio placenta

   Placenta previa

   Abnormalities of placenta- e.g. circumvalent placenta

   local causes e.g. cervical polyp

   Uterine rupture

   Heavy show

   Vasa previa

Clinical Feature

Abruptio placenta-dark vaginal bleeding associated with pain. The extent of bleeding not comparable with amount of bleeding, uterine tenderness

Placenta previa- **bright-red vaginal bleeding, causeless, recurrent and painless**

- Clinical condition of patient comparable with extent of amount of bleeding

B. Postpartum Hemorrhage means bleeding from the genital tract after delivery of the baby to the amount of 500 ml or any amount that can change the mother's vital signs or hematocrit drop by 10% from baseline hematocrit.

Causes

Uterine atony (80%)

Genital laceration

Retained placental tissue

Bleeding disorder

Predisposing factors for uterine atony

1. Multiple pregnancy, macrosomia, polyhydramnios
2. Prolonged difficult and obstructed labor
3. Infected uterus and abnormality of uterus
4. Previous PPH
5. Drugs Like-oxytocin
6. Instrumental delivery and uterine manipulation
7. Precipitated labor
8. Uterine tumors
9. Multiparity
10. Retained placenta
11. Anemia

2.6.2 Early pregnancy complications: This includes abortion, ectopic pregnancy, gestational trophoblastic diseases, etc. Ectopic pregnancy is an emergency with a triad of amenorrhea, abdominal pain and vaginal bleeding. Management of ectopic pregnancy is to secure an IV line and refer to a health facility where surgical intervention is possible.

2.6.3 Unsafe Abortion is termination of pregnancy by unskilled individual outside proper health institutions with improper or unsterile instruments. It usually manifests with vaginal bleeding and passage of conceptus tissue. Complications

include hemorrhage, infection, genital tract injuries, bowel injury, sepsis, shock, tetanus, death, etc.

Clinical Feature common symptom Amenorrhea followed by vaginal bleeding, abdominal pain and passage of conceptus tissue.

Serious symptoms and signs of post-abortion complication include.

Profuse vaginal bleeding

Pallor

High grade fevers, sweating, foul smelling vaginal discharge and lower abdominal tenderness

Shock

2.6.4 Hypertensive diseases in pregnancy

Preclampsia and Eclampsia. It is more common in young pregnants primigravidas and black race.

Preeclampsia is defined as:

A. Rise of blood pressure- blood pressure of 140/90 mmHg on two occasions 6 hours apart or single measurement of 160/110 mmHg or more.

B. Proteinuria: It can be measured qualitatively (+1, +2, +3, etc) or quantitatively (over 300 mg per 24 hours).

C. Edema: it is not always the case. But edema in the independent areas like face, fingers may indicate pathology.

D. Headache

E: Blurred Vision

Preclampsia could be severe or mild.

Signs of severe Preclampsia

_ 160/110 mmHg

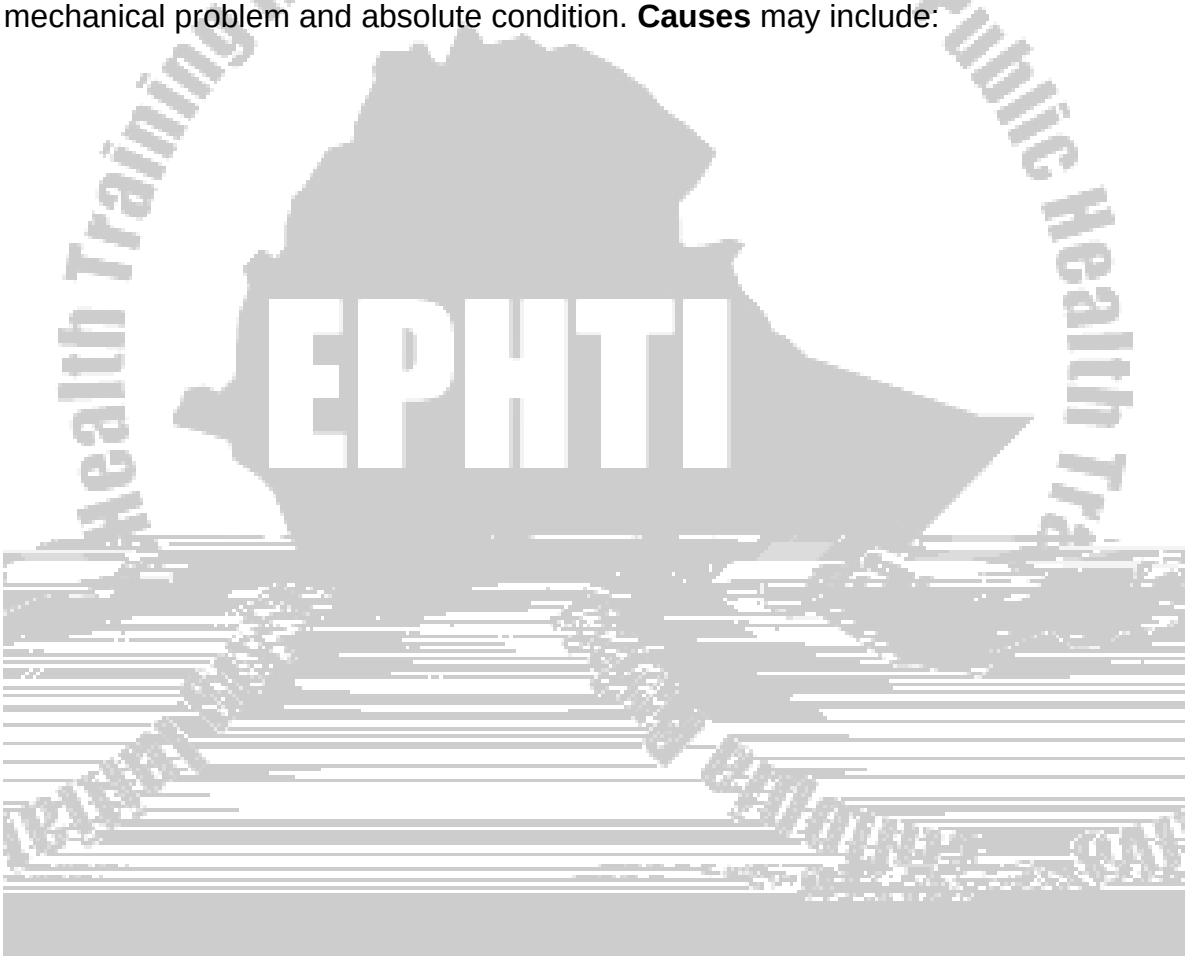
2. Prteinuria - dipstick $\geq 3^{+}$

4. Urine out put<500mL/24hr
5. Generalized edema with pulmonary edema
6. Other abnormal laboratory tests

Eclampsia is generalized tonic clonic convulsion in preeclamptic mothers with no other causes of convulsions.

2.6.5 Obstructed labor and uterine rupture:

Failure of descent of the fetus inspite of good uterine contraction. i.e. it is mechanical problem and absolute condition. **Causes** may include:



Signs of peritonitis and hemorrhage

Vaginal bleeding

Hypertonic uterine contraction followed by sudden cessation of uterine contraction

Fistula- Leakage of faces and urine

Common in primigravida

2.7. Essential Maternal Health Services

Safe motherhood can be achieved by providing high quality maternal health services to all women during pregnancy, child bearing, and the postpartum period. These services could be provided at different levels including home and health institutions. All health team members could play their roles in the following services to make motherhood safe.

2.7.1. Family Planning

To achieve the above objectives, the service should offer:

A range of contraceptives and counseling for well informed choice

Screening, follow up and referral for FP services.

Integrated services like prevention and treatment of STIs including HIV/AIDS

Among the wide variety of contraceptive methods, the commonly used methods in Ethiopia are:

1. **Natural methods**

    Breast feeding

    Abstinence

    Withdrawal (Coitus interrupts)

    Calendar methods

    Billing's Method (Cervical mucous)

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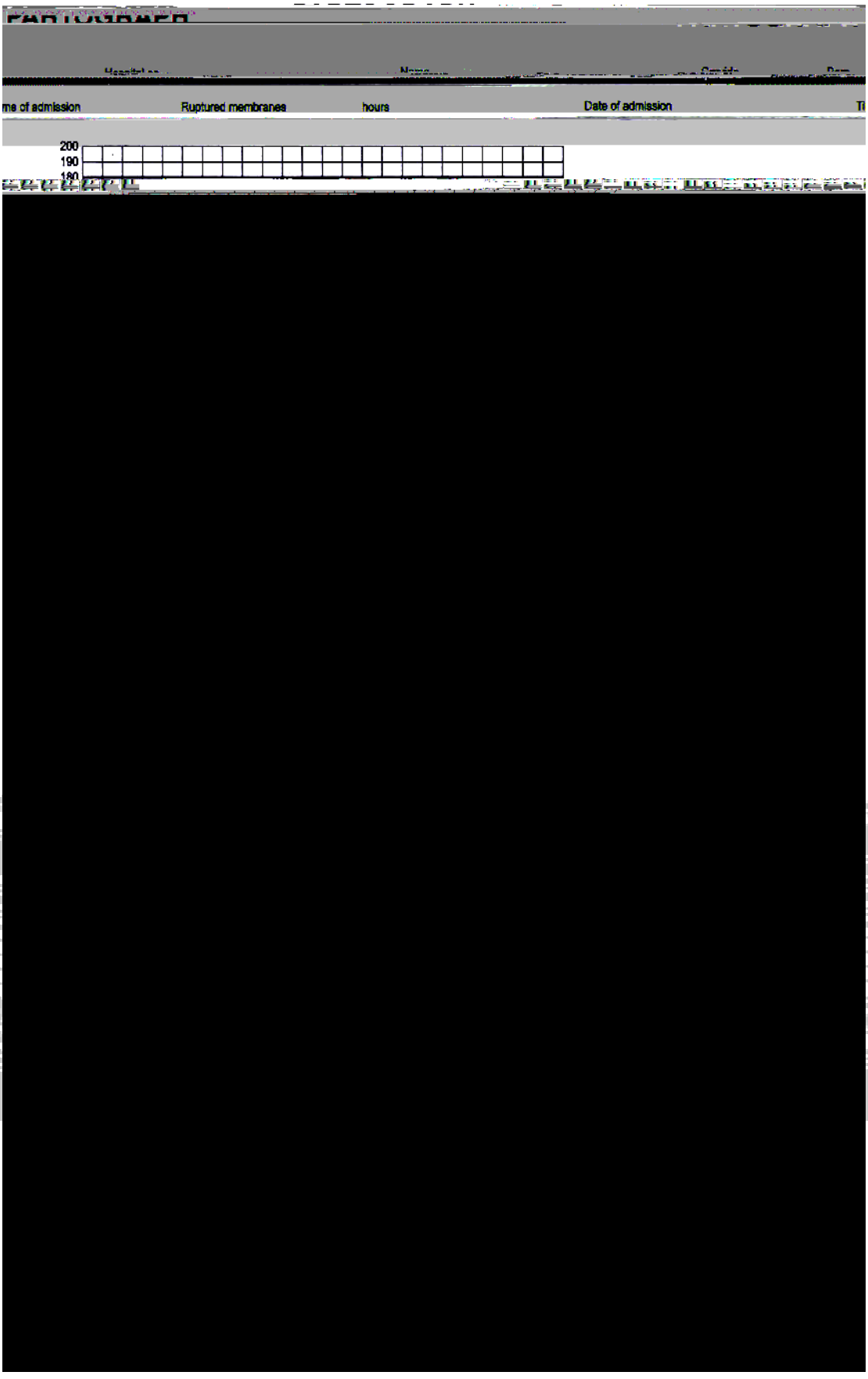
Alert line


me of admission
Ruptured membranes
hours
Date of admission
200
190
180

Maternal condition – vital signs

- Urine protein, ketone, volume
- Drugs, oxytoxine, IV fluid recording.

