FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF HEALTH

Competency Based National Comprehensive PMTCT/MNCH Training Participant's Manual

November, 2017

Addis Ababa

FOREWORD

New historic global event has been generated to derive a concerted effort to eliminate new HIV infection in children and to reduce pregnancy related deaths of HIV infected women. Stakeholders joined together to develop a global plan to eliminate new HIV infections in children by 2020 and to keep their mothers alive. Ethiopia, the second most populous nation in Africa, faces numerous health challenges and limited opportunities. One of these challenges is to reduce HIV-related morbidity and mortality in pregnant, parturient and lactating women and their infants. Despite the fact that through time, the coverage of women accessing ART for PMTCT services has increased from 25.5 % in 2011 to 59% in 2016 and expansion of PMTCT service option B+ providing facilities to more than 2,868 at the end of 2016, there is still much to be done with respect to coverage and quality of services. HIV Exposed infant accessed NVP prophylaxis is still about 34%, early infant diagnosis (EID) is 42% (HMIS report, end of EFY 2009/2016) seek attention.

In 2012 WHO released a programmatic update in which CD4 count is no longer a requirement to start HIV positive pregnant, parturient and lactating women with a more efficacious simplified ART regimen. This strategic shift given the name “Option B+” have significant programmatic advantage as well as has great impact on reducing the rate of mother to child transmission of HIV (MTCT). This treatment also reduces the sexual transmission of HIV to uninfected partner (sero-discordance) and is intended to be taken throughout the entire life of the mother.

Therefore, this newly revised Competency based National Comprehensive PMTCT/MNCH training package has the participant’s manual and facilitator’s guide. It is designed in a four modular way; each module focuses on basic skills (competencies) that the health care providers need to acquire through classroom interactions, skill stations with expert patient trainers of mentor mothers and facility based attachments. The FMOH believes that this resource translated into action will significantly support the implementation of option B+ and e-MTCT of HIV and syphilis.

Ephrem T. Lemango (MD, MA)
Director, Maternal and Child Health Directorate
Ministry of Health of Ethiopia

APPROVAL STATEMENT OF THE MINISTRY

The Federal Ministry of health of Ethiopia has been working towards standardization and institutionalization of In-Service Trainings (IST) at national level. As part of this initiative the ministry developed a national in-service training directive and implementation guide to implement trainings in a well standardized manner. The directive requires all in-service training materials fulfill the standards set in the implementation Guide to ensure the quality of in-service training materials. Accordingly, the ministry reviews and approves existing training materials based on the IST standardization checklist annexed on the IST implementation guide.

As per the national IST quality control process, this Competency Based National Comprehensive PMTCT/MNCH Training package has been reviewed using a standardization review checklist and approved by the ministry in December , 2017.

Dr Getachew Tollera
Human Resource Development Directorate Director
Federal Ministry of Health, Ethiopia

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10. Mr. Tamene Tadesse (Consultant)
11. Ato Misgna G/ Medihin, CDC
12. Ato Emiyamrew Sisay, FMOH
13. Dr. Clare Dykewicz, CDC
14. Dr. Abdulhamid Isehak, CDC
15. Dr.Tamiru Wondie, ICAP
16. Sr. Abaynesh Ahmed, FMOH
17. Mitslal Tekleab, FMOH
18. Birhanu Gudeta, AACAHB
19. Sr. Bezawit, Zewditu Hosp.
20. Zebideru Zewde, FMOH/ICAP
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FMOH again acknowledges the partners commitment for sustained financial and technical collaboration to improve the PMTCT program outcome and implementation of EMTCT strategies through the use of standard training packages in Ethiopia.

Acronyms

AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
ART	Antiretroviral therapy
ARV	Antiretroviral
AZT	Azidothymidine (Zidovudine)
BCC	Behaviour change communication
BCG	Bacillus-Calmette-Guerin
CDC	Centers for Disease Control and Prevention
CD4	Cluster of differentiations 4
CHWs	Community health workers
C/S	Caesarean Section
COC	Combined oral contraception
CPT	Co-trimoxazole preventive therapy
CQI	Continuous quality Improvement
CSF	Cerebrospinal Fluid
3TC	Lamivudine
DQA	Data Quality Assurance
DBS	Died blood spot
DHS	Demographic and Health Surveys
EDD	Expected date of delivery
EID	Early Infant Diagnosis
EPI	Expanded program of immunization
EPT	Expert Patient-Trainers (mentor mothers)
MBPC	Mother baby pair cohort
MDT	Multi-disciplinary team
M&E	Monitoring and evaluation
MNCH	Maternal, newborn, and child health
MOH	Ministry of Health
MRN	Medical record number
MTCT	Mother-to-child transmission of HIV
NB	Newborn
NRTI	nucleotide reverse transcriptase inhibitor
NNRTI	Non-nucleotide reverse transcriptase inhibitor
NVP	Nevirapine
OI	Opportunistic infections
OPV	Oral Polio Vaccine
PSG	Peer support group
PCP	Pneumocystis carrini pneumonia
PCR	Polymerase chain reaction
PEP	Post-exposure prophylaxis
PI	Protease inhibitor
PITC	Provider-initiated HIV testing and counseling
PLHA	People living with HIV/AIDS
PMTCT	Prevention of mother to child transmission
PNC	Postnatal care
RH	Reproductive health

FMOH	Federal Ministry of Health
FP	Family planning
GA	Gestational age
GOE	Government of Ethiopia
HAART	Highly active antiretroviral treatment
HAPCO	Federal HIV/AIDS Prevention and Control Office
HEI	HIV exposed infant
HEW	Health extension worker
HF	Health facility
HIV	Human immunodeficiency virus
HMIS	Health management information system
HTC	HIV testing and counselling
INH	Isoniazid
IP	Infection Prevention
ITN	Insecticide-treated bed net
IYCF	Infant and young child feeding
L&D	Labour and delivery
LMP	last menstrual period
LRTI	Lower respiratory tract infection
STI	Sexually transmitted infection
TB	Tuberculosis
TDF	Tenofovir
TMP-SMZ	Trimethoprim-Sulphamethoxazole
TT	Tetanus toxoid
UAN	Unique ART number
UNAIDS	Joint United Nations Program on HIV/AIDS
VDRL	Venereal disease research laboratory
WHO	World Health Organization

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Introduction

This National Comprehensive, competency based PMTCT/MNCH participant's training manual includes all essential knowledge, attitude and skills in need to provide essential services by health care providers. The participants are expected to exercise and be competent in how to deliver very essential services related to PMTCT/EID/ART in MNCH Platform. New developments from the WHO recommendations on specific areas and experiences from services delivery sites as well as the mothers under go through PMTCT services are incorporated to enrich the skill station portion of this training package.

This training takes place using the facilitator's guide and delivered using different teaching methodologies. The training will be supported by practical skill stations includes; HIV testing and counseling (HTC), laboratory techniques for HIV testing services, DBS collection for HEI, prescribing ART, and skill stations with expert patient trainers to learn how to deliver caring and compassionate counseling on treatment adherence HIV exposed infant care and EID and other services as well as practical attachment in the PMTCT/MNCH/ ART/ sites to produce competent service provider.

This participant manual is divided in to four modules. The first module covers basics of HIV and PMTCT interventions during pregnancy, the second module addresses PMTCT services during labor and delivery, the third module covers PMTCT interventions for HIV positive lactating mothers and HIV exposed infants. The last module addresses the PMTCT monitoring and evaluation frameworks including the continuous quality improvement approach to improve the quality of PMTCT services at MNCH platform.

Rationale to the course

The rationale of this training course is to include major changes in the PMTCT training material following the revision of PMTCT guideline based on option B+. Option B+ has been adopted in 2013 as a test and treat strategy for all HIV positive pregnant and lactating mothers to provide ART regardless of their CD4 count and WHO clinical staging. Following the adoption of option B+ the monitoring and evaluation framework for HIV positive pregnant and lactating mothers and their HIV exposed infants has been developed and quality improvement approaches designed to improve the quality of PMTCT/RMNCH services. As a regard revising the PMTCT training materials per option B+ is mandatory to capacitate health care workers on new updates of PMTCT including option B+, revised monitoring and evaluation frameworks and continuous quality improvement approaches.

Thus these competency based 12 days PMTCT/PMNCH/EID/MBPCF and CQI courses is designed all in One to help deliver the services in need in one stop in MNCH platform. The foundation of such integrated course is the Option B+ recommendation for PMTCT where early identification, early initiation, strengthening retention on ART and these recommendations have to be implemented in MNCH platform. This course has more of practical extent that gives emphasis for equity; addresses HIV exposed infant follow up and improve diagnostic services like DBS collection done in MNCH unit. This course is designed that the trainees learn from the experiences shared from participants in a role play. The expert patients also share their experiences and skills obtained through EPT trainings during skill station. The expert patient trainers for PMTCT are HIV positive mothers who undergo through PMTCT services before they are serving as mother mentors and who has plenty of experiences in ART adherence and HEI follow up.

This course is motivating because it encompasses hands on the job training so that the trainees are capable to deliver services immediately after completion of the course. This course has also incorporated the monitoring and evaluation framework namely known as mother baby pair cohort follow up register / integrated MNCH.PMTCT register as a standardization of the monitoring and evaluation mechanisms all over the country to help elimination of mother to child transmission of HIV by 2020. Finally the course has

MNCH/PMTCT/EID services quality improvement model theoretical, class room exercise and practical attachment in the health facilities where the training is provided. These experiences will automatically support the trainees to improve equality MNCH/PMTCT/ EID services in integrated manner per the option B+ recommendations.

Purpose of the Training

This comprehensive PMTCT/MNCH Training course is designed to prepare service providers to contribute to effective Prevention of Mother –To-Child Transmission of HIV (PMTCT) programs in their health facilities and communities.

The training materials have incorporated PMTCT option B+ strategy which considers the initiation of lifelong HAART to HIV positive pregnant and lactating mothers regardless of their clinical stage or CD4 count. This approach emphasizes the improved quality of life and health of mothers in addition to prevention of vertical transmission of HIV to their infants. This is a major shift in paradigm from the previous PMTCT- "Option A" approaches. After taking this course, health care providers working at MNCH service points in health facilities are expected to provide comprehensive MNCH service including treatment and care for HIV positive pregnant , parturient and lactating women. It is also important noting that all care for HIV Exposed Infant (HEIs) and early infant diagnosis (EID) services are given at MNCH set-up. It is believed that this approach will enhance mother-baby-pair services at a single point of care, minimizing the need for mothers to visit different service points (for themselves and their children) and fostering continuity of care from the antenatal services to post-natal care. Proper recording, documentation and reporting of required information is a backbone for the successful monitoring of PMTCT program thus appropriate emphasis is also given for this component.

Course syllabus

Course Description

This 12 days comprehensive MNCH/PMTCT training is designed to equip trainees with appropriate knowledge, skills and attitude to provide basic integrated MNCH/ PMTCT services including HIV prevention, care and treatment for HIV positive pregnant and lactating women and their HIV exposed infants in MNCH service setup.

Training Design

This training is designed for health care professionals. The course builds on each participant's past knowledge, experience and attitude and takes advantage of the individual's motivation to accomplish the learning tasks in a minimum amount of time. Training emphasizes doing, not just knowing, and uses competency-based evaluation of performance. This modular based course adopts a participatory and interactive approach and is designed to maximize involvement of all participants. Participants will learn through a combination of individual reading sessions, group discussions, exercises, role plays, expert patient trainees interaction using checklists, skill acquisition on essential laboratory skills mainly on HIV testing (HT) and dry blood sample (DBS) collection and case studies as well as clinical session to experience execution of continuous quality improvement tool using checklist and standardizing usage of the mother baby pair follow up in the facilities for a practicum are included as a training approach.