Descent → abdominal palpation, rule of 5 i.e number of fingers accommodating between symphysis pubis and anterior shoulder of fetus.

e.g. 4/5 → 4 fingers between anterior shoulder → symphysis pubis

2/5 → equivalent to station 0, engaged.

State of liquor C = clear I= Intact

M = meconium stained A= ruptured but no liquor

Molding (0 = no molding)

(M= molding= +, ++, +++)

Contraction → check frequency, duration and intensity.

→ Normal contraction in active phase = 3-5 in l0 minutes, duration

= 40-60 seconds.

Fetal condition = normal (120-160 BPM)

- monitor every 30 min in 1st stage labor.

Abnormal FHR - > 160 BPM – tachycardia

- < 120 BPM – Bradycardia

- Fetal distress should be managed aggressively. A woman with fetal distress in health center should be transferred to hospital immediately.

While in labor the woman should be encouraged to:

Woman should give birth where she feels safe and comfortable. That place should be "at the most peripheral level at which appropriate care is feasible."

Women should be allowed to drink and to eat something light.

A woman in labor should have around her the people she trusts and feels comfortable with. At the same time the woman has the right to privacy.

Help a woman to cope with pain of labor. This includes allowing the woman to move around, take any position she wishes except supine and letting her to have a bath or shower.

The woman giving birth, the birth attendants, the place of birth, and the materials to be used during delivery should be clean.

Help the newborn to have essential cares like eye- care, cord care, initiation of

sepsis are related to the health or care of the mother. The majority of neonatal deaths (around 66%) occur in the first week of life.

You are expected to provide the following essential newborn care during this period:

Initiation of breathing and resuscitation when needed

Immediate initiation of exclusive breast-feeding (EBF)and orientation of the mother about the importance of E

Infections are frequently mixed and treatment should focus on the different sexually transmitted diseases. STIs facilitate the transmission of HIV/AIDS. Diagnosis is usually based on symptoms, signs and laboratory examinations.

HIV/AIDS is a major public health problem in Ethiopia. About 12.8% of pregnant women in Ethiopia are living with HIV/AIDS. Almost there is a 25% - 40% chance of HIV transmission to her child during pregnancy, delivery and breast-feeding. Therefore, prevention of mother to child transmission (PMTCT) is a good strategy.

The commonest sexually transmitted diseases include the following:

Candidiasis is caused by a fungus known as Candida albicans.

Trichomoniasis is caused by a protozoa parasite called Trichomonas vaginalis.

Gonorrhea is caused by a bacterium called Nisseria gonorrhea.

Chancroid is causes by a bacterium called Hemophilius ducreyi.

Chlamydia

Syphilis is caused by a spirochete known as Treponema pallidum.

2.7.6 Post-abortion Care

Many women with an unwanted pregnancy seek to terminate it. Where safe abortion is not available, women may risk their lives and health by having unsafe abortions. To reduce the heavy toll of death and disability caused by unsafe abortion, make sure that every one has access to family planning and communities are educated about reproductive health.

r vention of mo

How to prevent unwanted pregnancy

How to avoid unsafe abortion

How to recognize and seek appropriate treatment for abortion complications.

2.8 Preventive and Promotive Aspects of Maternal Health

Safe motherhood is viewed as a human right that governments are obliged to provide and promote. Interventions to improve maternal health are not only cost effective but also clearly feasible, even in poor settings. Therefore, the following preventive and promotive strategies are mandatory to alleviate maternal health problems.

Supplementation, completion of treatment regimens or referral for additional care, and contact tracing for STIs

Breast-feeding and an appropriate transition to artificial contraception. Promote Family Planning

II. Promote recommended appropriate use of maternal health care.

Timely and regular use of recommended source of preventive prenatal, intrapartum and postpartum care

Use of trained birth attendant and hygienic birth practice

Use of and preparation of appropriate place of delivery (e.g. Home, Clinic, Health Center etc).

III. Increase community awareness and organization

Development of community emergency transportation schemes and other means to increase women's access to needed care

Promote acceptance of alternative service provision (maternal waiting rooms, distribution of iron and foliate tablets through trained traditional birth attendant)

Develop mechanisms to increase women's role in FP and maternal health care decision making

Improved acceptance of fee-for-service or cost sharing

IV. Discourage practices which harm maternal health

Reduce incidence of female circumcision

Decrease use of unsafe abortion techniques

Decrease use of labor enhancing drugs

Eliminate harmful delivery practices

Nutrition Education in Mothers

Encourage client to take food of variety of sources (Balanced diet)

Discourage pregnant woman from drinking alcohol and other social drugs

Encourage the use of high fiber foods and plenty of fluids to avoid constipation

Help the client understand the importance of weight gain during pregnancy

Educational materials and methods

Use variety of materials posters, leaflets, etc

2.8.3 Improving Status of Women

A woman's status is often described in terms of her income, employment, education, health and fertility as well as th

traditional practices and less likely to seek professional health care and her deliveries are too often not attended by trained health workers.

3. Health

The low status of women is reflected in conditions that directly or indirectly affect their health and hence increase maternal mortality and morbidity. Many health problems that affect women have their roots in childhood. Son preference is sometimes reflected by giving less food to females. Such phenomenon may be observed in societies where son preference is not visibly acknowledged. Studies have also shown that women are affected by food taboos, many of which are related to pregnancy.

4. Type of Work and Income

Gender inequalities arise from the different values placed on women's and men' work. Men's work is judged to be productive and markets are seen as a way to judge the value of that work. Barriers to this sphere of work often exist for women who have difficulties gaining title to land, access to credit, and access to other assets. Traditionally, women have had the main responsibility for seeing to the needs of families in their homes. Responsibilities in this reproductive arena limit women from participating in so-called 'productive' work. Although child care, care of the elderly, obtaining fuel, preparing meals, and maintaining the home are demanding tasks, deemed to be important to households and recognized as essential for society, they are usually unpaid. Another major reason for undervaluing women's work is that households are usually viewed as sites of consumption rather than producers of goods and services.

community, and national levels and thus is embedded in a society's social, cultural, economic, and political systems.

Patterns of health and illness in women and men show marked differences. Women as a group tend to live longer than men in nearly all countries. Part of women's advantage in life expectancy is biological in origin. When the female potential for greater longevity is not realized, it is an indication of serious health hazards in their immediate environment

Women suffer considerable mortality and morbidity in relation to their sexual and reproductive health. Fertility regulation, pregnancy, childbirth, sexually transmitted diseases, infertility, and diseases of the reproductive system require health services for women. Biological and social factors do not function separately. In malaria, tuberculosis, schistosomiasis, and HIV/AIDS there is a dynamic interaction among these factors which often is disadvantageous for women. Exposure to malaria, for example, is slightly higher in men than women. However, women's immunity is compromised during pregnancy making them more likely to become infected and implying differential severity of consequences. Malaria during pregnancy is an important cause of maternal mortality, spontaneous abortion, and stillbirths. Particularly during pregnancy, malaria contributes significantly to the development of chronic anemia. Lack of time, limited mobility, and other social constraints may prevent women from attending health services

Thus gender equality should be promoted in all spheres of life, including family and community life, and to encourage and enable men to take responsibility for their sexual and reproductive behaviour and their social and family roles.

2.8.4 Environment in Safe motherhood

Environmental factors have direct effects on individuals' reproductive health and communities' response to reproductive health conditions. The delivery room is the immediate environment affecting mother's health significantly. In the delivery room the five cleans should considered:

Clean environment

Clean hands

Clean delivery surface

Clean perineum

Clean cord cutting instruments

2.8.4.1 Universal precautions in infection control should be strictly followed in the delivery room

Infection prevention: Standard or universal precautions include:

Key concept you will learn:

Why hand hygiene is important?

When and how to wash your hand?

Hand hygiene practices

Steps:

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-Rub the solution vigorously into hands, especially between fingers and under the nails, until dry.

Alcohol-based solution for hand rubs:

- Add glycerin or sorbitol to alcohol (2ml in 100 ml of 60-90% ethyl or isopropyl alcohol solution)
- Use 5 ml for each application and continue rubbing the solution over hands until they are dry (15-30 seconds).

Note: Antiseptic hand rub is more effective in killing transient and resident flora than hand washing with antimicrobial agents or plain soap and water, but it should not be used when the hands are visibly soiled.

Surgical Hand scrub:

Steps:

-Remove rings, watches, and bracelets

-Thoroughly wash hands and forearms to the elbow with soap and water

-Clean nails with a nail cleaners

-Rinse hands and forearms with water

-Apply an antiseptic agent

-Vigorously wash all surfaces of hands, fingers, and forearms for at least 2 minutes

-Rinse hands and arms thoroughly with clean water, holding hands higher than elbows.

-Keep hands up and away from the body, do not touch any surface or article. And dry hands with a clean, dry towel or air dry by shaking the hands.

-Put on sterile or HLD gloves

How to improve hand washing

Have supplies available and at " point of use"

Disseminate and promote guidelines.

Reinforce guidelines

Involve everybody

· Give positive feedback

· Reward role modeling

· Benchmark best practices

Using of Barriers

Wear gowns, aprons, gloves, masks and eye covering.

Whenever doing patients care involving blood and body fluids or bloody items.

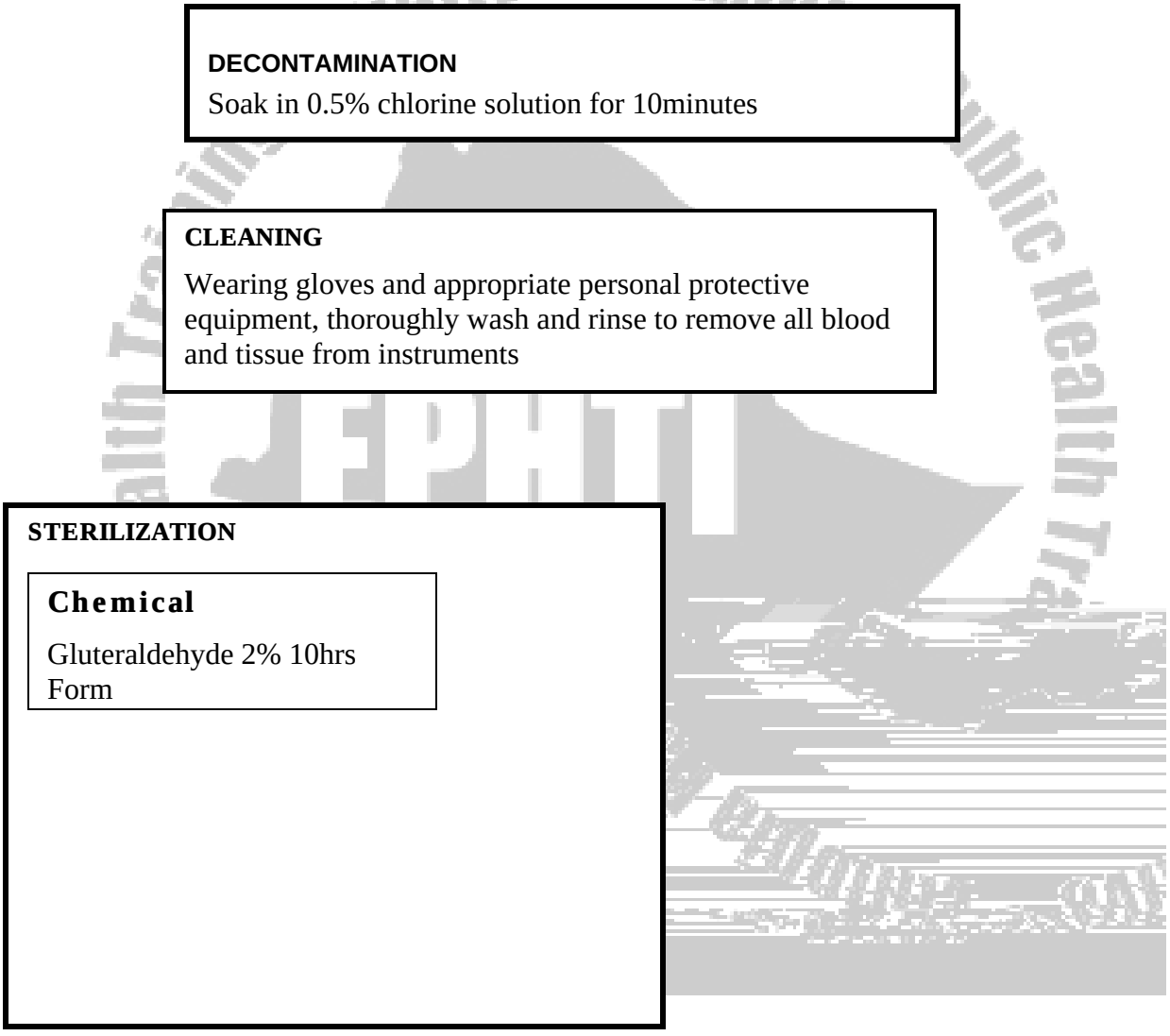
Whenever you expect to have exposure to that of your body.