This training differs from traditional courses in several ways:

- It uses a modular approach which all participants are expected to work hard on demonstrations and practical skills.
- It uses expert patient EPTs (if available) or scenarios of expert patient on different cases
- The training included site visit to a health facility.
- To align with the new guidelines

Course Goal

The goal of this course is to produce quality and competent MNCH/ PMTCT/ ART/EID service providers, program managers, supervisors and mentors.

Course objectives

To provide evidence-based and participatory training in how to manage pregnancy, labour, childbirth, the postnatal period, and the care of HIV-infected women and HIV-exposed infants through the end of breast feeding at the facility level.

Course competencies

The following are the competencies expected to be acquired and executed after the completion of the training

At the end of this course participants will be able to:

- Provide integrated MNCH/ PMTCT – HIV prevention, care and treatment – in routine MNCH services.
- Manage the postnatal period within the context of HIV infection
- Provide pretest information for STIs including HIV and MTCT of HIV and Syphilis
- Performing HTC, Perform HIV exposed Infant follow up and DBS collection
- Provide and refilling of ARTs
- Perform family planning counseling for HIV positive women
- Demonstrate partograph plotting and usage to manage delayed births.
- Manage mother support groups to improve adherence to ART and follow up

Target audience

Target Audiences of this clinical course are:

Health care providers: nurses, midwives, health officers and medical doctors who are providing antenatal care (ANC), labor and childbirth, and postnatal and newborn care and ART services providers.

Participant Selection Criteria

The participants for this course should be facility-level service providers who are responsible for providing one or more MNCH services which include: antenatal care, labor and delivery care, postnatal care, infant care, family planning services and child health care. In addition, health workers/ managers currently work as a program coordinator, in mentoring PMTCT/ART

in a facility or supervising a facility where these services are provided or are planned to be initiated.

Trainer Qualification criteria/ requirement

In competency-based training, the responsibility for meeting learning objectives is shared by the trainer and each participant. The role of the trainer is to facilitate learning. The trainer guides participants during the training toward the acquisition of new or improved skills in PMTCT and also seeks to influence participant attitudes by serving as a role model. In selecting PMTCT trainers to use this training package, the following criteria should be considered:

• Demonstrated proficiency in PMTCT. The trainer must have knowledge and skills in the selected areas of PMTCT to be taught in this training.

• The trainers must have received training of trainers' course on PMTCT.

It is strongly recommended that 3 clinical trainer for a 25- 30 participants to conduct this PMTCT course. The venue of the training will be National IST centers. The trainers can divide roles and responsibilities according to their expertise, such as sharing the roles of "coach" and "facilitator" throughout the course

Training Methods

This course adopts a participatory and interactive approach and is designed to maximize the involvement of all participants. Participants will work through the sessions with the aid of facilitators and Expert Patient-Trainers (EPTs), where available, and will learn through a combination of individual reading sessions, group discussions, facilitator-led drills, short answer exercises and case studies, and skill stations with EPTs.

Learning materials including Aids

The training packages relevant to deliver the Comprehensive PMTCT/MNCH training are the following:

- National Comprehensive PMTCT/MNCH Training Package:
    - 4 modules of participant's manual, facilitator's guide and power point
- National PMTCT Guideline and implementation manual
- EID implementation manual

List of Materials Needed for the Course

SN	List of Materials	Suggested Quantity
For Module 1-3 sessions		
1.	Participants manual – Module 1- 4	35 from each
2.	Exercise note book	35
3.	Pen	35
4.	Flipchart	04
5.	Marker	2 box
6.	World Health Organization (WHO) HIV clinical staging wall chart	1
7.	Laminated photos on OIs	
8.	Computer and LCD projector, Speaker	1
9.	Condoms male, female	100 of male, 2 of female
10.	Penile models at least one for two participants	15
11.	Video clips on female condoms and HIV animation	One for each
12.	Samples of ARV drugs	One from each
13.	Counseling guides/ protocols	15
14.	Disclosure counseling guide	15
15.	Pretest information Flipcharts	5
16.	Card sorting materials (different OIs color pictures), ARV drug items	
17.	NVP syrup	5 bottle
18.	Syringe of 2ml	10 pcs
19.	Mannequin, newborn resuscitation tools (Ambo bag bulb) syringe and towels	5
20.	Video on newborn resuscitation	1
21.	Copies of plain partograph and answered partograph	100copies

22.	Sample of Implants (Jadelle, Implanon), other FP commodities	5
23.	Breastfeed assessment job aid	5
24.	Growth chart	5
25.	MUAC Centimeter for mother	5
26.	MUAC Centimeter for baby	5
27.	Photograph booklet –DBS samples	5
28.	Breastfeed assessment job aid	5
For module 4 sessions		
1.	Integrated Antenatal, Labor, Delivery, Newborn, Postnatal care card	35
2.	HIV exposed infant follow up card	35
3.	ART Intake form	35
4.	HIV/ART chronic care follow up form	35
5.	Women's card	35
6.	Transfer out form	35
7.	ANC Register	35
8.	L&D Register	35
9.	PMTCT Register for Health Centers and Hospitals (mother baby pair cohort register)	35
10.	Postnatal Register	35
11.	Family Planning Register	35
12.	DNA PCR specimen tracking logbook	35
13.	CD4 request forms	35
14.	DNA PCR request forms, log book	35
15.	Monthly HMIS reporting forms	35
16.	Cohort reporting form**	35
17.	PMTCT appointment & LTFU Tracking logbook***	35
18.	PMTCT Dashboard ****	35
19.	PMTCT facility performance indicators follow up	35

	form*****	
20.	CQI package checklist all in one	35
21.	Pencil	35
22.	Eraser	35
23.	Sharpener	35
For Skill station sessions with EPTs of Mother mentors one for two trainees		
1.	Flipchart	2
2.	Marker	1 packs
3.	Exercise note book	17
4.	Pen	17
5.	Adhesive plaster	1
6.	Amharic Checklists (use locally applicable language too) of scenarios from one to four for training EPTs	34 from each
7.	Checklists of scenarios from one to four for Skill station	34 from each

Course Evaluation

- Daily session evaluation and end course evaluation should be completed by each participants
- Pre- and post-training knowledge assessment
- Each participant will be evaluated during performing group activities, case studies, role plays, and clinical practice and skill stations with four scenarios

Participant's reactions

The participant's reflection and expectations towards the training will be documented and discussed to improve the quality of trainings.

Trainee Assessment and Certification Criteria

Certification is based on the participant's achievement in two areas:

- Skills—Satisfactory performance of required skills during the course through group exercises, case studies, role plays, skill station with EPTs and clinical practice such as HTC and **DBS collection** and preparing for transportation.
- Responsibility for the participant becoming qualified HW is shared between the participant and the trainer.
- Knowledge— A score of at least **80%** on the post course knowledge assessment

Training Venue Selection

The trainings will be held in universities, colleges and hospitals in which most of them are in-service training centers for ministry of health.

Course schedule

This Competency Based Comprehensive MNCH/ PMTCT/MBPC Follow- up & CQI model training coordinated by _____ in collaboration with _____ conducted at _____Town, in _____ hall. From ____ to _____.

Schedule for Competency Based Comprehensive MNCH/ PMTCT/MBPCF/CQI Course				
	Deliverable/objectives: At the end of this training course the participants will be able to: 1. Describe all the competencies acquired during this competency based trainings 2. Demonstrate all the skills acquired during this competency based trainings obtained through role plays, counselling on HIV testing, couple counselling and HTC, disclosure, adherence to ART,FP, infant feeding and attachment, demonstrate proper application condoms, identify common OIS and manage it accordingly, screen for TB and initiate INH, prescribe and refill ART,			

	assess side effects and manage or refer clients for further management, 3. Perform laboratory technical skills (HTC, DBS collection and follow up management…) in MNCH /PMTCT platform. 4. Demonstrate useful skills on counselling using five A s Approach experiences obtained through skill stations(Expert patient trainers (EPTs)) 5. Exercise caring, respectful and compassionate (CRC) moral 6. Correctly use of MNCH and ART/ EID **HMIS tools** including mother baby pair cohort follow up (MNCH/PMTCT) register implement transfer-out and transfer-in, improve linking clients for appropriate services and show the linkage in the registers, use standard referral papers Perform continuous quality improvement approach in health facilities **and follow the plan of actions**			
Date and time	**Activities/agendas**	**Responsible**	**Facilitator**	**Remark**
Day One	**Monday**			
8:30 - 9:00	Registration	Organizers		
9:00 - 9:15	Welcoming /Opening remark through PMTCT/MNCH program coordinator	FMOH/RHB,ZHO, Representative		
9:15 - 10:00	Introduction of participants	Participants		

10:00 - 10:45	Pre test	Facilitator		
10:45 - 11:00	Ground rule and expectations from the training	Facilitator		
11:00 - 11:30	Tea break			
11:30 - 11:50	Course Over view	FMOH/RHB ,ZHO, Representative		
11:50 - 12:00	Status MNCH/PMTCT/EID overview			
12:00 - 12 :30	**Module 1, PMTCT during Antenatal care** **Section One:** Basics of HIV and PMTCT	Participants	Facilit ator	
12:30 - 1:30	Lunch			
1:30 - 3:30	**Module 1, Section One:** Basics of HIV and PMTCT continued	Participants	Facilit ator	
3:30 - 4:00	Tea Break			
4:00 - 5:25	**Section 2:** Introduction to focused ANC (FANC).	Participants	Facilit ator	
5:25-5:30	**Daily evaluation**	Participants	Facilit ator	
Day Two	**Tuesday**			
8:30 - 9:00	**Recap:**	Participants	Facilit ator	
9:00 - 10:00	**Section 3:** HIV and syphilis testing and counselling during ANC	Participants	Facilit ator	
10:00 - 10:30	Tea break			
10:30 - 12:30	**Section 3:** HIV and syphilis testing and counselling during ANC continued	Participants	Facilit ator	
12:30 - 1:30	Lunch			
1:30 - 3:30	**Section 3:** HIV and syphilis testing and counselling during ANC continued	Participants	Facilit ator	
3:30 - 4:00	Tea break			
4:00 - 5:25	**Section 4**..Specific Interventions for PMTCT in			

	the ANC			
5:25-5:30	**Daily evaluation**	Participants	Facilitator	
Day Three	**Wednesday**	**Responsible**		
8:30-8:40	**Recapitulations**	Participants	Facilitator	
8:40- 9:00	**Section 4**..Specific Interventions for PMTCT in the ANC continued	Participants	Facilitator	
10:00 - 10:30	Tea break			
10:30 – 12:30	**Section 5.**Care and treatment of HIV positive pregnant women	Participants	Facilitator	
12:30 - 1:30	Lunch			
1:30 - 3:30	**Section 5.**Care and treatment of HIV positive pregnant women	Participants	Facilitator	
3:30 - 4:00	Tea break			
4:00-5:25	**Section 5.**Care and treatment of HIV positive pregnant women	Participants	Facilitator	
5:25-5:30	**Daily evaluation**			
Day Four	**Thursday Module II: PMTCT during Labour and Delivery**			
8:30-8:40	**Recapitulations**	Participants		
8:40- 9:15	Introduction to module 2and **Section 1**. Introduction to Intra-partum care for PMTCT during L&D	Participants	Facilitator	
9:15 – 10:00	**Section 2**: Standard precautions during labor and delivery	Participants	Facilitator	
10:00 - 10:30	**Tea Break**			
10:30 - 12:30	**Section 3** management of Labour and childbirth in the context of PMTCT partograph	Participants	Facilitator	
12:30 - 1:30	**Lunch**			