Decontamination and Disinfections

Instrument processing

In working to create an infection-free environment, it is important that the rationale of each of the recommended infection prevention processes, and their limitation, be clearly understood by clinic staff at all levels-from health care providers to cleaning and maintenance.

Figure 1: Key steps in processing contaminated instruments, Gloves and other items



Important measures to be taken to reduce risk of contamination

Gloves: For contact with blood, body fluids, secretions and contaminated items

For contact with mucous membranes and non intact skin

Masks, goggles, face masks: Protect mucous membranes of eyes, nose and mouth when contact with blood and body fluids in likely

Gowns: Protect skin from blood or body fluid contact, Prevent soiling of clothing during procedures that may involve contact with blood or body fluids

Linen: Handle soiled linen to prevent touching skin or mucous membranes, do not pre-rinse soiled linens in-patient care areas.

Patient care equipment: Handle soiled equipment in a manner to prevent contact with skin or mucous membranes and to prevent contamination of clothing or the environment, clean reusable equipment prior to reuse

Environmental Cleaning: Routinely care, clean and disinfect equipment and furnishings in patient care areas

Sharps: Avoid recapping used needles, Avoid removing used needles from disposable syringes, Avoid bending, breaking or manipulating used needles by hand, Place used sharps in puncture – resistant

Patient resuscitation: Use mouthpieces, resuscitation bags or other ventilation devices to avoid mouth – to – mouth resuscitation

Patient placement: Place patients who contaminate the environment or cannot

2.8.4.3 Personal Hygiene

It is a part of hygiene, which tells us how a woman preserves, improves and maintains the health of her own mind and body.

To maintain good personal hygiene:

They should have head cover, clean clothes and apron.

They should be screened annually to identify carriers of typhoid and intestinal parasitosis for treatment.

The use of protective shoes should also be encouraged.

How to get rid of contaminants (faces)

- Hand washing
- Water hygiene
- Food hygiene
- Fly control

Maintain body hygiene

- Frequent body washing
- Dental Care
- Perineal care

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2.9 Roles of different stake holders in safe motherhood The BP/CR Matrix: Pregnancy

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…The BP/CR Matrix: Pregnancy

FAMILY	WOMAN
Supports pregnant woman's plans during pregnancy, childbirth and the postpartum period.	*Prepares for birth, values and seeks skilled care during pregnancy, childbirth and the postpartum period.*

Advocates for skilled healthcare for woman Supports and values the woman's use of antenatal care, adjusts responsibilities to allow attendance Makes plan with woman for normal birth and complications Identifies a skilled provider for childbirth and the means to contact or reach the provider Recognizes danger signs and facilitates implementing the complication Readiness plan Identifies decision-making process in case of obstetric emergency Knows transportation systems, where to go in case of emergency, and support persons to accompany and stay with family Supports provider and woman in reaching referral site, if needed Knows supplies to bring to facility or have in the home Knows how to access community and facility emergency funds Has personal savings for costs associated with emergency care or normal birth Knows how and when to access community blood donor system Identifies blood donor	Attends at least four antenatal visits (obtains money, transport) Makes a birth plan with provider, husband, family Decides and acts on where she wants to give birth with a skilled provider Identifies a skilled provider for birth and knows how to contact or reach the provider Recognizes danger signs and implements the complication Readiness Plan Knows transportation systems, where to go in case of emergency, and support persons to accompany and stay with family Speaks out and acts on behalf of her and her child's health, safety and survival Knows that community and facility emergency funds are available Has personal savings and can access in case of need Knows who the blood donor is

The BP/ CR Matrix: Labor and Childbirth

POLICY MAKER	FACILITY
Creates environment that supports the survival of pregnant women and newborns.	

….**The BP/ CR Matrix: Labor and Childbirth**

PROVIDER	COMMUNITY

The BP/CR Matrix: Labor and Childbirth

FAMILY	WOMAN
Supports pregnant woman's plans during pregnancy, childbirth and the postpartum period. *Advocates for skilled health care for woman* *Recognizes normal labor and facilitates implementing birth preparedness plan* *Supports woman in reaching place and provider of choice* *Supports provider and woman in reaching referral site, if needed* *Aggress with woman on decision-making process in case of obstetric emergency* *Recognizes danger signs and facilities implementing the complication readiness plan* *Discusses with and supports*	*Prepares for birth, values and seeks skilled care during pregnancy, childbirth and the postpartum period.*

2.10 Health information management system in maternal health

Health information management system on safe motherhood refers to the complete

To improve the health of mothers, the health information management system should be strengthened in the following areas:

1. Family planning, ANC, delivery and post-natal care services.
2. STIs/HIV/AIDS.
3. Active and passive surveillance.
4. Information dissemination.
5. Progress measurement in safe motherhood with respect to change in maternal morbidity and mortality.
6. Data collection formats, (refer lists of available and commonly used formats in Annex

Exercise 1: Visit the nearby health institution and write a short note on the data management system with greater emphasis given to maternal and child health services, (You can take the following points into consideration):

- **Recording,**
- **Reporting,**
- **Getting the required information easily,**
- **Use of tabular and graphical presentations of data,**

Sources of information

Surveillance data (household surveys)

Health institution records

Vital registrations, etc.

Problems usually seen in documenting and reporting

Lack of accountability, inaccuracy, carelessness, lack of responsiveness' incompleteness, untimely reporting, etc.

To solve the above problems, you should perform the following activities:

Document all activities on time.

Use the right formats.

Compile and revise the data.

Report to the right offices on time.

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g. Comment on the nature of the above data, which were taken from one of the Ethiopian districts.

2. 12. Keys to the Learning activity 1: Case Study

1. Delay in health care seeking
   Delay in reaching the appropriate health facility
   Delay in receiving prompt and adequate care at the facility
2.-Health education in order to create awareness on how to set an access to health care system.
   -Improving transportation facility
   -Establish a system in each institution to provide patients priority for the care of critically sick / emergencies/
3. Early marriage, Delay in giving health care, Delayed transport, Inappropriate provision of health care by TBA
4. Infection, Uterine rupture, Fistula, Psychological problems
5. Early identification of fetal distress
   Closely follow the progress of labor
   Secure an IV line
   Prompt treatment of infections with antibiotics
   Emptying the bladder by catheterization
6. Assess vital sign
   Keep air way clean
   Put on radiant heat
   Give vitamin K
   Cord care
   Oxygen delivery
   Screen for infection

7. Early identificatil care (cz

3. SATELLITE MODULES

3.1 SATELLITE MODULE FOR HEALTH OFFICER STUDENTS

3.1 INTRODUCTION

3.1.4 Learning Activity I - Case Study

Almenesh is a 16 years old high-school girl from Gondar town. She lives with her family. The monthly income of her family is 300.00 Birr. She was raped three months back while returning from school. She presented to the health center with vaginal bleeding of 4 hours. She has been ammenhoric for the past three months. On repeated questioning Alemnesh revealed that she visited a backstreet abortionist where the pregnancy was terminated with a metallic rod. On arrival to the health center, she was lethargic with blood pressure of 60/20 mm Hg, pulse rate of 136/minute, feeble and had temperature of 39 ^{0}C.

Questions for group discussion

What is/are the possible diagnosis?

What are the complications you anticipate in this patient?

What investigations do you order?

How do you manage this patient?

What preventive measures do you know to avoid the problem stated above?

3.2. Family Planning

Rational For Family Planning (FP)

Can reduce maternal and child mortality by preventing pregnancy as well as high-risk pregnancies.

In developing countries child bearing is generally far more dangerous than using oral contraceptives, IUCDs or condoms

Family Planning improves family-well being.

Family Planning helps everyone:

Women: Protects themselves from unw

Table 1. Family Planning Methods and Characteristics

Types of Methods	Mode of action	Frequency of administration	Failure rate	Advantages	Side Effects	Reversibility
Hormonal methods 1.Combined oral contraceptives (The pill) - Monophasic pills - Biphasic pills - Triphasic pills.	Suppression of ovulation	Daily for 21 days in a cycle	Pregnancy rate 0.1-3 per 100 woman years	- Convenient - Easy to use -The combined pills provide protection against PID, ectopic pregnancy, endometrial cancer, ovarian cancer and common menstrual disorders	- Minor side effects include nausea, headache, weight gain, gastrointestinal complaints, inter-menstrual bleeding. -Major side effect Thromboembolism, increased risk of cardiovascular disease and stroke for women over 35 years and who smoke.	Immediate to short delay only
2.Progestion-only pill (minipill)	-Thickening the cervical mucous -change in the endometrium	Daily through out the cycle	-0.5-3 per 100 woman years	-Side effects of estrogen associated with the combined pill are eliminated	Increased menstrual irregularity	Immediate to short delay
3. Injectable (Depo Provera, DMPA)	-Inhibition of ovulation -cervical mucosal change -Endometrial changes	Once every three months	0.3-0.4 per 100 woman years	-Convenient -Not related with coitus -does not interfere with lactation -no need to take daily	-Heavy intermenstural bleeding and amenorrhea -Possible effects on carbohydrates and lipid metabolism	Delay of 4-8 months possible

Table 1. Family Planning, (continue)

Types of Methods	Mode of action	Frequency of administration	Failure Rate	Advantages	Side Effects	Reversibility
4. Implants (Norplant R system) consist of 6 silicone rubber capsules filled with levonorgestrel Inserted under the skin of the arm.	-Suppress ovulation -Decrease tubal motility -Change endometrium -Thicken cervical mucus	-once every 5 years	Pregnancy rates of 0.00-0.5 per 100 woman year	- Convenient -long acting, -reversible, not related to coitus,	-Major: Similar with injectables -Minor: infection of the implant site	Immediate upon removal

Table 1. Family Planning, (continue)

Types of Methods	Mode of action	Frequency of administration	Effectiveness	Advantages	Side Effects	Reversibility
Physical Barrier 1. Condoms	-Prevents sperm from entering the vagina	-Prior to every act of sexual intercourse	The pregnancy rate is 3-15per 100 woman Years	- No apparent health risks - Protection against STIs including AIDS	- disrupt sexual pleasure for some -may affect sensation for some -man must be willing	Immediate
2. Diaphragm/cervical Cap	- Cover the cervix to prevent sperm from entering -Kill the sperm on contact (spermicide)	-Prior to sexual intercourse – must be in place 6 hours after intercourse	Pregnancy rate 3-19 per 100 woman years	- No apparent health risks	-Some find it messy -May increase chances of bladder infections	Immediate
Natural methods 1. Withdrawal/Coitus Interrupts	- Keep the sperm away from the uterine opening	-Applicable at each coital act	-20-25 pregnancies per 100 woman years	- Does not involve use of any physical hormonal or chemical methods	- May interrupt spontaneity of sexual intercourse	Immediate
2.Periodic abstinence/Rhythm method	- Couple refrains from intercourse when the women is ovulating	-Avoid intercourse between day 10 and 28 of the 28 day cycle	-9-20 pregnancies per 1000 woman years	-No systematic side effects -Requires no medication or device	-Requires several days of abstinence -Inappropriate in women with irregular menstruation	Immediate
3. Lactational Amenorrhea Method (LAM)	-Frequent intense suckling disrupts secretion of gonadotrophin releasing hormone (GnRH)	Women who: Are fully or nearly fully Breast-feeding, Have not had return of menses < 6 months	-Pregnancies per 100 women during first 6 months of use	Does not interfere with sexual intercourse, No systemic side effects	User-dependent (requires following instructions regarding breastfeeding pactices)	Immediate

Table 1: Family Planning Continued

Types of Methods	Mode of Action	Frequency of administration	Effectiveness	Advantages	Side Effects	Reversibility
Emergency contraception 1. combined pills (Ethinyl estradiol and norgestrol)	Prevents ovulation	2 pills with in 12 hours after intercourse and 2 pills after 12 hours	2 %	-when no contraception has been used - when there is misuse of contraception like condom rupture, failed coitus interruptus, miscalculation of periodic abstinence	-Nausea -Vomiting -Irregular Uterine Bleeding -Breast tenderness	-Immediate to short delay only
2. Copper releasing IUDs	Prevents implantation	with in 5 days of unprotected sex	< 1 %	-All advantages of combined pills -additionally especially unprotected intercourse elapsed 12 hours when client consider to continue IUCD	-PIDs -ectopic pregnancy	Upon removal

Table 1. Family Planning, (continued)

Types of Methods	Mode of action	Frequency of administration	Effectiveness	Advantages

Risk and contraindications to OCP

Risk factor	absolute contraindication	relative contraindication
-Family history of Cardiovascular disease	known atherogenic lipid profile	Normal blood profile
-Diabetes mellitus	poorly controlled, or diabetic complications present, e.g. Retinopathy, retinal damage	Well controlled, and no complications, young patient with short duration of DM
-Hypertension	BP >160/95 mm hg on repeated testing	Systolic BP 135-160 mm hg Diastolic BP 85-95 mm hg
-Cigarette smoking	>40 cigarettes/day	5-40 cigarettes/ day
-Increasing age	>35 in all smokers. Age alone is not an absolute contraindication	40-50 years non-smokers
Excess weight	>50 % above ideal for height (BMI >35)	20-50 % above ideal (BMI 30-35)
-Migraine	Focal, crescendo or requiring treatment with ergotamine	Uncomplicated/acceptable to the woman

Contraindications to IUD

Absolute

1. Known or suspected pregnancy
2. Undiagnosed abnormal vaginal bleeding. Once malignancy or other uterine pathology is excluded and menstruation returns to normal, an IUD can be fitted
3. Suspected malignancy of the genital tract.
4. Active pelvic inflammatory disease (PID). Fitting an IUD will increase the severity of the infection
5. Copper allergy- for copper devices only.

Relative

1. Previous ectopic pregnancy.
2. Cervical or vaginal infection. After successful treatment an IUD can be inserted
3. A recent history of treated pelvic infection

COUNSELING

Help clients make and carryout their own choices about reproductive health and family planning.

Makes clients more satisfied.

Helps clients use family planning longer and more successfully.

Counseling should be tailored to each client. At the same time, most counseling about method choice covers 6 topics.

Active management of 3rd stage of Labor

Secure IV line with crystalloid

Oxytocin 20 IU in 1000 cc of fluid or ergometrine 0.2mg IM stat or oxytocin 3IU-5IU bolus after delivery of anterior should for cephalic, after delivery of head in breech and after delivery of 2nd twin

Uterine massaging

Inspect genital tract & if there is tear repair

If there is retained placenta tissue, manual removal of placenta is indicated.

If there is resistance during controlled cord traction and suspicion of adherent placenta, refer to place where operation possible.

If bleeding persistent and not able to control bleeding, urgent referral and at the same time uterine massaging and uterine compression.

2.6.3 Unsafe Abortion

The elements of post-abortion care include:

1. Community and service provider partnership
2. Support and counseling even beyond family planning services on emotional and physical health
3. Treatment of incomplete and unsafe abortion
   - Secure IV Line
   - Prevention and treatment of infection
   - Evacuation of uterus (E and C, D and C or MVA). MVA is ideal to evacuate uterine size of less than 12 weeks.
   - Treat Anemia
   - If there is suspicion of perforation, uncontrolled Infection or hemorrhage, urgently refer.
4. Contraceptive and family planning services
5. Look for other problems like STIs and manage accordingly.
6. Post-abortion care link with other RH component (service)

3.4 Hypertensive diseases in pregnancy

Management

Refer to hospital management

Start Diazepam 30mg in 5% 1000 cc fluid running 40 drops/minute for severe preclampsia and eclampsia

Hydralazine 5 mg if DBP> 110 mmHg in preeclampsia and eclampsia

Put patient in left lateral position 30^0

Avoid accidental trauma

Maintain air way breathing and circulation

Eclampsia

Management:

It is a hospital management with ICU facility and Operation room.

Immediately after detection, refer to best facility.

Making sure the airways are clear and the woman can breathe.

Controlling the fits

Controlling the blood pressure

General care and monitoring, including controlling fluid balance.

Delivering the baby

Monitoring carefully to prevent further fits and identify complications.

P/E – General P/E, Vital sign, weight, height.

- **Obstetrics. Examination**

nutrition → generally avoid oral intake

- IV fluid if 12 hrs without taking per os.
- Small fluid diet is considered if mother stay longer time before delivery.

Pain Management – continuous emotional support

Analgesics based on maternal discomfort.

Monitor progress of labor

Uterine contraction

Descent → abdominal palpation

→ Per vagina (station)

Vaginal examination → every 4 hr unless indicated. If rate of cervical dilation is < 1 cm/hr → abnormal progress of labor.

Abnormal Progress of labor

1. Cervical dilation < 1.2cm/hr in primipara and <1.5cm/hr for multipara or no cervical dilation for 2hrs in both case
2. Descent < 1cm/hr for nul

FHR should be monitored every 15 minutes for low risk patient and every 5 minutes for high risk patient

Monitor maternal vital sign more frequently and look for general condition like fatigue, sign of Dehydration.

To check progress of labor, descent should be every 1hr. The descent should be at least 1cm/hr in nullipara and 2cm/hr multipara.

Management of prolonged 2nd stage

Management depends on the cause

Instrumental delivery if preconditions are fulfilled

Look for inefficient uterine contraction, CPD, malposition, malpresentation, inadequate voluntary effort.

Position in the lithotomy position and empty bladder. Apply sterile drape, perineal care (antiseptics),

Instruct the patient, attendant should be gloved and well dressed (Gaun, drape, mask, …)

Prepare set for neonatal resuscitation.

Attend delivery properly → Episiotomy individualized, prevent rapid delivery and support perineum, clear and wipe face, aspirate mucus (oropharynx and nose), cord clamping.

Neonatal care → prevent heat loss, evaluate APGAR score, tie cord and label Baby, weight, height, eye prophylaxis and vitamin K.

3rd stage

The interval between deliveries of fetus to delivery of placenta is called the 3rd stage of labor. The average time is about 5 minutes.

95% deliver placenta in 15 minutes.

Retained placenta is diagnosed when placenta fails to separate and get expelled after 30 minutes of delivery of baby

Most maternal mortality or morbidity from hemorrhage and retained placenta take place in 3rd stage of labor

Management of 3rd stage

1. Physiologic Management of 3rd stage

   for low risk patient for PPH

   Look for sign of placental separation, observe for excessive Bleeding

   Controlled cord traction (CCT)

   Administer oxytocin or Ergometrine after Delivery of placenta

   Examine placenta for completeness and abnormalities

2. Active Management of 3rd stage

   For high risk patient (PPH) look PPH Management

3. Management of retained placenta

   Look for sign of excessive Bleeding,

   Manual removal of placenta indicated in

   Any time during 3rd stage if there is excessive bleeding or placenta can not removed by CCT

   In retained placenta

Precaution: Aseptic technique, Analgesics, empty bladder

If no placental cleavage line stop manual removal (i.e. adherent placenta).

Management of "4 stage" Labor Immediate one hour after delivery of placenta

To detect the presence of PPH

Monitor V/S every 15 minutes

Examine uterine fundus: palpate to look uterus if it is well contracted. If relaxed

Causes: infection of genitourinary tract related to labor, delivery and puerperium e.g. endometritis, UTI

- **Extra genital:** E.g. mastitis, episiotomy site infections, pelvic thrombophlebitis
- **Incidental infection**

E.g. pneumonia, malaria, typhoid fever HIV/ AIDS

Predisposing factors: STI and Vaginal infection, prolonged rupture of membrane, diabetes mellitus, Anemia, Repeated pelvic examination, Postpartum hemorrhage, Poor infection control practice, Malnutrition

3.7 Uterine infection (endometritis)

Clinical features: fever for 2 to 3 days, vaginal discharge, uterine tenderness,

Management

Antibiotics, Refer if complicated

Prevention – avoids and treats risk factors

3.8 Urinary tract infection:

Clinical features: dysuria, frequency, urgency, fever, costovertebral angle tenderness and suprapubic tenderness.

Management

Prevent and treat risk factors, Antibiotics, Fluid intake.

3.9 Wound infection (episiotomy site infection)

Clinical features – pain and discharge from episiotomy site, fever on 4^{th} or 5^{th} day, swelling and tenderness of wound site

Management

-Prevent and treat risk factors for wound infection

-Open the wound by removing the stitch

-Debridment

-Mechanical cleaning

3.10 Mastitis

Clinical feature:

Management

Local heat, Support the breast and restrict breast stimulation.

Administer Antibiotics, Drainage of Abscess Give analgesia as needed.

3.11 Premature rupture of membrane (PROM)

Rupture of membrane before onset of labor.

Clinical feature: passage of liquor amini per vagina, wet perineal area

Management

-Assess gestational age

-If <37 wks refer

-If > 37 wks follow next steps

-Assess for infection (fever, foul discharge and abdominal pain)

If Infection is present, give antibiotics, antipyretics, refer if no early delivery

If no evidence of infection, observe for labor

Assess duration of labor

If labor > 12 hrs – manage as prolonged labor

If in early labor or not in labor, observe progress

Refer after maximum of 12 hrs.

Prevent and gestational treat risk factor

3.12 Fetal distress

Fetal distress occurs whenever the fetus is deprived of either nutrients (chronic metabolic deficiency) or oxygen (acute or chronic uteroplacental insufficiency).There could be tachycardia or bradycardia which can be diagnosed using fetoscope. Thick meconium gives clue for fetal distress

Causes of fetal distress

Prolonged difficult and obstructed labor, Hypertension, APH, Post term, IUGR, multiple pregnancy, Maternal dehydration and hypotension, Hypertonic uterine contraction, Infection

Management

- Prevent and treat risk factors

- Left lateral position should be advised
- Intra nasal oxygen by mask, 6 liter/ minute
- Give normal saline
- Treat other causes
- Refer to place where cesarean section is possible if no response for the treatment and delivery is not immi 0 TD-9ra of time. TT2 1 Tf4-11 -1.76.4525 TD3Tw(-)Tj/TT2 1

Recognize major newborn illness and manage accordingly like hypoglycemia. respiratory distress)

Actions to be taken if a newborn *doesn't respond* to the initial steps are:

Free flow oxygen (If available)

- Central cyanosis with Normal respiration and HR >100/minute
- If not refer

Bag and mask ventilation (ambubag)

- Indication - gasping respiration and HR< 100
- Contraindication - Meconium Aspi
- Diaphragmatic Hernia.