1:30 - 2:30	**Section 3** Management of Labour and childbirth in the context of PMTCT: Partograph continued	Participants	Facilitator	
2:30 – 3:30	**Section 4**. Section 4. Immediate post natal & newborn care, newborn resuscitation / HBB	Participants	Facilitator	
3:30- 4:00	**Tea break**			
4:00-5:30	**Section 4**. Section 4. Immediate post natal & newborn care, newborn resuscitation / HBB continued HBB exercise with Monique	Participants	Facilitator	
5:30-5:30	**Daily evaluation**			
Day Five	**Friday Module III : Labor and Delivery**	**Responsible**		
8:30-8:40	**Recapitulations**	Participants	Facilitator	
8:30 - 9:20	**Introduction to module three and Section 1**: Overview of Post natal care in the context of HIV	Participants	Facilitator	
9:20-10:00	**Section 2**:PMTCT after the first 12 hours and child birth	Participants	Facilitator	
10:00-10:30	Tea break			
11:00-11:35	**Section 2**: PMTCT after the first 12 hrs and child birth continued	Participants	Facilitator	
11:35-12:30	**Section3**:Newborn care after the first 12 hours	**Participants**	**Facilitator**	
12:30-1:30	Lunch			
1:30 -2:20	**Section3**:Newborn care after the first 12 hours continued	**Participants**	**Facilitator**	
2:20 - 3:00	**Section 4**: Family planning counselling and linkage and integration	**Participants**	**Facilitator**	
3:30-4:00	Tea break			
4:00-5:25	**Section 4**: Family planning counselling and linkage and integration continued	**Participants**	**Facilit**	

			ator	
5:25-5:30	**Daily Evaluation**	**Participants**	**Facilit ator**	
Day Six	**Saturday: EPT training**			
Full day	Participants will observe the expert patient training (if TOT) but it is laboratory exercise for basic PMTCT training : HTC and DBS with laboratory Expert	**Participants**	**Facilit ator**	EPT Traini ng
5:15-5:30	Summary of the day and comments			
Day Seven	**Sunday**			EPT Traini ng
Full day	Participants will be free			
Day Eight	**Monday**			Attac hmen t with EPTs
8:30 - 9:00	**Group One**: Couple counselling practices role play among the HWs	**Participants**	**Facilit ator**	
8:30 - 9:00	**Group Two:** Skills Station in the class room With case scenario one through Expert mother mentors			
9:00-9:30	**Group Two:** Couple counselling practices role play among the HWs			
9:00-9:30	**Group One**: Skills Station in the class room With case scenario one through Expert mother			

	mentors			
9:30-10:00	**Group One**: 2. Condom negotiation skills and condom application demonstration			
9:30-10:00	**Group Two:** Skills Station in the class room With case scenario two through Expert mother mentors			
10:00-10:30	**Group One**: Skills Station in the class room With case scenario two through Expert mother mentors			
10:00-10:30	Group Two: OIs, WHO staging and OI Management			
10:30-11:00	Tea break			
11:00-11:30	Group One: Skills Station in the class room With case scenario three through Expert mother mentors			
11:00-11:30	**Group Two:** OIs, WHO staging and OI Management			
11:30-12:00	**Group One** **Common ARV drugs, Sid effects and management of Side effects**			
11:30-12:00	**Group Two** Skills Station in the class room With case scenario three through Expert mother mentors			
12:00-12:30	**Contingency time during exchanging**			
12:30-1:30	**Lunch**			

1:30-2:00	**Group Two** Skills Station in the class room With case scenario four through Expert mother mentors			
1:30-2:00	**Group Two** **Common ARV drugs, Sid effects and management of Side effects**			
2:00- 2:30	**Group one** Skills Station in the class room With case scenario four through Expert mother mentors			
2:30- 3:00	Role play by EPTs using providers and EPTs			
3:00-3:30	Tea Break			
4:00 - 5:30	Role play presented by EPTs as a PMTCT service provider and the PMTCT client Through coffee ceremony			
Day Nine	**Tuesday** **Laboratory for TOT / start Module 4 for basic training for basic training**			
Day Ten	**Wednesday : Module IV**			
8:30-8:45	Section 1: Introduction to M&E & CQI Approach			
8:45-10:00	Section 2: Introduction to MNCH/PMTCT M&E			
10:00-10:30	**Tea break**			
10:30-11:45	Section 2: Overview of HMIS indicator definitions for MNCH/PMTCT			
11:45-12:30	Section 3: recording data:-SOP/ Key message			
Day 11	Practicum at minimum 4 health facilities For CQI ,MBPC follow up and linkage and integration and services up take of the visited health facilities based on the checklist			

12:30-1:30	**Lunch**			
1:30-3:30	Section 3: recording data- SOP			
3:30-4:00	**Tea break**			
4:00-5:30	**Section 3:** recording data- SOP: Recapitulation: Documentation exercise MBPC			
Day Eleven	**Thursday**			
8:30 - 9:30	**Section 4**: Reporting process and section			
9:30 - 10:00	**Section 5:** Data quality			
10:00 -10:30	Tea break			
10:30 -11:30	**Section 6:** Performance evaluation, Dash board using PMTCT indicators			
11:30 – 12:30	**Section 7**: Continue Continuous quality improvement (CQI) class room simulation exercise starts with assessment session			
12:30 - 1:30	Lunch			
1:30 - 3:30	**Section 7:** Continue Continuous quality improvement (CQI) class room simulation exercise continues …… Developing POA			
3:30 - 4:00	Tea break			
4:00 - 5:30	**Section 7:** Exercise on Continue Continuous quality improvement (CQI)			
Day Twelve	**Friday is last day for Basic**			
Full day	Practical attachment to different health facilities for TOT but final day for Basic PMTCT training therefore CQI report will be presented, Post tests, closing remarks			
Day Thirteen	**Saturday is the last day for TOT**			
8:30 - 10:00	Feedback presentations by Four groups among all participants and discussions			
10:00 - 10:30	Tea break			

10:30 - 12:30	Present Program management and implementation issues by the program management body use (Guidelines, Implementation manual, EMTCT of HIV and syphilis, strategies and activities planned for the coming 5 years)			
12:30 - 1:30	**Lunch**			
1:30 - 3:30	4 Groups discussion on implementation challenges based on the health system building blocks (HR,M&E, HMIS,LMIS, Finance, and Governance /leadership, community mobilization and demand creation, multi sectoral partnership)….. and proposed solutions and experiences shared after presentations, Planning training in case of TOT			
3:30 - 4:00	Tea break			

MODULE ONE

PMTCT IN ANC SETTINGS

Module I: Comprehensive PMTCT Services during Antenatal care

Time: 1009 minutes

Objectives of module I:

By the end of this module, participants will be able to:

- Explain the key basic facts of HIV/AIDS and MTCT of HIV and syphilis
- Describe and apply the necessary steps to provide focused ANC, quality HTC and specific interventions for PMTCT in ANC settings.
- Apply the necessary knowledge and skills on counseling ANC clients for different health issues
- Demonstrate the skills and competencies to clinically manage HIV positive clients in ANC setting.
- Transfer knowledge and skill to untrained health care workers working in the MNCH platform
- Correctly implement transfer out and transfer in clients between MNCH and ART units both internal and external health facilities
- Link HIV positive clients referred from labor and delivery, post natal, EPI, FP and pre-ART units through standard referral format.

This module comprises 5 sessions.

1. Session I: Basics of HIV and MTCT
2. Session II: Focused ANC in the context of HIV
3. Session III: HIV Testing and Counseling During ANC
4. Session IV: Specific Interventions for PMTCT in the ANC Setting
5. Session V: Care, treatment and follow up of HIV positive pregnant women

SESSION 1: Basics of HIV and Mother to Child Transmission (MTCT)

Time: 186 minutes

Learning Objectives (7min)

By the end of this session participants will be able to:

- Explain HIV/AIDS
- Explain how MTCT of HIV occurs
- Describe factors that increase the risk of MTCT of HIV and interventions that can reduce the risk.
- Describe the four prongs of PMTCT.
- List steps for proper condom use and skills on condom negotiation
- List the steps for FP counseling

Core Competencies:

- Cognitive/knowledge:
  - Knowledge on HIV and MTCT of HIV
  - Knowledge on the 4 prongs of PMTCT
- Skill:
  - Steps in proper condom application demonstration by each participants
  - Counselling on family planning
  - Counseling Skills on condom negotiation and family planning

Session Outline

Activity	Topic	Time	Methodology
Activity	Introduction: The story of Aselef and Alemayehu	16minutes	Reading, discussion of story Q&A (question & answer)
1.1	Defining HIV and AIDS	30 minutes	Reading and discussion
1.2	The immune system, HIV, and disease progression		Reading and discussion
1.2.1	HIV viral replication Video clip	20 min	Video/ summary
1.3	Mother to child Transmission of HIV	45 minutes	Reading and discussion

Activity	Topic	Time	Methodology
1.3.1.	Prong 2 of prevention of Mother-to-Child transmission of HIV	30 minutes	Role play on FP counseling,
1.3.1.1	Steps for proper use of condom	20 minute	
1.3.1.2	Condom negation skill	10	Role play in pair turn by turn
1.4	Summary	15	Discussion

Exercise 1.1: The Story of Aselef and Alemayehu (16 minutes)

Follow the story while one of the participants reads it aloud and then answer the questions below the story.

The Story of Aselef and Alemayehu

The story starts in 2002. Aselef is a girl living in one of the big cities of Ethiopia. She just completed her university education and got married to Alemayehu. Aselef's family likes Alemayehu very much. Alemayehu owned a shop.

Alemayehu, a year before marriage

Alemayehu had frequent business trips. While he was on business trip, he used to go to bar to relax and have fun. One night, he took alcohol and was in a good mood when he met a girl where he later spent the night with. He regretted for sleeping with the strange person who is probably HIV infected and worried for contracting any gent's disease.

March 2002

Aselef and Alemayehu got married. It was a beautiful wedding, with a lot of people invited and good food and drinks. Aselef and Alemayehu started to live together, both working in the business.

April 2002

One day, suddenly, Aselef felt sick. It looked like flu, with fever, sore throat and pains. After some days, she felt better and started to work again. She did not need any treatment.

Beginning of 2003

A year later, Aselef got pregnant. Everybody was happy. The first child, Leul, was born. Leul

was the pride of the family.

2004, Dagim is born

Their marriage was peaceful and happy, and business was going well. Aselef got pregnant again and gave birth to another baby boy, Dagim, in 2004.

However Dagim was not as healthy as his elder brother Leul. He frequently got sick with fever, diarrhea and sore mouth. His weight was also low. He had frequent visit to doctor. One day, the doctor said to Aselef that the baby had symptoms suggestive of compromised immunity and counseled her on the HIV test, but she refused the testing. After returning home, Aselef did not talk to Alemayehu about what the doctor said about Dagim.

Dagim's condition got worse, and he died in early 2005, and the whole family was disturbed and grieved by his death.

Almost a year after Dagm's death (2006), Alemayehu started to get sick very often. He usually used different treatments buying by his own. His health never got better like used to be.

The last two months of 2006 were very hard for Aselef. She was often in a very bad mood, and by then she had to take care of her sick husband and manage the business alone at the same time. However her husband's condition got worse and he died in late 2006.Aselef feels more depressed. Though she is not feeling sick yet, she started realizing that a certain illness has affected her family. Now she is more concerned about her and her child, Leul's health, and starts worrying more about what will happen to her only child if she dies.

Answer the following questions:

1. What is the most likely disease that Alemayehu died of?
2. By whom & how was Alemayehu infected with this disease?
3. How did Aselef get infected with this disease?
4. What is the most likely cause of Dagim's illness and later death?
5. How did Dagim contract the disease?
6. What do you think of Leul's status?
7. Why is Leul free of the illness that killed his father & younger brother?

8. How much time was there between Alemayehu's initial infection and the year he started to have serious symptoms?
9. How much time passed between the time Alemayehu got infected and the time he died?
10. Why was Aselef sick shortly after marriage?

1.1. What is HIV/AIDS?

HIV stands for **H**uman **I**mmunodeficiency **V**irus which primarily attacks the immune system. HIV is from a special family of viruses known as retroviruses.

AIDS stands for Acquired Immune Deficiency Syndrome. Patients who are infected with HIV will develop signs and symptoms as a result of immune depression which collectively called AIDS.