Chest compression if HR is 60-80/ minute

Refer to near by Health services for possible resuscitative measures (for intubation, volume expansion)

Common Neonatal problems

Identifying common Neonatal problems help the health officer to assess the newborn, those who need referral, those who need treatment at the health center and treatment at home. These are:

I. Perinatal asphyxia (Birth asphyxia)

Cause being due to placental insufficiency

Directly related to gestational age and Birth weight

Mostly manifest in form of depressed reflexes, disturbance of respiration altered mentation and convulsion

Anticipated complications depends on different organ damage such as myocardial dysfunction, Renal failure, respiratory distress, Brain damage

Management should include

IV fluid maintenance 2/3 (to avoid brain edema)

Appropriate Respiratory support

Anticonvulsant if there is associated seizure

Avoid Hypothermia & Hypoglycemia

II. Respiratory Distress in the new born

a. General signs – RR > 60/minute - Grunting - Cyanosis
- Chest indrawing - flaring of ala nasie

b. Common cause

1. **Hyaline membrane disease**
   - Inadequate pulmonary surfactant
   - Most commonly in premature baby.
   - Symptom of RD begin at birth or with in 6 hrs of life
2. **Congenital pneumonia**
   - Commonly seen in premature rupture of membrane, prolonged duration of labor (>24 hrs) and Unclean vaginal examination.
   - Causative agent group B streptococci, E. coli and Listeria,

Also common in infant of diabetes mother

Mostly manifested with Jitteriness (tremor), convulsion, episodes of apnea with cyanoses and depressed neonatal reflexes

Management should include

- o Determination of blood sugar level
- o Give a bolus 2ml/kg of - 10% dextrose then continue maintenance with monitoring of glucose level.
- o Encourage breast-feeding immediately or by using NG tube feeding.

IV. Sepsis and Meningitis

Commonest causative agents are E.coli, group B. streptococci and Listeria

Common in preterm and LBW neonate.

Manifestations are non – specific but Hypothermia, refuse to suck, lethargy /inactive, convulsion and depressed neonatal reflexes.

Lumbar puncture and blood culture is diagnostic choice

Management – should include:-

- Treatment of associated illness like hypoglycemia & hypothermia
- Antibiotics – Gentamycin and Ampicillne. Dose-high dose and based on weight of newborn.

V. Prematurity

- **Commonest problem in this neonate are: -**

  Hypothermia - Respiratory distress

  Hypoglycemia - Sepsis

  Anemia - Intracranial bleeding

  Cardiac problems (congenital heart disease**)**

- Therefore needs careful assessment and management of problems as they result.

- Other neonatal problem which should not be neglected includes Jaundice, Birth injuries (such as cephalhematoma and congenital anomalies (-meningocele) should be addressed**.**

Post-Natal care (PNC)

Is a care up to six weeks in post partum period

Has two period of time

1. **1st day after delivery**

   - Most life threatening conditions such as hemorrhage should be looked

2. **From 1st day to 6 weeks**

   - Most post natal care like breast care family planning to be discussed

Inspection of perineum and vulva to ensure any trauma is healing satisfactory

Immunization and sun exposure to new born

Encouraging ambulation and exercise

Advantage – increase muscle tone and venous return from legs and lower abdomen.

- Encourage drainage of lochia and the voiding of urine

3.14 Anemia in pregnancy

Anemia in pregnancy occurs when Hemoglobin less than 11gm/dl.

Causes: iron deficiency, folic acid deficiency, thalasemia, hook worm, malaria

Management

- Prophylaxis iron and high iron containing diets
- Therapeutic iron for mild to moderate anemia

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Cause: trichomonas vaginales, candida albicans, bacterial vaginosis cause vaginal discharge directly, but N. Gonorrhoae and C. trachomatis do so in-directly via cervicitis and cervical disease.

1. If vaginal discharge is accompanied by lower abdominal pain or pain on moving cervix, use lower abdominal pain algorithm.

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Recent childbirth or abortion? Or rebound tenderness or guarding? Vaginal Bleeding? Pelvic mass? If any one of above present Refer to Hospital immediately.

2) If No to all above Questions and temperature ≥ 38^0_C, pain during examination, vaginal discharge If any one of question yes

- Treat for PID
- Patient with IUD, remove IUD 2-4 days after starting treatment
- Partner notification and treatment.

Then re-evaluate in 3 days or sooner, if pain gets worse or no improvement

refer to high level care.

If improvement or cure complete treatment.

3.6 Malaria in Pregnancy

Malaria is pregnancy has adverse consequence for mother and Babies. Malaria May account for 2-15% of maternal Anemia, 5-14% of low birth weight, 3-5% of newborn death. Areas affected by malaria can be classified as:

Stable Area: Level of Acquired Immunity are high (pregnant women are semi-immune), Low peripheral parasitemia, heavy placental infection

Unstable Area: Level of Acquired Immunity are low, heavy parasitemia, low placental infection

Effect of malaria on pregnancy - stable transmission

Low birth weight

IUGR

Maternal Anemia

Risk of still birth

Effect of malaria on pregnancy - unstable transmission areas

Low Acquired Immunity

Severe Disease High Risk to mother

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Complicated malaria: include severe Anemia, cerebral malaria, Hypoglycemia, Pulmonary edema, acute renal failure.

Complicated malaria and maternal mortality is very common in unstable malaria areas.

Effect of malaria on fetus and new born

1. Low birth weight
   - Intra Uterine Growth Retardation
   - Prematurity
2. Abortion or still birth
3. Congenital malaria
4. Infant mortality

Components of malaria control During Pregnancy

1. Quality focused ANC and health education
2. Intermittent preventing treatment (IPT)
3. Use of Insecticide treated Nets (ITNS)
4. Case management of Malaria disease

1. ANC and Health Education

ANC visits provide a unique opportunity for:

- Monitoring maternal and fetal health
- Provision of micronutrient supplementation (e.g. Iron folate)
- Health education and counseling about malaria in pregnancy
- IPT with effective Antimalaria drug (like Sulfadoxine-Pyrimethamine (Fansidar)
- Prompt Diagnosis and treatment of malaria

Pregnant women (especially primigravida, HIV infected women) are at high risk of malaria complication.

2. Intermittent preventive treatment (IPT)

- Approach for effective preventing and controlling malaria during pregnancy
- Based on assumption that every pregnant woman in malarious area is infected with malaria.

Recommend that every pregnant women receive at least 02 treatment Doses (After 24 weeks and less then 32 weeks, at 4 weeks Interval) of effective Anti malaria drug.

vaginal inflammation and ulceration, STI, inadequately treated clamydial infection and other STI. Socio – cultural factors like Gender inequalities, poverty. Without any intervention, up to 30% or more HIV positive mothers transmit the virus to the baby.

Prevalence current HIV prevalence rate in Ethiopia is estimated to be 6.6%

- Addis Ababa – 15.6%
- Other Urban – 13.7%
- Rural – 3.7%
- Reported AIDS cases – 107,575 (June, 2002)

Timing of mother to child transmission (MTCT) of HIV

- MTCT is generally 14 - 42%. With the advent of Anti Retroviral Therapy (ART), the transmission rate is reduced to 1-2%. The MTCT is considered to be:
  - During pregnancy (5-10%)
  - During labour and delivery (10-20%)
  - During breast-feeding (5-10%)

Effect of HIV infection on pregnancy

- High rate of abortion
- Preterm labor and still birth
- PROM and abruptio placenta
- Low Birth weight or IUGR
- Bacterial pneumonia and UTI
- Post partum infections and complications

Risk factors for MTCT

1) **Viral factors** – load, viral resistance, viral genotype and phenotype
2) **Maternal factors**
   a. Immunological factors
   b. Nutritional factors
   c. Behavioral factors like smoking, Drug use
   d. Placental factors like Placental disruption, abruptio placenta
   e. Obstetrical factors

      Prolonged ROM (>4hrs)

Mode of delivery (C/S-50% reduction)

intrapartum hemorrhage

Invasive fetal monitoring

3) **Fetal factors** – prematurity, multiple pregnancy
4) **Infant** – breast-feeding
    - Immature immune system.

ANC

Allows interaction between health facilities and sexually active women to:

- Provide information on HIV
- Promote safer sex practice
- Provide the pregnant woman to know her HIV status
- Identify and treat STI
- Provide malaria prophylaxis

ANC provides opportunities to discuss the interventions for reducing the risk of MTCT.

Antenatal Interventions to reduce MTCT

- HIV testing and counseling services
- Behavior change communication → sexual, alcohol and smoking
- Prevention of new infections in pregnancy
- Identification and treatment of STIs (genital ulcers and abnormal vaginal discharge).
- Prevention and treatment of anemia (balanced diet and nutritional supplementation e.g. Iron folate, multivitamin)
- Avoiding invasive testing procedures in Pregnancy (e.g. amniocentesis, external cephalic version)
- Antiretroviral prophylaxis
    - During pregnancy
    - In labor
    - Post partum

- Prevention of pregnancy by use of family planning and counseling on safer sex.
- HIV primary medical and pediatric care.

Treatment of PID

Use this regimen if the patient is well enough to take food and liquids, walk unassisted, take her medication and return for follow up. Otherwise refer to higher-level care.

a) Single dose therapies for gonorrhea
   → ceftriaxone 250mg I.M. stat or
   → ciproflaxcine 500mg P.O. stat or
   → spectinomycin 2gm I.M. stat Plus
b) Treatment for chlamydia
   → Doxycline 100mg P.O. 2x/d for 14 days or
   → T.T.C 500mg P.O. 4x/d for 14 days plus
c) Treatment of anaerobic infections
   → Metronidazole 500mg P.O. 2x/d for 14 days

N.B. stress on importance of completing full course of treatment and treatment of partner. Avoid having intercourse until patient completed treatment.

3.18. Prevention of disease and promotion of maternal Health

Promoting health and prevention of disease to tackle the basic problems that happen in a mother and a child. This can be carried out through preventive health care, which operates on three levels: -

1. Before a disease process starts
   e.g. Immunization, nutrition
2. To alleviate or arrest disease
   e.g. screening, early diagnosis and treatment
3. To limit the effects of a disease

These levels of health care system largely implemented through health education and health promotion.

Health education involves working with individuals or groups to enhance or change knowledge, with the aim of helping people to make informed and positive choices.

Health promotion recognizes the importance of social and environmental influences on health.

Specific maternal health topics to be disseminated at community level are summarized below.

For details refer the core module

1. Promote healthy behaviors to women, families and communities
2. Promote appropriate use of maternal health care
3. Increase community awareness and organization.
4. Discourage practices, which harm maternal health

Maternal Nutrition

Poor nutrition before and during delivery contributes in a variety of ways to poor maternal health, obstetric problems and poor pregnancy outcomes.

1. **Stunting -** exposes women to the risk of cephalopelvic disproportion.
2. **Anemia-** the cause may be due to inadequate intake, parasitic infestation and malaria. Women with anemia are more vulnerable to infection and at increased risk of death due to obstetric hemorrhage.
3. **Severe vitamin A** deficiency may make women more vulnerable to obstetric complications including infection and associated mortality.

A diet for pregnant and non-pregnant women should contain daily allowance of vitamin A of 800 mg. It is good to advice for women to have dark green, yellow or orange fruits and vegetables, liver as a source of vitamin A.

However high doses of vitamin A during pregnancy may cause teratogenic effect on fetus (doses higher than 50,000 IU are toxic).

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Many recommend the establishment of Maternity Waiting Areas at every referral hospital where mothers with problems or at high risk, from far away areas may stay with a member of their family while awaiting labour to start.

Health Centres

In these units there should be an experienced midwife/Health officer able to identify problems in obstetrics and know when to refer them. S/he should be able to handle life saving skills in the event of lack of time. Health workers working in these centres should be well trained to handle certain emergencies within the means available at the centre. Good two-way communications is essential for smooth transfer of clients in emergency. A means of transportation for medical evacuation is of utmost importance.

Health Post

The health post follows women with lowest risk group. However, it should be remembered that every pregnancy carries a risk. Thus in the event that there are any potential or actual problems the client must be referred to the nearest health centre.

Community

It is important to identify TBAs train and supervise them because most of the births in the country are attended by them, although several experts may not agree on putting resources in training of TBAs as indicated earlier. The health system should be prepared to use TBAs as bridges between itself and the community. Often they are more trusted.

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Prevent maternal health problems.

Promote maternal health in the community.

3.2.4. ROLE OF NURSES IN SAFE MOTHERHOOD

Nurses play a key role in assisting safe motherhood. The nurse functions independently, particularly in the area of teaching and anticipatory guidance, in the preventive, promotive, curative and rehabilitative active ties of maternal health.. At times, however, the nurse may need to refer women to other health care providers. On the other hand, nurses have to ensure the continuity of care and follow up visits.

Furthermore, you should assist women and the community in anticipating outcomes and consequence, as well as help to take action through health education. It includes improving self-awareness.

1. FAMILY PLANNING

Reproductive age begin when a child moves through puberty and develops into an adult. This change from childhood to adulthood brings the ability to become pregnancy to a girl. Every year, women around the world have 75 million unwanted pregnancies. Some are due to lack of access to family planning. Family planning refers to the actions couples take to have a desired number of children in spacing, when they are wanted. Family planning service means allowing choice, not chance to determine the number and spacing of children.

WHO recommends that action should be taken to ensure that every one has access to “client-oriented and confidential family planning information and service that offer a side choice of modern contractive methods.”

Highlights of available family planning methods those are commonly utilized in our country.

i. Condom (male and female)

1. Can prevent pregnancy and STDS/HIV/ AIDS.
2. Easy to use with a little practice
3. Effective if used correctly and consistently (every time).

ii. Contraceptive pills

1. Combined oral contraceptives

Advantage

Effective(97-99%) and reversible

Safe for most women

Can be used by women in all ages

Menstrual period become regular

Dysmenorhea and premenstrual symptom relived

Decreased incidence of certain cancer and anemia.

Can be used for emergency contraceptives.

Disadvantage

Take every day for best protection

Nausea and vomiting.

Weight gain for some women

Aggravated a certain preexisting health problems, like cardio vascular and liver diseases, and malignancy .

2. Progestin- only oral contraceptives

Good choice for lactating mothers who want pills, beginning at 6 weeks after childbirth. (Very effective while breast feeding)

If used when not breast-feeding, bleeding changes are a normal side effect especially spotting and bleeding between periods.

Can be used as emergency contraception.

C. Injectable contraceptives (one inject every 3 months)

Very effective and safe

Bleeding changes are a normal (spotting and light bleeding between periods), some weight gain and mild headaches can occur.

Can be used by women of all age, whether or not they have children.

Women who stop using DMPA may take an average of 4 months longer than usual to get pregnant.

Safe during breast feeding, beginning at 6 weeks after childbirth.

Help prevent uterine tumors and pregnancy out side the womb(Ectopic

F. Permanent methods (Female sterilization and vasectomy)

For men and women who are sure that they will not want more children.

Safe, simple, convenient surgery.

Very effective (99-100%). If it is properly done and informed clients.

No known long term side effects.

No effect on sexual performance or desire.

The following contraceptive methods are possible but not as reliable.

Fertility awareness based methods (Mucus or Billings methods, temperature method and Sympto-thermal method) needs more time to teach since all women using these methods should clearly understand about the menstrual cycle (ovulation-menstruation). This method same times called fertility awareness method is not used commonly in our country.

Spermicidals, diaphragm or cervical cap-require practice and skill to place appropriately over the cervix each time before sex for this reason, it is often not preferred.

In general you are expected to do the followings in family planning services

Educate on fertility and reproduction

Promote use of contraceptives.

Supply contraceptives: explaining the use of methods, their indications, and side effects and where they can be obtained.

Assess and manage for side effects

Refer for permanent sterilization and investigation of infertility to the higher institutions

Train, supervise and supply community- based distribution.

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- If VDRL is reactive (positive), treat both partners with appropriate antibiotics and repeat serology within the last trimester and after delivery.

Provide tetanus toxoid, appropriate health education and nutritional counseling depending on the stage of pregnancy.

Discuss women's preference for delivery, who will assist, preparation, plan for emergency transportation on where to deliver ,based on the women's health and history

B. Later antenatal visit

Even women who are healthy and have no problems should have at least three or four antenatal visits to ensure that the pregnancy and delivery are free of problems. Women who have a problem, or are at risk of developing one, should go more often

Do the following activities in the later antenatal visits:

- Take history of problem since the last visit is taken
- Do short physical examination that includes measuring the growth of the fetus and listening to the heart, checking weight gain, and measuring blood pressure
- Test for urine and blood when appropriate
- Provide appropriate health education and counseling depending on the stage of pregnancy
- Continue planning where to deliver based on the whether problems are treated or new one develop

C. Education and Counseling

Information gathered when a woman come to antenatal clinic that we discussed before can be used as the basis for continuous discussion about what the woman can and should do to stay in good health. You should use simple and understandable language to explain about nutrition, danger signs and personal hygiene. Encourage asking questions or talking about any special problems and preparing for birth and post partum care of mother and infant.

D. Prevention of mother to child transmission of HIV

pregnant women to have voluntary counseling and testing for further advice and treatment in prevention of mother to child transmission of HIV during ANC.

Action for safe pregnancy begins in the pre-conception period or during intra pregnancy period by making a woman ready what to do and do not immediately when she knows her conception.

Tell all women the “Dos and do nots” listed in the box

Summary: Early Pregnancy and Self – care

DOS:
Pregnant women should:

Go for antenatal care as soon as

DO NOTS:
pregnant women should not:

Lift or carry heavy loads

E. Detecting high-risk mothers

Women at high risk should be treated with appropriate care and encouraged to go for antenatal care often and to deliver in the health institutions by trained birth attendant. The followings are considered as risk

Elderly or young primigravida (over 35 or under 18)

Previous scar of caesarean section

Previous perinatal death (still birth, premature delivery)

Previous prolonged labor (24 hours).

Grand multiparty (> 5 deliveries)

Women with previous third stage complications like post partum hemorrhage

Multiple pregnancy

Previously repaired fistula

Rhesus negative women

Mal presentation and suspected CPD.

Ante partum hemorrhage

Hypertensive or pre- eclampsia

Anemia (Low hemoglobin < 11g%).

Polyhydraminion or big baby.

Serious medical disorder like Diabetes, Heart disease and renal disease.

After screening the above high risk cases, some needs very especial attention and referral immediately. The management of some common and potentially dangerous risks discussed as follows:

For Anemia:

At community level, you are expected to detect anemia clinically or by laboratory examination or inspection and to refer to the nearest health center. You can commence iron and folate treatment if you have at hand.

At health center level, you should treat her with iron and folate. Treat for malaria if she lives in highly malarious area, stool test and provide worm treatment

Refer to hospital if very pale (or hemoglobin < 7mg/dl.) and shortness of breath.

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Physical examination

Initiate breast-feeding as soon as possible.

Management of third stage

- Massage the uterus
- Give Oxytocine 5 IU or Ergometrin 0.5 IM after shoulder is delivered
- Remove the placenta by control cord traction
- Examine for tears and suture if necessary
- Clean up the patient and make her comfortable
- Give mother baby to hold
- Examine placenta and observe blood loss
- Check blood pressure and pulse
- Note in chart.

If certain problems arise like bright red vaginal bleeding, eclampsia, prolonged labor and postpartum hemorrhage, manage as was discussed in core module.

4. Postpartum Care

The postpartum period or a puerperium, starts about an hour after the delivery of the placenta and includes the following six weeks.

Postpartum hemorrhage is the supple most important cause of maternal death at this time.

Care within the first eight hours of birth.

The mother

Make sure that the uterus remains well contracted and that there is no heavy loss of blood. If uterus is soft and bulky, express clots and give ergometrine.

Encourage passing urine.

Encourage taking shower that will often help to bring relief.

Care for breasts: maintain cleanliness, assess proper positioning and attachment, prevent engorgement, manage inverted or cracked nipples, and treat breast infection. Recognize and refer for abscess.

Care for genitals: Regularly inspect the perineum, promote regular cleaning and replace of sanitary cloths. Manage infe

Care in the first week after birth: Encouraged to eat well balanced diet, rest, and breast feeding and personal hygiene

Care 6 weeks after the births: Family planning service and continue tetanus toxoid immunization.

Post Partum care

Women need	Newborn's need
Information /counseling on - Support from health care - Self care - Care of baby and breast - Feeding - Education about changes - Sexual matters - Nutrition - Contraception -Support from health care Providers, - Time to care for the baby - Help with domestic tasks - Maternity leave	Nurturing and stimulation Warmth, Body temperature stable Appropriate food Easy accessibility of the mother Safety Cleanliness Observation the general condition of the baby by care givers and/or the nurse for appropriate help and action Protection from - Disease - Harmful practices - Abuse To be accepted whether male or female

Then treat as follows

- If risk assessment positive

- Erythromycin 50 mg/kg PO in 4 divided doses.

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8. Nursing interventions to promote health and function

Health Education

The public health nurse should provide health education during reproductive cycle, including preconception period, family planning, antenatal care, delivery, and postnatal services.

Record and documentation

Nurses are expected to improve the reporting and documentation in the following areas: Prenatal, perinatal complications, referral, delivery care, contraception and follow up health institutions workload should also document.

Immunization

Nurses should ensure the effectiveness of [illegible]

fncludurpded ou15(postnat)m

To identify barriers in terms of safe motherhood.

To encourage families participate in safe mother hood activities.

Peoples are free to talk at their home

Therefore, the public health nurse has to do the following during home visiting

1. Thorough assessment of their health and environment

Treat and advice a woman with problems related to malpractices accordingly. Respecting the women (not be judgmental) and considering socio-cultural aspects are important when we help the women.

7. Learning Activity – Case Study

W/rt Mintiwab was an 18-year-old unmarried girl living in Azezzo, North Gondar, Ethiopia. She interrupted her education a year back when her father died. When she confirmed her pregnancy of two months, she felt shock. It was really unwanted. Another two months passed of worrying and thinking how to cope with this burden. One day she discussed with her friend about termination and they decided to go to the known traditional abortionist next day. He told her that there is no problem to abort the fetus and how much she should pay. Finally Mintwab and her friend agreed for

3.3 SATELLITE MODULE FOR MEDICAL LABORATORY TECHNICIAN STUDENTS

3.3 INTRODUCTION

3.3.1. Purpose and use of the satellite module

This satellite module is prepared for students of medical laboratory technicians. It is prepared to give emphasis on areas of laboratory diagnosis, which were not covered in the core module.

3.3.2. Directions

Be sure you have gone go through the core module.

After completing the satellite module, students should answer questions of the post-test.

Compare your answers of both the pre and post-tests.

3.3.3 Learning Objectives

After going through this satellite module, the student will be able to:

Describe the main infectious diseases that affect maternal health.

Determine some hematological, serological, biochemical, and other laboratory investigations that are helpful in the practice of safe motherhood.

3.3.4 Laboratory Diagnosis

Laboratory investigations increase accuracy of disease diagnosis. Many infectious diseases and serious illnesses can only be diagnosed reliably by using laboratory methods. The laboratory has an essential role not only in screening for ill health but also in assessing response to treatment. The laboratory plays a vital role in public health service. It gives the service a scientific foundation by providing accurate information to those with the responsibility for treating patients, monitoring their response to treatment as well as deciding health priorities and allocating resources.

Without reliable laboratory support patients are less likely to receive the best possible care and even the sources of disease may not be identified. Therefore, the most relevant laboratory tests that may play a great role in the reduction of maternal morbidity and mortality will be discussed in this unit.

A. Hematological tests

Blood consists of three types of cells: r

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For pregnant mother the most frequently done tests are RPR or VDRL. These are

(potassium hydroxide). Candida species can be found in materials swabbed from the female genitalia or discharges and also in urine more concentrated after centrifugation.