A: Acquired - (not inherited) to differentiate from a genetic or inherited condition

I: Immuno - Refers to the immune system

D: Deficiency - Inability to protect against illness

S: Syndrome –A group of symptoms or illnesses that occur as a result of the HIV infection

Modes of HIV transmission:

- Sexual relations (anal, vaginal, oral) with an infected person
- Transfusion with infected blood or blood products
- The use of needles, syringes, and cutting or perforating objects contaminated by HIV-infected blood
- MTCT

Important: The presence of Sexually Transmitted Infections (STI) increases the risk of acquiring and transmitting HIV. This is because people with these problems have a higher concentration of HIV in the genital mucosa and/or transmission of the virus is facilitated due to the presence of ulcers or openings in the mucosa.

1.2. HIV and the Immune System

1.2.1. Introduction to the immune system:

A basic understanding of the anatomy and function of the immune system is helpful in understanding HIV, which is an infection of the immune cells and organs. The function of the immune system is to defend our body from invasion by micro-organisms in the environment through respiration, ingestion or contact with skin and mucous membranes.

The organs where immune cells are produced or stationed are the thymus, bone marrow, lymph nodes (found along most organs including gastrointestinal tract, respiratory tract, and reproductive organs), spleen, and liver. The immune system is organized in such a way that the body is prepared to defend itself immediately as well as in a sustained manner for ongoing infections.

The immune system protects the body from possibly harmful substances by recognizing and responding to antigens. Antigens are substances (usually proteins) on the surface of cells, viruses, fungi, or bacteria. Nonliving substances such as toxins, chemicals, drugs, and foreign particles (such as a splinter) can also be antigens. The immune system recognizes and destroys substances that contain antigens.

INNATE IMMUNITY

Innate, or nonspecific, immunity is the defense system with which you were born. It protects you against all antigens. Innate immunity involves barriers that keep harmful materials from entering your body. These barriers form the first line of defense in the immune response. If an antigen gets past these barriers, it is attacked and destroyed by other parts of the immune system.

ACQUIRED IMMUNITY

Acquired immunity is immunity that develops with exposure to various antigens. Your immune system builds a defense against that specific antigen. (Refer to Figure 1 below)

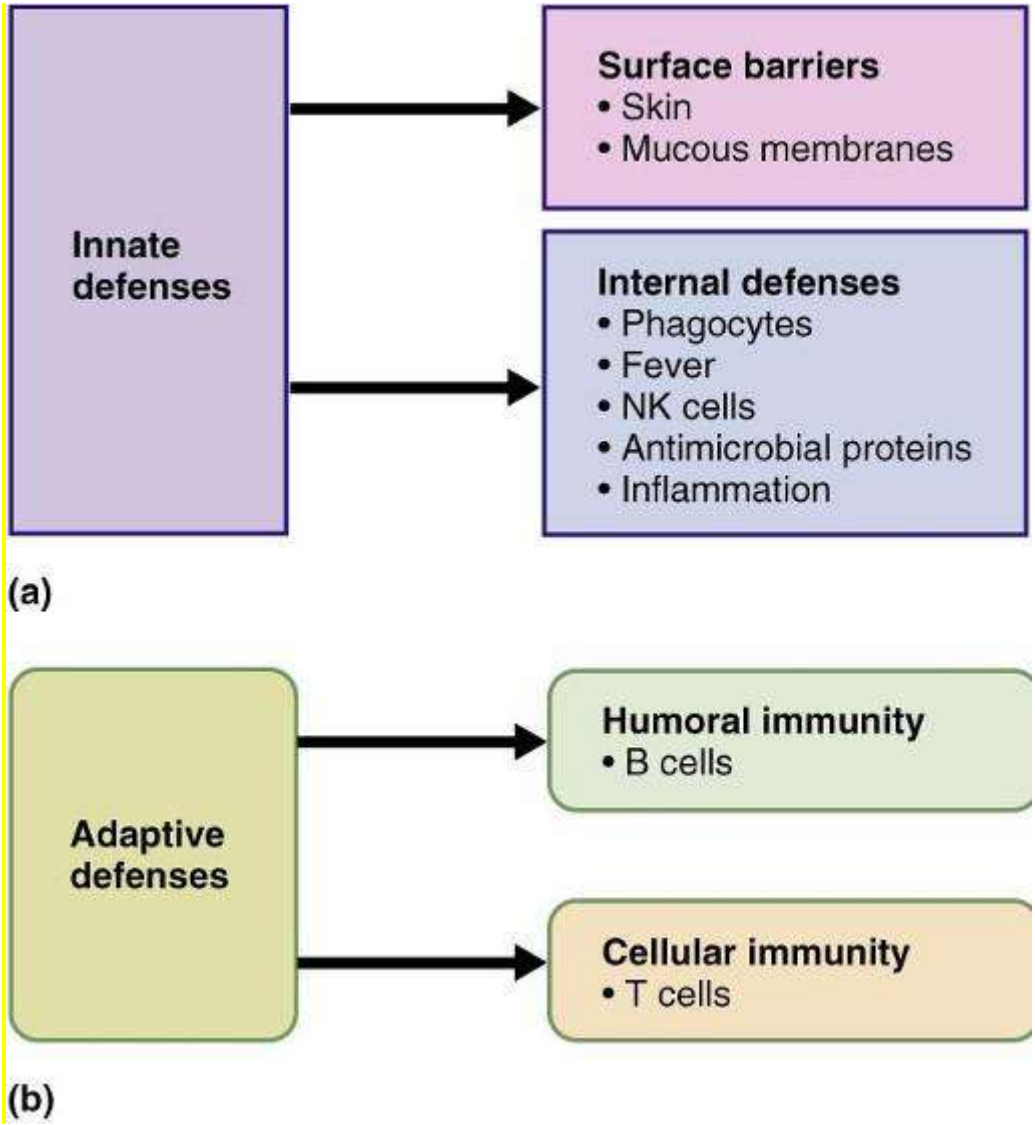


Figure 1: Classification of the immune system (read further about the immune system)

1.3. Life cycle of HIV

Although HIV infects a variety of cells, its main target is the T4-lymphocyte (cluster of differentiations 4, or **CD4**).The T cell is a **kind of white blood cell** that is responsible for warning the immune system that there are invaders (diseases) in the body. Once HIV binds to a cell structure, it hides its material inside the cell. This turns the cell into a sort of HIV factory. (Refer to figure 2)

Figure 2: Life Cycle of HIV

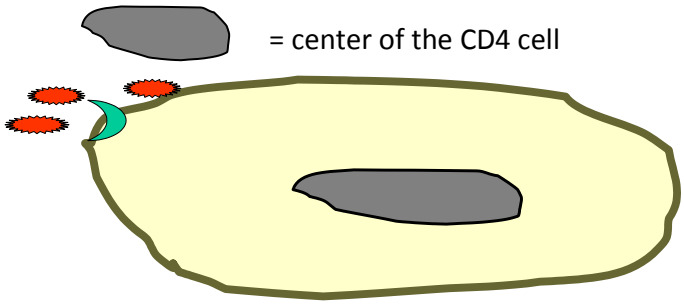
= HIV

= HIV that has changed

= gate of entry for HIV in the CD4 cell

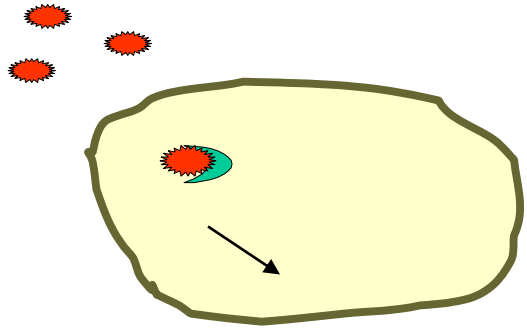
= part of new HIV

= center of the CD4 cell



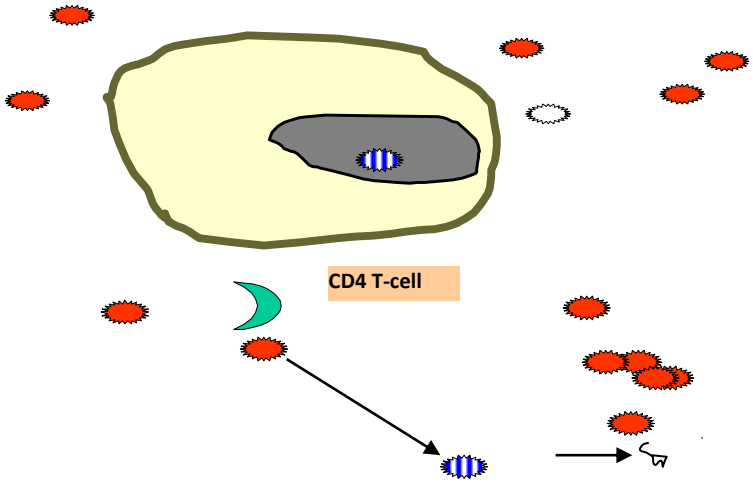
CD4 T-cell

HIV is binding to the surface and entering the T cell.



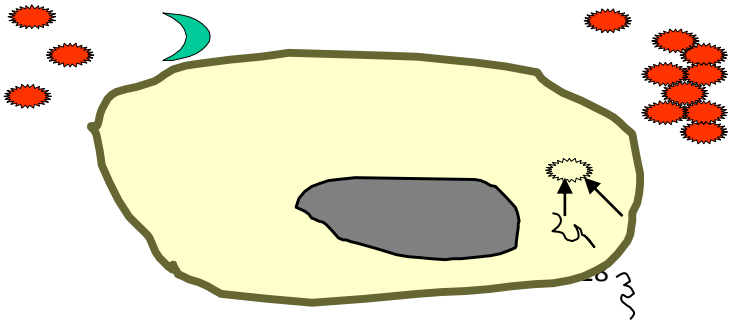
CD4 T-cell

To enter the CD4 T cell, the HIV virus changes the way it looks so that it will not be 'recognized' by the cell. HIV has a special substance to make these changes in its structure.



CD4 T-cell

HIV is present in the center of the cell but in a different shape. Now, the center of the CD4 cell starts to make new parts of HIV instead of making new parts for the body's defense.



Before leaving the cell, the new parts of HIV need to be put together, just like parts of a car need to be put together in the factory before they can leave the factory to be sold. HIV has a special substance that helps to put the different parts together to form a new HIV before it leaves the cell.

1.3.1. CD4 T-cell and HIV Viral Set Point

HIV attacks many CD4 cells. The infected CD4 cells will first produce many new copies of the virus and then die. The new copies of HIV will then attack other CD4 cells, which subsequently will also produce new copies of HIV and then die. This continues; goes on and on: more and more CD4 cells are destroyed, millions of new more and more new copies of HIV are made, and new CD4 cells get infected.

The extent of immune damage inflicted by HIV is assessed by the CD4 cell count. This can be counted from a small sample of blood drawn from the infected person. The CD4 count tells us how strong the immune system is. A CD4 count above 500cells/mm^3 indicates that the immune system is coping well in spite of HIV. However, over time, as the CD4 cells are progressively destroyed, the CD4 count falls. A low CD4 count tells us the immune system is getting weaker.

The number of viral copies per cubic mm of blood is called viral load. The viral load indicates the activity of HIV infection, and hence viral load is another useful blood test to tell us how much HIV is in the blood. Over time the viral load increases as more and more viruses are produced, resulting in decreased immune system function and rapid progression to AIDS.

HIV viral set point: -is the viral load of a person infected with HIV, which stabilizes after a period of acute HIV infection. The set point is reached after the immune system has developed specific Cytotoxic T cells and begins to attempt to fight the virus. The higher the viral load of the set point, the faster the virus will progress to AIDS; the lower the viral load of the set point, the longer the patient will remain in clinical latency.