Gram's stain: The most commonly used microbiological staining technique that group organisms into two categories as gram positive and gram negative based on the reactions with the staining dyes.

Procedure

Make a smear of the specimen and fix the dried smear

Cover the fixed smear with crystal violet stain for 30 seconds

Rapidly wash off the stain with clean water

Tip off all the water and cover the smear with Lugo's iodine for 30 seconds

Wash off the iodine with clean water

Decolorize rapidly with acetone alcohol

Wash immediately with clean water

Cover the smear with neutral red stain for 2 minutes

Wash off the stain with clean water

Wipe the back of the slide clean and dry

Examine the smear microscopically

E. Parasitological examinations

Parasitological tests to detect and identify intestinal parasites are mandatory for pregnant mother especially in the developing countries like Ethiopia where there is high prevalence of intestinal parasitosis.

Trichomoniasis: This is a parasitic infection caused by a protozoan Trichomonas vaginalis. It is diagnosed by the wet mount technique using physiological normal saline. The parasite can be recovered from discharges of the genitalia or from urine sediment. The wet mount preparation should be examined for the parasite immediately before the parasite is immobilized. If delay is unavoidable the preparation or the specimen should be kept at 37 ^{0}c until it is done.

F. Clinical Chemistry tests

Among clinical chemistry tests, blood glucose determination is the most frequent to be routinely requested since gestational diabetes millets is common. Blood glucose

3.4 SATELLITE MODULE FOR ENVIRONMENTAL HEALTH TECHNICIAN STUDENTS

supply, which will be important to keep their personal hygiene, and clean food utensils, and reduce the work load of the women.

3. Facilitate personal hygiene as a household model in the village.
4. Proper disposal of harmful medical and domestic wastes.

Screening

Participate in identifying the number of women, who are at risk of: height <150 cm; weight (<38 kg); and age (<18yrs and 35 yrs) in relation to pregnancy.

3.4.4. Prevention and control of maternal health related problems

Environmental Health Measures

Construction of latrines (VIP, water flush toilet, etc.)

In order to reduce the risk of diarrhea disease transmission:

- All family members above 5 years age should use existing pit latrines.
- Parents should take care of their children's faeces in a controlled manner.

Domestic wastes disposal methods.

- Domestic waste products should be sorted out for reuse and proper disposal
- Waste should be disposed in a controlled manner to avoid from being breeding media of insects and rodents and causes of fire accidents.

Harmful medical wastes

- Proper disposal method like **Incinerator** to dispose dry and combustible wastes.
- Proper disposal method like **composting** and **controlled pits** to dispose of garbage, decomposable, and dead body wastes.
- Proper disposal methods for liquid wastes, like **septic tank** and **seepage** to dispose waste drainage cannels.

Participation in the development of protected water sources is important to:

To let the water sources are:

Accessible to fetch water

Adequate

Safe

Proper handling of water such as:

- Use of clean water
- Safe transportation of water away from contamination
- Avoid dipping system of stored water at household level (use Jerricans)
- Using clean cups for drinking water

Good housing conditions

- Proper arrangements of furniture to their appropriate place and origin
- Provide adequate ventilation and light
- Avoid overcrowding conditions (Should have separate kitchen and animal housing)

Personal hygiene

Hand washing (refer to core module)

Hygienic delivery care (the 5 cleans)

- Clean environment
- Clean hands
- Clean delivery services
- Clean perineum (external genital)
- Clean cord cutting instruments.

Health Education

1. Understand the importance and the role of health education in the prevention and control of maternal health problems.
2. Increase the communities awareness/ knowledge and practice on:
   - Personal hygiene
   - Safe and proper nutrition during pregnancy
   - Clean home and environment
   - Proper utilization of health services
   - Hygienic care for delivery and new born
   - Dangerous harmful traditional practice (blood letting, FGM, Uvulectomy)
   - Early reporting of danger signs in pregnancy and endemic diseases.

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What could be the reasons that community leaders were not using the latrines?

Were there a need assessment done prior to the projects?

If your answer is “no” what is your explanations?

Are all members of the family having the same right to use the project?

If your answer is “no” then what is you explanation?

List some of the important points of discussions from the text?

3.5 SATELLITE MODULE FOR COMMUNITY HEALTH

3.5.3 Pre-test

1. The role of CHW/TTBA in safe motherhood include
    a. Increase the awareness of the community through health education.
    b. Treating minor health problems if trained
    c. Refer cases that need further medical help.
    d. Mobilize the community for community based health services.
    e. All

2. Which one of the followings are causes of maternal death
    a. Bleeding
    b. Abortion
    c. Difficult labor
    d. Infection
    e. All

3. Which one of the following improves women's health?
    a. Early marriage
    b. Unavailability of health institutions
    c. Higher educational status
    d. Inadequate nutrition
    e. Harmful traditional practices.

4. CHW activities before conception (pregnancy) includes
    a. Family life education
    b. Nutritional education
    c. Encouraging immunization
    d. Family planning service
    e. All

5. Which one of the following is discouraged during pregnancy?
    a. ANC follow up

b. Rest and regular exercise
c. Eating all type of foods
d. Alcohol drink
e. Immunization

6. Which of the following cases should be referred by CHW/TTBA during pregnancy?
a. Abdominal pain and/or vaginal bleeding.
b. General body swelling and headache.
c. Convulsion
d. Rapture of membranes without labor
e. All

7. CHW/TTBA has to refer laboring mother in following conditions except
a. General weakness
b. Severe abdominal pain
c. Prolonged labor (>18 hours)
d. Rapture of membranes
e. Bleeding

8. On what points do you counsel the mother after delivery?
a. Nutrition
b. Personal hygiene
c. New born care
d. Postpartum follow up
e. All

9. W/ro Meaza had absence of monthly menses for the last 3 months. If her husband calls you because she has lower abdominal pain and vaginal bleeding, what do you do for her?
a. Massage the abdomen

b. Tell her husband to fire the gun
c. Refer her to health center
d. Give herbal drug
e. Restrict her from taking fluid and food.

10. Role of CHW/TTBA in the prevention of HIV/AIDS is/are
    a. Identify misconceptions about STIs/HIV/AIDS in the local community and give health education about facts of it.
    a. Encourage voluntary counseling and testing.
    b. Refer cases of genital ulcer and discharge for early treatment.
    c. Promote care and support for people living with HIV/AIDS.
    d. All

3.5.4. Learning objectives

At the end of this module, you should be able to

List common causes of maternal illnesses and deaths.

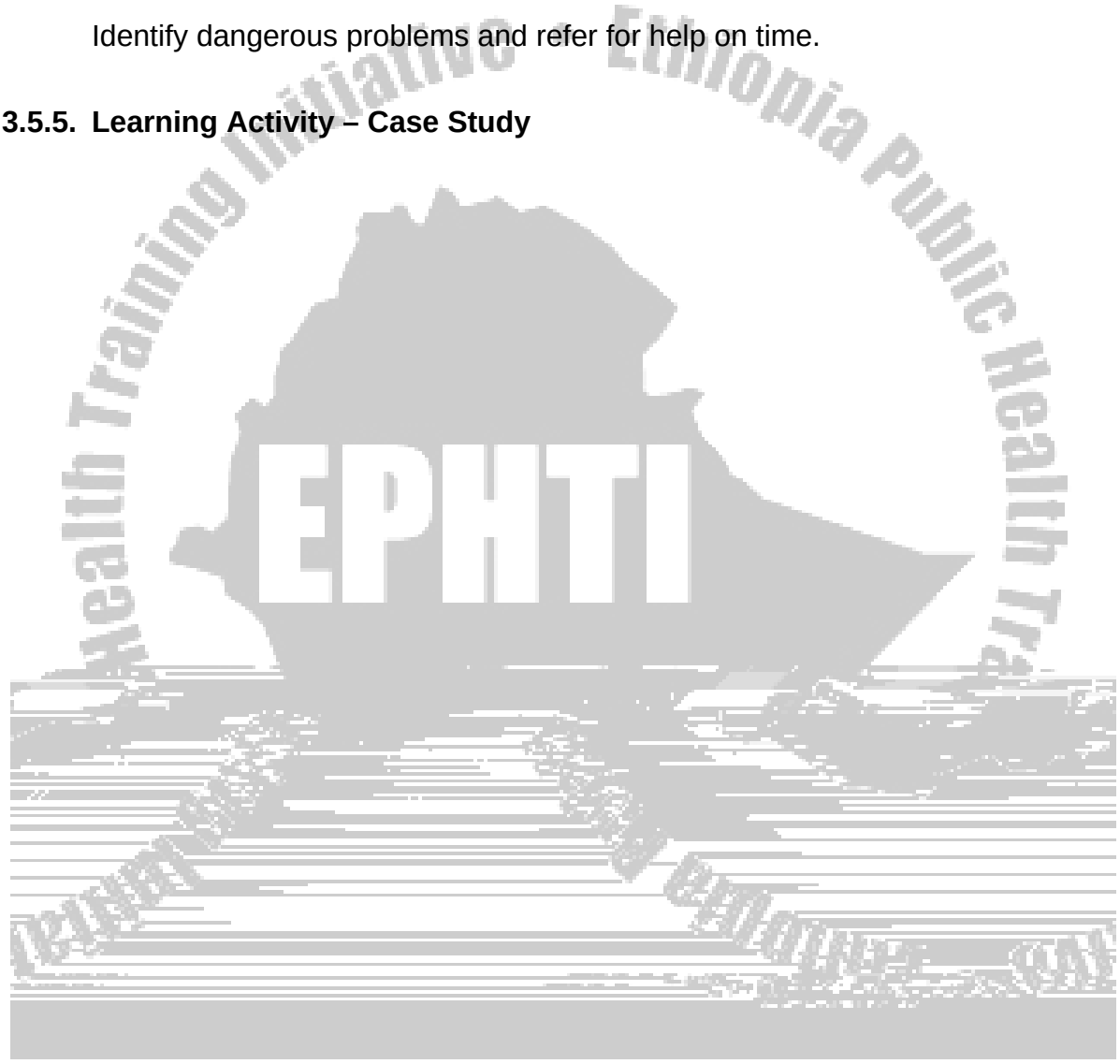
State factors affecting maternal health.

Educate the community about safe motherhood.

Provide Family planning, delivery and postnatal care at community level.

Identify dangerous problems and refer for help on time.

3.5.5. Learning Activity – Case Study



3.5.6. Significance and brief description of Safe motherhood

Women in most developing countries are at risk of dying from childbearing related problems. More than one-quarter of all adult women living in the developing world-currently suffer from short- or long-term illnesses and injuries related to pregnancy and childbirth. Maternal illnesses and death can be reduced or avoided by providing and expanding resources and services that are principally targeted in achieving maternal health and safe motherhood.

3.5.7. Role of community health worker in safe motherhood

Community health workers play a great role to increase awareness of the Community through Health education about traditional malpractices, the need for maternal health care, treating minor health problems and refer cases when it is necessary.

3.5.8. Definition of safe motherhood

3.5.9. Cause of maternal illnesses and death

Bleeding

Abortion

Prolonged and difficult labor

Infection

Anemia

Others like increased blood pressure, malaria. Etc.

3.5.10. Factors affecting women's life

A. **Socio-cultural factors:** including early marriage, early childbirth, harmful traditional practices including female genital mutilation, etc.

C. Health and nutrition services: Inadequate nutrition and poor reproductive health services affect women health status.

D. Gender Discrimination: e.g. giving more attention to the male child

3.5.11. Activities of community health workers

A. Care for the mother

Before conception (pregnancy)

Family life education: Educate adolescents and adults on reproduction, sexuality, infant care, child development, STIs and AIDS.

Nutrition: Promote better nutrition (with locally available sources) and increase in diet when requirement increased (pregnancy and lactation).

Immunization: encourage TT immunization for all women (15-49 years) and vaccines of six child killer diseases for all children.