1.3.2. Your facilitator will guide you to watch a video clip on viral replication

1.3.3. HIV infection and disease progression

The initial stage of HIV infection is called acute sero-conversion, when the patient converts from a negative antibody-based test result to a positive test result. Most patients seroconvert within three months after exposure to the virus. During this process, patients often develop non-specific flu-like symptoms, which do not lead directly to the diagnosis of HIV infection as they are non-specific. But sometimes, there are no signs or symptoms at all that would indicate the person has been infected with HIV. These symptoms may include:

- Fever
- Fatigue
- Pharyngitis
- Lymphadenopathy
- Rash, etc

Patterns of HIV **Disease p**rogression varies among patients.

Three types of HIV disease progression

- **Typical progressors**: these account for 90% of individuals who can stay for 8-10 years before developing symptoms.
- **Long-term non-progressors**: these account for more than 10% individuals who will have a stable CD4 count for more than ten years.
- **Rapid progressors:** these account for 5% of individuals who develop AIDS within three years.

  NB. This differs in children, children in general are rapid progressors: 30–40% die within a year, 50% die within 2 years!

1.4. Mother-to-Child Transmission of HIV

Mother-to-Child transmission of HIV (MTCT) is the transmission of HIV from an infected mother to her baby. It can occur during:

- Pregnancy
- Labour and childbirth
- Breastfeeding

MTCT is also referred to as “vertical transmission” or “perinatal transmission”. It is the main cause of HIV infection in children.

Note that not all HIV-positive women will transmit the virus to their child. A summary of rates of transmission without intervention is provided in Figure 3.

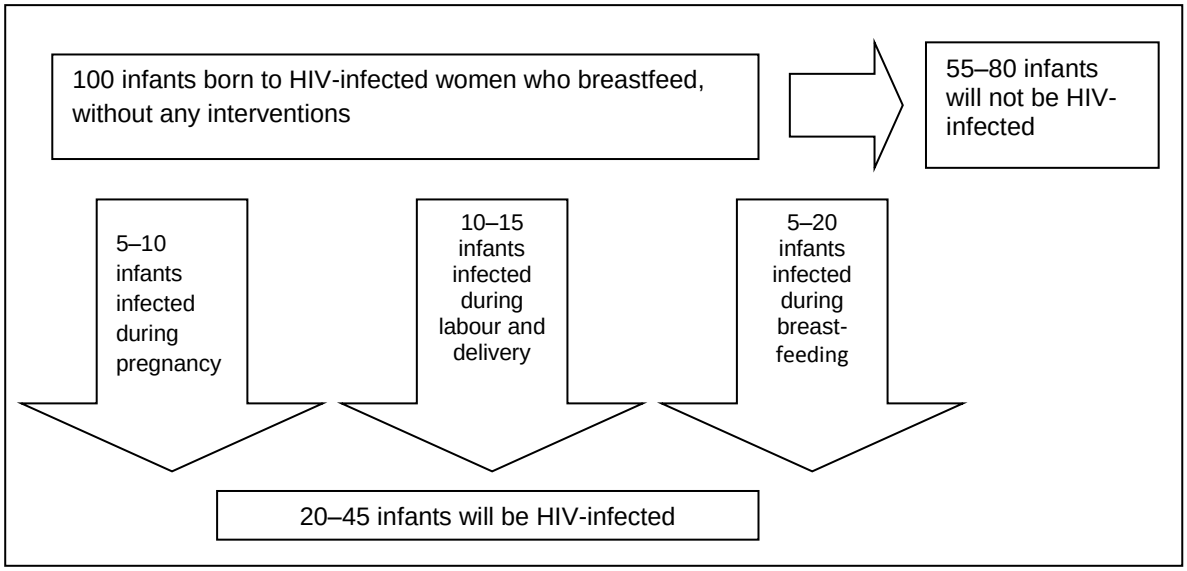


Figure 3. HIV outcomes of infants born to HIV-positive women, without intervention

1.4.1. Factors that increase the risks of MTCT of HIV

The most important risk factor for MTCT of HIV is the amount of HIV virus in the mother's blood, known as the viral load. The risk of transmission to the infant is greatest when the mother's viral load is high−which is often the case with recent or advanced HIV infection. (Refer to table 1)

Table 1: Factors increasing risk of Mother-to-Child transmission of HIV

Strong evidence	Weak evidence
During pregnancy	
• High viral load in the mother – new infection (viral "spike") – advanced stage of HIV infection (AIDS) • Poor immune status (low CD4 count) • Sexually transmitted infections (STIs) • Certain HIV viral strains	• Poor maternal nutritional status • Maternal anemia • Malaria • Substance (drug) use or cigarette smoking during pregnancy • External cephalic version • Invasive obstetric procedures – amniocentesis – chorionic villus sampling (CVS)
During labour and childbirth	
• High viral load in the mother – new infection (viral "spike") – advanced stage of HIV infection (AIDS) • Vaginal delivery • Prolonged rupture of membranes (>4 hours) • Prolonged labour • Instrumental delivery (forceps or vacuum extraction) • Prematurity • First infant in multiple birth	• Chorioamnionitis • Suctioning newborn • Invasive obstetrical procedures – episiotomy – early artificial rupture of membranes
During breastfeeding	

• High viral load in the mother – new infection (viral "spike") – advanced stage of HIV infection (AIDS) • Breastfeeding* • Mixed feeding (non-exclusive breastfeeding or non-exclusive replacement feeding)	• Poor maternal nutritional status • Oral disease in the baby (e.g. thrush or sores)

* Maternal ART or infant ARV prophylaxis significantly reduces the risks of MTCT of HIV through breastfeeding.

1.4.2. Prongs for prevention of Mother-to-Child transmission of HIV

There are four prongs to prevent mother-to-child transmission of HIV (PMTCT).

A. Prong1: Primary prevention of HIV infection – focuses on keeping people HIV-negative. Prevention of new infections means that fewer women and men will have HIV and fewer infants will be exposed to HIV.

- ***Promote safer and responsible sexual behavior and practices through BCC using the*** "ABC" approach:
  - A = Abstinence
  - B = Be faithful—Be faithful to one HIV-uninfected sexual partner (known sero status)
  - C = Condom use—Use condoms correctly and consistently
  - D= Discussion among family members about sexual issues.
- Provide early diagnosis and treatment of sexually transmitted infections
- Make HTC widely available
- Provide Pretest test information

B. Prong 2: Prevention of unintended pregnancies in HIV-positive women – emphasizes reducing the number of unplanned or unwanted pregnancies. While family planning will be discussed in details in other sections, we will give some details here in the context of PMTCT only.

Effective family planning counseling and service is important to help HIV-infected women prevent unintended pregnancies and space births. It should be conducted sensitively, maintaining confidentiality and privacy, and must demonstrate respect for clients' rights. Note that all women irrespective of their HIV status should be able to exercise their reproductive rights freely, whether they choose to plan a pregnancy, space their children's births, or limit childbearing.

FP/HIV services integration is a valuable approach in reducing the unmet needs of both family planning and HIV care services. Integration of FP/HIV services has several benefits.

- Both direct and indirect costs will be reduced both to the individual and the health system.
- Maximizes productive use of scarce resources
- Enhanced ability to prevent new HIV infections, especially among infants and youth
- Greater support for dual protection against unintended pregnancy and disease.

The following can serve as a general guidance on information and counseling about fertility regulation in the context of HIV.

- While women and couples should be free to make their own decisions about childbearing, counselors should ensure that women are aware of the risks inherent in any future pregnancies, as well as the risk of passing on the virus during unprotected sex.
- Counselors should make it clear that even where interventions are available, all pregnancy carries some risk of HIV transmission from mother to child.
- The effectiveness of initiating ART during pregnancy (option B+) averts the future risks of transmitting HIV on successive pregnancies. Women who choose to avoid pregnancy in the future because of their HIV infection should be offered/referred to FP services.
- Women who choose replacement infant feeding should also receive advice on contraception to replace the birth spacing effect of breastfeeding.
- If women choose to bear more children, they should be encouraged to delay the pregnancy for at least three years.

Counseling on FP should be started in the antenatal period for the following reasons:

- A woman who is HIV-positive needs to understand the risks for herself and her child if she has other children—both the health risks and the risks of transmitting HIV.
- By providing women with information about FP options during ANC, the woman will have time to consider her options, talk about options with her partner and family or friends, and make an informed decision about her choice when she gives birth.
- A woman who has made a decision about a FP choice before giving birth will be prepared for using the chosen method in the postpartum period to prevent herself from becoming pregnant again.
- Women should know that after birth, if they have sex and are not exclusively breastfeeding, they can become pregnant as quickly as four weeks after delivery.

❖ When ANC is the period FP counselling started, make sure the following points

- ✓ Make sure that method choice selection addressed,
- ✓ Use sticker to identify the selected FP method on the women card
- ✓ Proper referral and linkage communicated accordingly

❖ **Key points to remember while giving Information on FP**

- Tailor information to the client's needs
- Find out the client's need or problem (method in mind? return client?)
- Find out what the client already knows
- Identify information gaps that need to be filled or misconceptions that need to be corrected
- Personalize information for the client
- Put information in terms of the client's situation
- Help the client understand what the new information means to her or him personally
- Make information understandable

Steps for family planning counseling skill

I. Rapport building

- ✓ Greet client with respect
- ✓ Make introductions: Identify category of the client—i.e., new, satisfied return, or dissatisfied return
- ✓ Assure confidentiality and privacy

- ✓ Explain the need to discuss sensitive and personal issues

II. Exploration

- ✓ Explore in depth the client's reason for the visit: This information will help determine the client's counseling needs and the focus of the counseling session

New client visit:

- ➢ Explore client's past experience, current situation, and future RH-related plans
  - a. Explore client's reproductive history
  - b. Explore client's social context, circumstances, and relationships
  - c. Explore client's history of STIs, including HIV
  - d. Explain STI risk and dual protection, and help the client perceive his or her risk for contracting and transmitting STIs
- ➢ Rule out pregnancy and explore factors related to monthly bleeding, any recent pregnancy and medical conditions
- ➢ Focus your discussion on the method(s) of interest to client
  - a. Discuss the client's preferred method, if any, or
  - b. Relevant FP options if no method is preferred,
  - c. Give information as needed, and correct misconceptions

III. Decision making

1. Identify the options decided by the client
2. Explore relevant options for each decision
3. Help the client weigh the benefits, disadvantages, and consequences of each option
4. Provide information to fill any remaining knowledge gaps
5. Encourage the client to make her own decision

Helping questions the client to reach decision

- ✓ Does the client want any more children?

  "**Permanent vs. temporary** methods"
- ✓ How long does the client want to be protected from pregnancy?

  "**Long-acting vs. short-acting** methods"
- ✓ Can the client use and does the client wants to use hormonal methods?

  "**Hormonal vs. non-hormonal including barrier (condom) methods**"
- ✓ Does the client want a method for herself /her partner?

  "**Male vs. female methods"**

IV. Implementing the decision

a. Assist the client in obtaining and using the FP method chosen
b. Have the client develop skills to use her chosen methods and condoms (as dual protection)
c. Identify potential barriers that the client might face in implementing her decision
d. Discuss/Design strategies to overcome the barriers
e. Make a plan for follow-up

Return visit of clients:

Explore the client's satisfaction with the current method used

a) Satisfied client

- Confirm correct method use
- Ask the client about changes in her life style
    - Plans about having children,
    - STI risk and status

b) Dissatisfied clients:

- Ask for causes of dissatisfaction and discuss possible solutions
    - Manage side effects and situation
    - Switch methods as needed

Condom for dual protection

Condoms are very useful for both prongs one and two of PMTCT of HIV. With correct and consistent use, condoms reduce the chance of acquiring or transmitting HIV infection and STIs as well as prevent unintended pregnancy. If correctly used, condoms provide dual protection—from infection and pregnancy.

Condom negotiation and insertion

Women need to negotiation on using condoms with their sexual partner. There are many cultural barriers and challenges for men and women to successfully agree to and routinely use condoms during intercourse. Disclosure is a key step in successful condom negotiation.

Negotiation involves reaching an agreement on the needs or desires of both parties. It's like bargaining—each person wants to get something without having to give up too much. If you were buying goods at the market, you might be able to walk away if the terms don't meet

your needs; in the case of sex with a regular partner, this is not so easy. *Condom negotiation is important for both HIV-negative and HIV-positive women*

Tips for Skill on Counseling Condom Negotiation

1. It might not be easy to discuss condom use with your partner, and it is good that you have these steps to ask for advice on how to go about convincing your partner. This is one of the most important conversations you will have with your partner.
2. It is helpful to think ahead about how you might respond if your partner does not want to use a condom. You should always remember that is your right to right to demand a condom to be used or to decline penetrative sex if your partner will not use a condom. By using a condom you will also be taking care of your partner.
3. You need to plan ahead and have condom with you if you think you might want to have sex. Do not relay on your partner to have condom as this might not happen.
4. It is important to discuss using a condom with partner before you start to have sex as it might be easy to be convinced not to use a condom in the heat of the moment. It is better to talk about the condom when both of you are relaxed, that way you can have a frank and honest discussion.
5. Remember that using condom correctly and consistently is key to reducing the risk of HIV and other STIs.
6. Let us discuss some of the excuses your partner might use for not using the condoms and some ideas about how to respond if you find yourself pressured to have sex without a condom (*Use annex 1.3 script for condom negation skill)*

Techniques/steps on correct use of condoms, both female and male, will be demonstrated during the training session.

Demonstration Steps on correct use of condoms

Tips for Use Condon

- ✓ Do not use sharp cutters such as scissors.
- ✓ Use a condom every time during any kind of intercourse.
- ✓ Use a water-based lubricant. Oil-based lubricant such as oil, hand lotion, or Vaseline should not be used because they can cause the condom to break
- ✓ If you put the condom on upside-down by accident, use a new condom

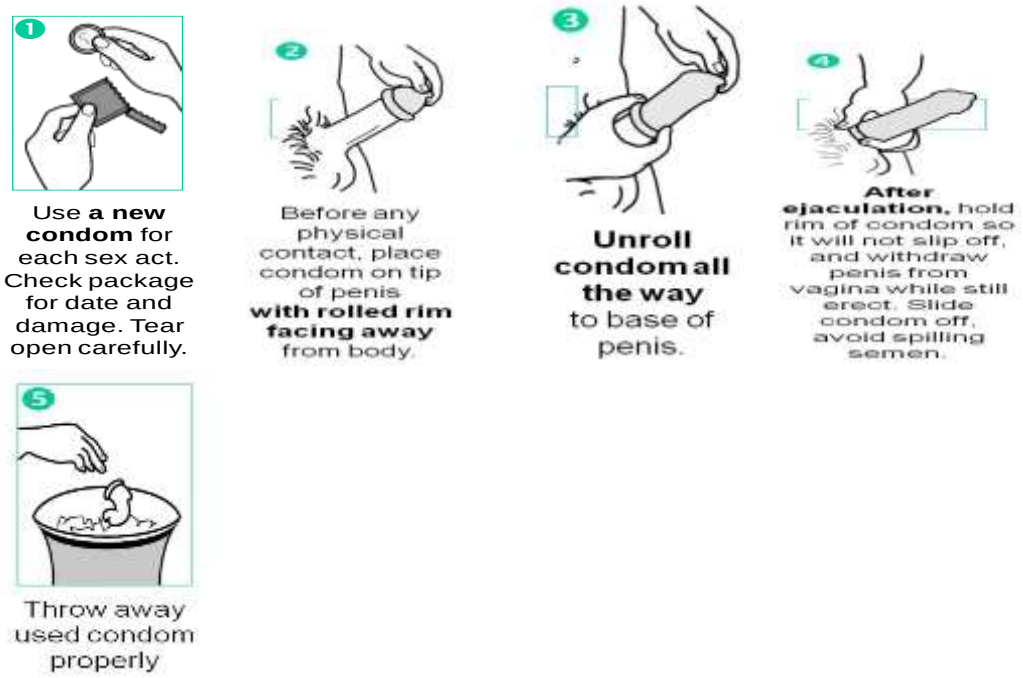


Figure 4 Steps for Condom Use

C. **Prong3:** Prevention of HIV transmission from women living with HIV to their infants – addresses care for HIV-positive women during pregnancy, labour and childbirth, and breastfeeding and care for their infants. For example, ARV drugs to a woman during pregnancy and breastfeeding, and to the infant, can reduce the risk of the child becoming infected. Details of prong 3 are provided below in the summary section.

D. **Prong4:** Provision of treatment, care, and support to women living with HIV, and their infants, partner, and families – including on-going, chronic care and treatment for HIV-positive pregnant/postpartum women and their HIV-exposed and HIV-positive children both during and beyond the PMTCT intervention period. Details of prong 4 are provided in module 3.

Summary: 15 minutes

PMTCT Four Prongs Promotes the following strategies

1. Primary prevention of HIV infection (minimizing the transmission of HIV to women)

2. Prevention of unintended pregnancies among women with HIV

- Improving women's access to information, education, sexual and RH services including FP.

3. **Prevention of HIV transmission from mothers with HIV to their infants**

a. Increasing women's access to ART
b. Provide ARV prophylaxis for the newborn
c. Ensuring safer delivery procedures
d. Reducing transmission through breastfeeding.

4. **Care, support, and treatment for mothers living with HIV, their children, and families** (to improve the health of the mother and the family to the extent possible)

- Prevention and treatment of OI
- ART
- Positive living
- HTC for other family members using family matrix approach and management
- Nutritional supplements
- Social and psychological support
  - Peer/mother support groups
  - Counseling on(Adherence to treatment, FP, infant feeding and attachment , partner testing, disclosure, proper usage of condom …)

These interventions are most effective and are intended to minimize HIV transmission when they are integrated into existing maternal and child health services

SESSION 2: Focused Antenatal Care in the context of HIV

Learning Objectives:

After completing this section, participants will be able to:

- Describe essential elements of care during pregnancy
- Describe benefit and approaches of male/partner involvement in PMTCT interventions

Core competencies:

Knowledge:

- Knowledge about specific services provided to pregnant women at each focused ANC visit

Skill:

- Skills on provision of essential services to pregnant women at each focused ANC
- Skills on how to involve male partners in ANC

(Tips on male /partner involvement)

Session Outline

Activity	Topic	Time	Methodology
2.1	Learning objectives	3minutes	Reading
2.2	Essential Elements of Care during Pregnancy	40 minutes	Brainstorming, Reading, demonstration of physical examination, and discussion
2.3	Practices not recommended during pregnancy	10 minutes	Reading and discussion
2.4	Importance of male/partner involvement in ANC/PMTCT	35 minutes	Reading and discussion
	Summary	5 minutes	Reading

Focused ANC is all about screening to detect and treat existing conditions and complications rather than to predict a problem.

The principles of Focused ANC are to:

- Recognize that every pregnancy is at risk
- Ensure that we use ANC as an opportunity to detect and treat existing problems
- Ensure that the services are available to respond to obstetric emergencies when they occur
- Prepare women and their families for the eventuality of an emergency.

Four focused antenatal visits are provided by a skilled professional to detect any problems. Women who are diagnosed with some illnesses including HIV require more visits than others.

Essential Elements of Care during Pregnancy (Table: 2)

- Four focused antenatal visits by a skilled provider—a midwife, nurse or doctor to detect any problems
- Ddemonstration of physical examination, vital signs, HEENT abdominal examination, edema.
- Birth preparedness and complication readiness planning with the family
- Detection and management of coexisting conditions and complications
- HIV testing and counseling (HTC)
- Counseling for infant feeding options, Family Planning methods, danger signs, STI prevention and nutrition
- Treatment of diagnosed infection, i.e. HIV, syphilis, gonorrhea, tuberculosis
- Tetanus toxoid (at least two doses)
- Iron and folate supplement—for at least 6 months of pregnancy, 60mg iron and 400 micrograms of folate. (Note: For areas with > 40% anemia, continue same dosage for three months postpartum)
- In selected populations:
    - Iodine supplementation
    - Insecticide-treated net (ITN) utilization for malaria in pregnancy should be strongly recommended as per national guidelines
    - Presumptive treatment for worms and parasites should be provided.

Table 2: Services to be provided for each ANC visit and the required equipment and supplies

Visit No./ when to provide	Service to be provided	Purpose of service	Equipment/ supplies needed
1st visit or registration Before 16-weeks	• Detailed history (personal, obstetric, medical, family, drug, allergies, social, etc. is taken)	• To diagnose pregnancy and identify any complications during current and previous pregnancies	• Client chart
	• Check blood pressure (BP)	• To identify and manage hypertension	• Functioning BP apparatus and stethoscope
	• Thorough physical and abdominal exam including brief nutritional assessment	• To diagnose pregnancy, estimate gestational age and identify risks in this pregnancy	• Stethoscope, meter
	• Blood testing	• Test for anemia, HIV, STI, Hgb blood group and RH typing	• HIV test kits, VDRL kit (for syphilis testing); hemoglobinometer, Blood grouping reagent
	• Urine test	• Test for proteinuria/albumin for pre-eclampsia and sugar for diabetes, urinary tract infection and renal problem including pregnancy test	• Test tube, spirit lamp, acetic acid, Benedict solution, urine test strips, pregnancy test kit
	• Weight measured	• To establish a baseline weight	• Functioning weighing scale
	• Registration of pregnant woman	• To effectively track the completeness of care and pregnancy	• Registration form pregnancy register and for HIV+ Separate PMTCT only register for ART
	• First dose of tetanus toxoid	• To prevent tetanus in newborn	• Disposable /glass syringe,

Visit No./ when to provide	Service to be provided	Purpose of service	Equipment/ supplies needed
	(TT) provide tetanus toxoid (TT)	and mother	spirit swabs, TT vaccine; sterilizer
	• Provide three months' supply of iron folic acid (IFA)	• To prevent anemia & folic acid deficiency	• Adult IFA tablets
	• Counsel on need for three additional ANC visits (more frequent visits if indicated), healthy diet, danger signs, and ITN use where appropriate, • Advise on safer sex	• To prevent and prepare for possible complications	• Flipcharts
	• In endemic populations, treat for hookworm, malaria, iodine deficiency	• To prevent severe anemia, endemic goitre and complications of malaria	• Stool test, needle, slides, right/Giemsa stain, microscope
1st visit (cont'd)	• Routinely recommend HIV test (with confidentiality, informed consent, post-test counseling). If positive: – Do HIV clinical review, clinical staging, CD4, determine WHO clinical staging – Recommend ART and begin rapid preparation for adherence – Advise on safer sex and use of condoms	• PMTCT, chronic HIV care and compliance to ART treatment, • Improve family care of HIV and male partner involvement	• Rapid/HIV test kits, CD4 machine, clinical staging job aid

Visit No./ when to provide	Service to be provided	Purpose of service	Equipment/ supplies needed
	– Support disclosure and partner testing		
2nd visit (4th-6th month) 24-28 weeks	• Take pertinent history • Check BP	• Identify medical and obstetric problems • Detect and manage hypertension	• Client chart • Functioning BP apparatus and stethoscope
	• Do an abdominal and physical exam • Repeat blood or urine test as required to detect pre-eclampsia or severe anemia	• To detect and manage any coexisting condition or complication. • To refer for expert medical care if a sign of an emergency is detected (vaginal bleeding, blurring of vision with severe headache, convulsions)	• Stethoscope/ fetoscope
	• Second dose of TT	• To prevent tetanus in newborn and mother	
	• Provide three additional months' supply of IFA	• To prevent anemia	• Adult IFA tablets
	• Advise on safer sex and use of condoms during pregnancy, support disclosure and partner testing, ITN	• To prevent HIV/STI	• Condoms
	Chronic HIV care—follow sequence of care: • Do clinical review and respond to problems • Give co-trimoxazole	• To monitor disease progression and OI prevention and treatment	• Co-trimoxazole • Flipchart