Family planning: Promote and provide contraceptive methods as appropriate.

Traditional malpractices: discourage harmful practices like early marriage, female genital mutilation, having many children, etc.

Family planning

Educate on fertility and reproduction

Promote use of contraceptives

Supply contraceptive pills, condoms and spermicidal with appropriate counseling.

Refer those who need others contraceptive to the nearest health institution.

Identify misconceptions about contraceptives and discourage false believes.

During pregnancy

Encourage pregnant women to do the followings

- Nutrition: Promote better nutrition (with locally available sources) and pregnancy. –
- Rest, Cleanliness, and regular exercise (simple home activities).
- Antenatal cares follow up.
- Preparation for clean delivery.

Discourage

- food taboos that restrict pregnant women from taking variety of foods and rather allowing herbal substances
- abdominal massages, alcohol drink and smoking

Identify risk mothers like very short, chronic illness and soon.

Convince women and families of the importance of delivering at an appropriate facility.

Refer cases to closest health institution if they have

- Abdominal pain and/or vaginal bleeding.
- General body swelling and headache.
- Convulsion
- Rapture of membrane
- Fever

During delivery

Perform a clean delivery, if you are not trained call for TTBA.

Keep the newborn warm and put in breast.

Refer if bleeding is prolonged labor (> 18 hr), sever abdominal pain and general weaknesses.

After delivery

Counsel on nutrition, personal hygiene and infant care including immunization.

Counsel on need of postpartum check up.

Refer women with postpartum complications like hemorrhage and infection.

Abortion care

Detect and refer cases of lower abdominal pain and/or vaginal bleeding or discharge.

Discourage traditional malpractices like application of animal dung on umbilicus, uvulectomy and avoidance of sun light exposure.

STIs and HIV/AIDS

Refer cases of genital lesion or ulcer and discharge for further investigation and treatment.

Educate the community about STIs (symptoms, means of transmissions, treatment and prevention)

Encourage treatment of partner.

Identify misconceptions about STIs and HIV/AIDS and dispel false believes.

Counsel clients about HIV/AIDS and encourage voluntary counseling and testing.

Promote prevention of mother to child transmission of HIV/AIDS.

Encourage the community for care and support of people living with HIV/AIDS and peoples affected by HIV/AIDS.

Discourage stigma and discrimination of people living with HIV/AIDS, vulnerable groups and those affected by HIV/AIDS like orphans.

B. Prevention and promotion of women health

To prevent maternal illness and death and promote women health in ones community, CHW/TTBA has to consider the following areas of activities.

Provision of Health education

Home visiting

Facilitation and active involvement in outreach immunization programs and national immunization days.

Community mobilization for community based reproductive health activities.

Documenting and reporting maternal health related conditions to the responsible offices.

POST TEST: Do the pretest again and evaluate yourself comparing with your pretest grade.

B. HOME TAKE MESSAGE FOR CARE GIVERS

1. Before conception (pregnancy)

Promote better nutrition (with locally available sources) and increase diet for pregnant and lactating women..

All women (15-49 years) must take TT vaccine.

All under five year children must take vaccines of six child killer diseases.

All sexually active women and men can use family planning service to space birth and avoid unwanted pregnancy.

Avoid harmful traditional practices like early marriage, female genital mutilation, having many children, etc.

2. During pregnancy

Pregnant women need better nutrition (with locally available sources) and do not restrict pregnant woman from taking variety of foods.

Encourage rest and regular exercise (simple home activities).

Help her to keep her cleanliness

Encourage her to have antenatal cares follow up.

Prepare for clean delivery.

Do not message her abdomen.

Avoid alcohol drink and smoking during pregnancy.

Take her to health institution if she have

- Abdominal pain and/or vaginal bleeding.
- General body swelling and headache.
- Convulsion
- Rapture of membrane
- Fever

3. During labor

Call for TTBA. If TTBA is not available, it is better to go to health institution.

4. After delivery

Provide more nutrition.

Keep her cleanliness.

Keep the newborn warm and clean.

UNIT FOUR

POST TEST

4.0 POST TEST

INSTRUCTION: Attempt to answer the following questions and compare your results with the answer key.

1. Maternal health services that make motherhood safe include:
   a. Care by skilled health personnel before and after childbirth
   b. Emergency care for life-threatening obstetric complications
   c. Prevention and management of unsafe abortion
   d. Provision of family planning service
   e. All of the above
2. Which of the following is not a direct cause of maternal death?
   a. Hemorrhage
   b. Unsafe abortion
   c. Anemia
   d. Obstructed labor
   e. Pre-eclampsia
3. The followings are risk factors for maternal health, **except**:
   a. Early marriage
   b. Female genital mutilation
   c. Inadequate health service coverage
   d. Breast feeding
   e. Sexual abuse
4. Which one of following methods is best to diagnose maternal anemia?
   a. White Blood Cells count
   b. Blood film examination
   c. Blood hemoglobin
   d. Differential white cell count
   e. All of the above

5. The number of mothers having follow up during pregnancy per hundred women is:
   a. Attended birth
   b. Health service coverage
   c. Antenatal Coverage
   d. Birth spacing
6. Which one of the following is/are true about the increasing incidence of Sexually Transmitted Infections (STIs)?
   a. Change in the sexual attitude
   b. Advancement in technologies to diagnose
   c. Migration and urbanization
   d. Low socio economic status
   e. All of the above
7. The vaccines you give to women to prevent maternal and neonatal tetanus is
   a. TAT
   b. DPT 1-3
   c. Measles
   d. TT 1-5
   e. All of the above
8. Safe motherhood can be achieved by giving health education:
   a. Before pregnancy
   b. During pregnancy
   c. After delivery
   d. All of the above
9. Finding a high-risk mother in a health institution is an example of:
   a. Passive case detection
   b. Active case detection
   c. Neither active nor passive case detection
   d. Either active or passive case detection
10. Which one of the following is/are the

11. Maternal mortality ratio is the number of maternal deaths per
    a. 1000 pregnancies
    b. 10,000 pregnancies
    c. 100, 000 live births
    d. 100, 000 pregnancies
    e. 100,000 women aged 15-49
12. Antenatal health services include
    a. Health education
    b. Follow up during pregnancy
    c. Immunization
    e. High-risk detection
    f. All of the above
13. Prevention of maternal mortality include
    a. Community education
    b. Easy access for health institutions

UNIT FIVE

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UNIT SIX

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Obstetric: The branch of medicine that concerns management of women during pregnancy, childbirth and the puerperium.

Obstructed Labor: Is failure of descent of the presenting part despite adequate uterine contractions because of mechanical factors. Interference with fetal passage through the birth canal. Causes include fetal malposition, malpresentation, and cephalopelvic disproportion.

Postpartum Hemorrhage: Sever bleeding that occurs after childbirth.

Preeclampsia: A complication of pregnancy characterized by increasing BP of 140/90 mm hg and proteinuria. The condition may progress rapidly from mild to severe and, if untreated to eclampsia.

Primigravida: A woman during her first pregnancy.

Proteinuria: Protein, usually albumin, in the urine.

Satellite Module: A complementary learning-teaching module to the core module prepared for each category based on professional or task requirement.

UNIT SEVEN

ANNEXS

ANNEX I

CLASSIFYING FORM

Criteria for classifying women for the basic component of the new antenatal care model

Name

ANNEX II:

New WHO antenatal care model basic component checklist

Note: mark the activities carried out as appropriate (unshaded boxes). (Use the closest gestational age at the time of visit.)

Name of patient _____ **Address & telephone No**._____

_____

Clinic record No. _____ _____

FIRST VISIST for all women at first contact with, regardless of gestational age. If first visit later than recommended, carry out all activities up to that time Date: / /	**Visit** 1st 2nd 3rd 4th <12wks
Classifying form which indicates eligibility for the basic component of the programme	
Clinical examination	

ANNEX III

Formats

1. Antenatal, Labor, Delivery and postnatal card

A. Antenatal

Individual/Demography

Past medical/surgical History

Post Obstetric History

History of present pregnancy

General Examination

High Risk Factors Observed, Referral

B. Present Pregnancy

Risk factors for identification during pregnancy (Graph)

C. Labor and Delivery

Admission

Annex - IV

Assessment of Baby's Condition /Apgar Score/

Provided the baby is seen to be making some respiratory effort, the health worker attending the delivery can proceed to dry the infant gently (to minimize evaporate heat loss) while attending also to the foregoing procedures. At 1 minute after the baby's birth, she will make an assessment of his/her general condition and will repeat this assessment at 5 minutes. This involves consideration of five signs and the degree to which they are present or absent. The factors assessed are heart rate, respiratory effort, muscle tone, reflex response to stimulus, and color. A score of 0, 1 or 2 is awarded to each of the signs in accordance with the guidelines with the following table. This scoring system, the **Apgar Score (Apgar 1953)** is recognized and used universally. Of the five signs the heart rate and respiratory effort are the most important and color is the list important.

Table: The Apgar Score: The score assessed at 1 minute and 5 minutes after birth. Medical aid should be sought if the score is less than 7. 'Apgar minus color' score omits the fifth sign. Medical aid should be sought if the score is less than 6.

Sign	Score		
	0	1	2
Heart Rate	Absent	Less than 100 bpm	More than 100 bpm
Respiratory effort	Absent	Slower, irregular	Good or crying
Muscle tone	Limp	Some flexion of limbs	Active
Reflex response to stimulus	None	Minimal grimace	Cough or sneeze
Color	Blue, pale	Body pink, extremities blue	Completely pink

ANNEX-V

Romanowsky stains

A. Giemsa Stain

Purchase ready - made or prepare using the following formula:

Reagent preparation

To make about 500ml of Giemsa stain

Giemsa powder 3.8g

Glycerol (glycerin) 250ml

Methanol (methyl alcohol) 250ml

1. Weigh the Giemsa on a piece of clean paper (pre-weighed), and transfer it to a dry brown bottle of 500ml capacity which contains a few dry glass beads
   Note: Giemsa stain will be spoilt if any waster enters the stock solution during its preparation or storage.
2. Using a dry cylinder, measure the methanol, add to the stain and mix well.
3. Using the same cylinder, measure the glycerol, add it to the stain and mix well
4. Place the bottle of stain in a water bath at 50-60^0 c, or if not available at 37^0 c for up to 2 hours to help the stain to dissolve, mix well at intervals
5. Label the bottle, and mark it flammable and toxic store it at room temperature in the dark.

B. Wright stain

To make about 400ml of working Wright stain

Wright stain powder …… 1.0g

Methanol (methyl alcohol)…… 400ml

1. Weigh the Wright powder and transfer it to a dry brown bottle. Add a few glass beads to assist in dissolving the dye.
2. Using a dry cylinder, measure the methanol and add this to the stain. Mix well at intervals until the powder is completely dissolved. Warming the solution in a 37^{0}c water bath will help the dye to dissolve.
3. Label the bottle and mark it flammable and toxic. Store it at room temperature in the dark.

WBC diluting fluid

To make 100ml working WBC diluting fluid:

Acetic acid, glacial……2ml

Distilled water. ……..98ml

Gentian violet, 1% w/v…….2ml

1. Fill a 100ml cylinder to the 98ml mark with distilled water
2. Add 2ml concentrated (glacial) acetic acid and mix
3. Add the gentian violet solution, mix and transfer to a storage bottle
4. Label and store in the dark at room temperature.

Sulphosalicylic acid

To make 250 ml working Sulphosalicylic acid:

Sulphosalicylic acid……. 50g

Distilled water……250ml

ANNEX V

A. Answer key for pre and posttest of the core module

1. E
2. C
3. D
4. C
5. C
6. E
7. D
8. D
9. A
10. D
11. C
12. E
13. E
14. E
15. B

B. Answer key for Community Health Workers pre test (3.5.3)

1. E
2. E
3. C
4. E
5. D
6. E
7. D
8. E
9. C
10. D

UNIT EIGHT

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