Visit No./ when to provide	Service to be provided	Purpose of service	Equipment/ supplies needed
	prophylaxis for HIV positive women with CD4 <350 or clinical stage 3 and 4 • Prepare for/monitor adherence to ART		
	• Advice and counsel on nutrition and self-care	• To create awareness on dietary intake that benefit both mother and fetus	• Flip chart
3rd visit (7th-8th month) 30-32 weeks	• Take pertinent history • Check blood pressure	• Identify medical and obstetric problems • Detect and manage hypertension	• Client chart • BP apparatus
	• Do an abdominal and physical exam	• To detect and manage any coexisting condition or complication. Refer for expert medical care if a sign of an emergency is detected (vaginal bleeding, blurring of vision with severe headache, convulsions)	• Stethoscope/ fetoscope
	• Provide additional IFA	• To prevent anemia	• IFA
	• Assist woman and family in developing a birth preparedness/complication readiness plan—selection of birthplace, skilled birth attendance, advice on ITN	• To be prepared for a safe and clean delivery in the event of emergency	• Sample disposable delivery kit (DDK), list of the nearest referral facilities • Birth preparedness counseling card

Visit No./ when to provide	Service to be provided	Purpose of service	Equipment/ supplies needed
4th visit 9th Month (36-40 weeks	• Take pertinent history • Check blood pressure	• To identify medical and obstetric problems • Detect and manage hypertension	• Client chart • Blood pressure apparatus
	• Do an abdominal and physical exam	• To detect and manage any coexisting condition or complication. Refer for expert medical care if a sign of an emergency is detected (vaginal bleeding, blurring of vision with severe headache, convulsions, non-vertex position of baby)	• Stethoscope or fetoscope
	• Counsel on the recommended safe infant feeding practices and FP	• Improved nutritional status of baby • To prevent unwanted and too closely spaced pregnancies	• Flipcharts, sample of contraceptives
	• Review birth preparedness and complication readiness plan	• To prevent any delays in case of an emergency	• Wall chart on birth preparedness and complication readiness plan
	• Monitor for adherence on ART	• To monitor proper ART use and prevent early drug resistance	• flip chart
	• For HIV + women advice to bring along with her the ART drugs during labor and delivery	• Avoid retesting and missed doses,	

In some instances pregnant women attend ANC once, often late in pregnancy, and may not make subsequent visits. For women who present late in pregnancy, having missed some of the recommended visits, all services under the missed visits should be provided during the 1st contact to care. If pregnant women do make subsequent visits, messages need to be re-enforced. In case of HIV positive pregnant mothers more visit will be required accordingly.

Birth Preparedness and Complication readiness plan:

The pregnant woman, her partner/family and her ANC provider should discuss the woman's birth preparedness and complication readiness plan. In general,

- Birth preparedness involves preparing for a normal birth, and includes:
    - Having a skilled attendant at every birth
    - Deciding on the place of delivery
    - Having available essential clean items for the mother and baby at birth
- Complication readiness involves preparing for complications, and includes:
    - Recognition of warning signs of complications in pregnancy or childbirth
    - Designated decision-maker(s)
    - Access to emergency funds
    - Rapid referral and transport to an emergency obstetric care site

2.1. Practices not recommended during pregnancy

- **Measurement of maternal height—**this is a poor tool for determining cephalo-pelvic disproportion as maternal height varies among societies.
- **Examination of ankle oedema—**50-80% of women with normal pregnancies experience ankle edema and is a non-specific symptom.
- **Examination of fetal position before 36 weeks—**the fetal position is not stable before 36 weeks so position is not of high concern before 36 weeks, but if fetal position is not vertex after 36 weeks, the woman should be referred.

2.2. Importance of male/partner involvement in ANC/PMTCT

Efforts towards PMTCT of HIV should be as comprehensive as possible and should acknowledge that both play a significant role in reducing the risk of transmission of HIV to their child.

In many settings, men's involvement has resulted in:

- More uptake of HIV testing and antenatal services
- Better use of PMTCT services by their partners
- Better adherence to PMTCT interventions, such as:
  - Taking ARVs (by both the mother and infant)
  - Acceptance of post-test counseling
  - Communicating about and practicing safer sex during pregnancy and breastfeeding
  - Delivering the infant in a health facility
  - Exclusive breastfeeding, etc

Partner support can help in various ways to lower transmission rates of HIV to a child.

Therefore:

- Couples and partners should be aware of and supported to use PMTCT services, including HIV prevention, treatment, care, and routine health services. Both partners should participate in decisions that can prevent HIV transmission.
- Couples and partners should be responsible for safer sex practices all the time, including throughout pregnancy and breastfeeding.
- Health workers should recommend HIV testing and counseling to pregnant women and their partners, and to encourage couples counseling and testing with mutual disclosure. Partners of -negative women should also be HIV encouraged to test.
- Both partners should be involved in decisions about and be responsible for implementing family planning.

Tips on male /partner involvement:

Mixes of the following experiences have been found useful in many countries including Ethiopia to involve fathers and male partners and families.

- Community and religious leaders can play an important role in encouraging the father of the baby to accompany the pregnant woman to antenatal care services. These opinion leaders may require training so they can correctly explain to community members the value of male involvement.
- Special services, such as vouchers or written invitations, may increase fathers' attendance.
- Community health workers can also inform families and the local community about the importance of male involvement in pregnancy care.
- Offering couples HIV testing on a routine basis in antenatal care is helpful.
- Strategies to make it easier for men working outside the home to get services, such as special hours in the evening or weekends.
- Involving men and fathers in antenatal care requires special efforts on the part of health workers, who may require additional training. Training can help health workers to deal with difficult situations that can arise, for example when an expectant couple is found to be sero-discordant.
- Changing social norms and cultural attitudes about father's involvement in pregnancy care may require deliberate efforts over time. However, many countries have found that increasing involvement of fathers can be effective in improving the health of families. The value of fathers' involvement should be emphasized for all families and all pregnant (women, regardless of HIV status.

Exercise 2: Card sorting exercise on drugs in Pregnancy

Cards box A: Drugs in pregnancy

Facilitator will guide you through the following exercise

Vitamin B6	**Phenergan**	**Phenobarbital**
Paracetamol	**Mebendazole**	**AZT**
3TC	**Amoxicillin**	**EFV**
Co-trimoxazole	**NVP**	**Tetracycline**
Benzyl penicillin injection for syphilis	**Fluconazole**	**TT injection**
Iron/folate tablets	**AZT-3TC-NVP**	**AZT-3TC-EFV**
TDF-3TC-EFV	**TDF-3TC-NVP**	**Streptomycin**
Rifampicin	**Ethambutol**	**INH**

SESSION 3: HIV AND SYPHILIS TESTING AND COUNSELING DURING ANC

Learning Objectives:

After completion of this module the participants will be able to:

- Define HIV testing and counseling
- Provide pre test information
- Apply the six guiding principles for recommending HIV testing and counseling during pregnancy
- Explain the benefits of HIV Testing and Counseling Services for Women
- Describe the components of HIV testing and counseling
- Provide HTC integrated into antenatal care services
- Offer couples counseling and HIV testing and with mutual disclosure.
- Counsel discordant couples about how to prevent HIV transmission
- Explain the importance of syphilis screening to all pregnant women and its management.

Core competencies:

Participants are expected to demonstrate the following competencies

Knowledge:

- knowledge on HIV testing procedures
- positive attitude and confidentiality

Skill:

Counseling skill

- pretest and post-test Counseling Skills
- Conduct HIV testing procedure
- Couple counseling skills
- Counseling using cue card
- Conduct HIV Rapid testing
- Order routine lab tests including RPR /VDRL test

Session outline

Activity	Topic	Time	Methodology
3.1	Definition of HIV testing and counseling	10 minutes	Reading, 3 case study, discussion
3.1.1	Provision of pre test information at ANC setting	20 minute	Discussion, explanation
3.2	The Benefits of HIV Testing and Counseling Services for Women	10 minutes	Reading, discussion
3.3	Six Guiding principles for HTC	5 minutes	Reading, discussion
3.4	Basic Counseling skills	10 minutes	Reading, discussion
3.5	The Benefits of HIV Testing and Counseling Services for Women	40 minutes	Reading, discussion, role play, exercise
3.6	Components of HIV testing and counseling	10 minutes	Reading, discussion
3.7	Couple counseling	10 minutes	10 minutes
3.8	Disclosure	5 minutes	Reading, discussion
3.9	Integration of HIV testing in to antenatal care services	60 minutes	Reading, 3 case study, discussion
3.10	Recommending HIV and syphilis testing to all pregnant women	10 minutes	Reading, discussion

3.1. Definition of HIV testing and counseling

3.1.1. Define HIV testing:

HIV testing is a process that determines whether or not a person is infected with HIV.

3.1.2. Define HIV counseling:

HIV counseling in the context of PMTCT is a confidential dialogue between women of childbearing age and their health care providers to help women examine their risk of

acquiring HIV infection before, during, and after pregnancy as well as the risk of transmitting HIV infection to their children or their partners.

3.1.3. Define Repeat HIV test during pregnancy

HIV-negative pregnant woman should have a repeat HIV testing and counseling in the third trimester, preferably between the 28th and 36th weeks, or during labor, as appropriate.

3.1.4. Retesting HIV Positive

All HIV positive pregnant or lactating women should be retested with a second specimen before initiating ART. The sensitivity and specificity of individual WHO prequalified HIV test kits is high and operational performance in the field, with in validated test algorism has been shown to be very good in many settings with proper quality assurance measures. However, if inappropriate tests are used and test kits are used incorrectly, there is a potential for misclassification of HIV status which even with a very low error rate could bring about a significant number of misclassified people given the large number of HIV tests conducted at country level.(WHO information note 22, Oct 2014)

3.2. Provision of pre-test information at ANC setting.

You can provide pre-test information for a group, a couple, or an individual. The group session is the recommended model for providing pre-test information to antenatal clients, particularly where the client-to-provider ratio is high. Group information sessions are efficient, optimize human resources, and allow group interaction. The pre-test session should, contain at a minimum of the following contents

- Provide basic information about HIV/AIDS and mother to child transmission of HIV.
- Reasons for recommending HIV testing, for all pregnant women
- The clinical and preventive benefits of HIV testing
- Available services, both for the woman, her baby, and her partner
- Reassurance that all information will be treated confidentially and will not be shared with anyone other than health workers directly involved in providing care for her and her baby
- The right of the woman to decline testing, and that declining testing does not affect her access to all other services that do not require knowledge of her HIV

status

- Information and support (skills in how to go about it) if the woman opts to disclose her HIV test result to her partner and encourage her partner to be tested.

The health worker should also give the woman an opportunity to ask questions or express anything that concerns her. It is important to discuss the woman's concerns, including those related to disclosure and partner testing.

A client pre-test information session is complemented by using flipcharts, videos, brochures, posters, and other appropriate job aids to enhance better understanding and facilitate the decision-making process.

The following is an example of a pre-test information session frame, which a health care provider can adapt to the specific situation/context of the facility.

Sample script for general pretest information:

Introduction:

Welcome, my name is _____. I am a health professional who provides PMTCT here at this clinic.

Today, as part of your visit, we will be discussing HIV, HIV testing and ways you can protect your health, and the health of your baby and your family.

Impact:

HIV affects families and our community. HIV is an infection that can lead to a serious illness called AIDS.

Route of transmission:

HIV is mainly transmitted through having unprotected sex with an infected person. A mother with HIV can also pass HIV to her baby during pregnancy, labor and delivery and breastfeeding. You can also get HIV when receiving a blood transfusion, if the blood has not been tested for HIV. And you can also get HIV by sharing sharp objects such as razor blades or piercing or tattooing equipment that puncture or cut the skin. It can also be transmitted by sharing needles and syringes to inject drugs or any

other substances .HIV cannot be passed by mosquito bites, sharing food and utensils, hugging and holding, shaking hands, or sharing toilets.

Diagnosis & benefit of testing:

You cannot tell who has HIV just by looking at a person. The only way to know your HIV status is by testing. If you are tested and do not have HIV, you will learn how to protect yourself and your baby from getting HIV. If you are confirmed to be HIV-positive, you will learn how to get care and treatment and how to lower the chance of passing HIV to your baby and your partner(s).

Testing process:

Blood test for HIV will be offered as part of the basic services—which includes tests for Blood Group/Rh, anemia, syphilis and urinalysis for diabetes and other problems; —you will receive them today. The HIV test is private and confidential; this means that only health care providers who are caring for you will know your HIV test result (Emphasis on shared confidentiality).

You have the right to refuse to any of these tests including HIV testing, but we strongly recommend you get tested to get all the benefits previously mentioned. We will take the test for HIV along with the other tests today. The test is done with simple finger prick test at this (ANC) clinic and the result will be ready within not more than an hour.

If the test result is negative, it means that you are not infected with HIV. The test does not determine infection status during window period. If you have risk of infection during the last 3 month, repeat another test after 3 month.

If your test result is positive, it means you are infected and have the virus in your blood.

Partner testing:

Your HIV status does not mean the status of you partner. Sometimes couples have been living together for years and have had children, and yet could still have different HIV test results. Therefore, it is very important for your partner to get tested for HIV to determine his HIV status.

Prevention:

Being faithful to one's known uninfected partner, correct and consistent use of condoms, avoiding sharing needles, syringes, and other sharps are some of the ways to prevent HIV acquisition and transmission.

PMTCT:

For HIV positive woman, avoiding unintended pregnancy using appropriate FP services; or initiating ARV treatment during pregnancy ordering delivery or during post-partum while breast feeding; and applying appropriate infant feeding practices will help to reduce MTCT significantly. Furthermore, these secondary prevention methods could as well assist in positive living.

Care and Treatment

"If your test result is positive, you we will be provided with the necessary information, care & support and you will start ART for your own health and to prevent the risk of transmitting HIV to your baby. If it is negative, you will be provided with information and advices that will help you stay negative."

Finally, what questions or concerns do you have? You may probe by asking the following question:

- Do you understand how one partner can have HIV and the other not have it? [Suggested response: similar to how you may not get pregnant every time you have sex, HIV transmission may not happen every time you have sex with an HIV-positive person. It is not possible to know when HIV will be passed, but every time you have sex with an HIV-positive person there is a chance that you could become infected.]

3.3. The six guiding principles of HTC in the context of PMTCT

It is important to respect the six cores of guiding principles: which are the 6 C's − **C**onsent, **C**onfidentiality, **C**ounseling, **C**orrect test results, Connections to care and Comfort

- **Consent**: Informed consent requires that the woman receives clear and accurate information about HIV, HIV testing procedures, and the care and treatment services available. Health workers should respect the right of the woman to decline testing.

- **Counseling:** HIV testing must be accompanied by appropriate pre-test information and post-test counseling.
- **Correct test results:** It is the professional and ethical responsibility of the health worker to ensure that all women receive correct test results.
- **Connections to care:** Health workers caring for pregnant women should ensure that all women (and their partners if they receive couples testing) receive effective referrals and linkages to prevention services, care, and treatment.
- **Confidentiality:** Protecting the confidentiality of the pregnant woman who receives HIV testing is very important.
- **Comfort**: The health worker should assess the woman's stage of labour, comfort level, and need for analgesics. Providers need to show empathy while presenting information about HIV testing and counseling: explained based on the comfort level of the woman e.g. between contractions. The health worker should ask the woman to signal for a pause when a contraction is starting

Tips: Protecting confidentiality

- Discuss HIV testing when the woman is alone and feels safe to answer honestly.
- Confidentiality should be maintained when giving results unless she agrees to have someone with her.
- Discuss the concept of "shared confidentiality" with health care providers/ trained heath extension workers with her partner, family members, or other supportive persons in her life.
- Develop and implement procedures to ensure the confidentiality of how HIV-related test results are received, recorded, and kept in the antenatal clinic, and to ensure confidentiality when transferring information to those providing care during labour and childbirth, and postnatal and newborn care.

3.4. Basic counseling skills

Empathizing:

Empathy is the identification with and understanding of another person's situation, feelings, and motives. To empathize is to see the world through the other person's eyes and understand how that person feels. The counselor should listen to the client carefully and try to understand the client's situation and feeling without being judgmental. Empathy should not be confused with pity or sympathizing.

Active Listening:

The active listener pays attention to what the client says and does, and listens in a way that shows respect, interest, and empathy. Active listening is more than just hearing what the client says. It means paying close attention to the content of the message as well as the feelings and worries that can be expressed through movement, tone of voice, facial expression, and posture.

Open Questioning and Probing:

Open-ended questions elicit more than one-word answers. They often begin with "how", "what", or "why". Such questions encourage the client to express feelings freely and to share information relevant to the situation. Probing uses questions to help the client express more clearly. Probing often is necessary when the counselor needs more information about a client's feelings or situation.

Focusing: Clients often are overwhelmed by many problems, and they can try to address all of their problems at once. It is important for the counselor and the client to stay focused on the goals of the counseling session. Counselors might need to refocus or redirect client questions that can be addressed later in the session. If the client wants to talk about other emotional or personal issues, the counselor should consider providing referrals for additional support.

Paraphrasing: Is a reflecting statement by the counselor of what a client has said but restated by the counselor in different words and non-judgmental way. This intended to help the client know that the counselor is aware of the client's perspective.

Correcting Misconceptions

Counselors should provide clients with accurate information and correct misconceptions. This must be done cautiously so that the client does not feel inadequate or become defensive. The counselor should acknowledge false information and correct quickly. It is not always necessary to give detailed explanations of facts

3.5. The Benefits of HIV Testing and Counseling Services for Women

Health workers shall explain the benefits of HIV testing for the mother's health and for her child and routinely offer testing for HIV using the opt-out approach with explicit information on the right she has to decline testing if she decides to do so. Women who refuse testing shall not be denied any of the services that the facility offers and need support on addressing reasons for refusing. Some of the benefits of HIV testing in the context of PMTCT includes;

For HIV-negative women

- Helps them remain uninfected
- Helps them to have HIV-free babies
- Help them receive the FP methods of their choice

For HIV-positive women:

- Make informed decisions about FP
- Receive appropriate and timely interventions to reduce MTCT including:
    - Getting ARV treatment to reduce MTCT
    - Infant feeding counseling and support
    - Information and counseling on FP
    - Prevention of transmission of HIV to her partner
- Receive information on the importance of giving birth in a setting where standard precautions for infection prevention and safer obstetric practices are implemented
- Secure early access to HIV treatment, care, and support services
- Receive information and counseling on the prevention of HIV transmission to others
- Receive follow-up and ongoing health care for themselves and their HIV-exposed infants
- Disclose their results to partners and family members and get support

3.6. Components of HIV testing and counseling

3.6.1. Sample script for individual initial provider encounter in ANC clinic

Component 1 : Notify patient of routine HIV testing ensure understanding and benefit of testing	
Task	**Suggested Script**
Share the findings of ANC examination:	*I have completed examining you and the condition of the fetus (your baby) your weight gain, progress of the fetal growth, and the gestational age . . .* (explain the physical finding)
Notify woman of routine HIV testing ensure understanding and benefit of testing	*As you educated in the pretest session in the waiting area our policy is recommend HIV test to all pregnant woman unless you decline. The benefits of HIV testing are……* *Now before I send you for routine ANC laboratory tests, I want to tell you that unless you decline, I will do HIV testing for you as part of the routine blood tests.*

Component 2 : *RECOMMEND AND OFFER TESTING*

In order to help you know your HIV status and take all necessary actions, we offer HIV testing services to all women as a routine component of ANC services. And today you will receive this test unless you refuse to get tested."

By the way, before we talk more about HIV testing process, have you ever been tested for HIV?

If patient was tested before and:

Results positive: [Confirm positive results by reviewing any documentation that the woman may have with her, enroll her for PMTCT, and continue to the next component.] "Ok, unless you are already on HAART, because you are pregnant you will start ART immediately"

Results negative: [Repeat or confirm HIV test for this pregnancy today.]

If not tested before **:** *continue testing process*

Do you have any questions before I proceed?

Component 3A*: WOMAN DECLINES OR DEFERS TESTING*

Explore and solve barriers to testing

"Ok, you have absolute right to refuse, but could you tell me why you decided not to have an HIV test today?

How can I help you get ready to take an HIV test? Mothers need to know their HIV status when become pregnant that is the only way to decrease the risk of infecting one's own baby with HIV."

[Answer any further questions that a pregnant woman may have or provide more information that she requests.]

(For a pregnant woman who declined based on a previous negative HIV test)

"It is still very important that you have an HIV test. I recommend you repeat the HIV test during this pregnancy so we will have a record of your results in this clinic."

(*For pregnant woman who has never been tested and still refuses HIV test)*

"I still recommend that you get an HIV test during this pregnancy. If you do not have HIV, you can be sure that your baby will not be HIV infected, and also you will protect yourself from becoming infected in the future."

Develop plan to return for HIV test or referral for HIV test

"If your result turns HIV-positive, you will be able to get the care and treatment you need to stay healthy. You will be able to decrease the risk of HIV infection to your baby or even protect your partner, the family as a whole, and others."

"When you return to this clinic for your next pregnancy follow up visit, we may talk again about HIV testing to see if you are ready to have the test? Mothers benefit by knowing their HIV status when they become pregnant."

"If you do not want to be tested now here at this clinic, I can give you a referral to an HIV test site if you would like to go alone or with your partner."

"If you do receive a test at a site outside of this clinic, it is important that you share your results with the health care providers in this clinic so we can ensure you receive the appropriate care and treatment during this pregnancy."

Thank you(patient's name), I will see you at your next visit, your next visit will be on month__/day__/ year __ (specify the date she will come back).

	N.B. Please make sure specific date (mutually agreed) for the next appointment is given to the client.

Component 3 B: ***Pregnant woman agrees to be tested: HIV test preparation***	
Task	***Script***
Prepare pregnant woman for HIV testing	*"The test will be done using simple finger prick test, and it takes a maximum of an hour to hear the result."* ***: Blood is tested by provider as a one stop shopping in the MNCH platform (ANC,L&D, postnatal, EPI and FP*** *"As your blood will be tested here in the clinic. You will need to wait for some time while I run the test. As soon as the results are available, we will talk about the test results."*

3.6.2. HIV Rapid Testing

HIV testing detects antibodies, antigens or viral particles (testing for HIV PCR which is less commonly available) associated with HIV in whole blood, saliva, or urine. Blood is the most commonly used sample. The results of different tests can be combined to confirm HIV test results. When properly performed, HIV tests offer a high degree of accuracy. However, people who perform or handle the HIV test process must be trained so that the accuracy of testing is preserved.

HIV Antibody tests

Includes the following:

- Rapid HIV test
- Enzyme-linked immuno-sorbent assay (ELISA)
- Western blot test

Rapid HIV tests are the most commonly used HIV tests in Ethiopia.

Rapid HIV testing

All rapid tests share the following characteristics:

- Highly accurate when performed correctly
- Usually performed on whole blood (either taken as a finger prick or drawn as a sample from the vein), occasionally saliva is collected by using a swab rubbed along the inner cheek
- Do not require special laboratory equipment or refrigeration
- Results ready within 15 minutes (First response)
- Perform 3 HIV rapid tests according to SOP
    - First Response HIV 1 and 2
    - Uni-Gold HIV1/2
    - Vikia HIV1/2
- Perform multiple tests simultaneously
- Accurately interpret individual test results
- Test can be done on a single specimen.
- Clinical staff can be trained easily to perform tests.

A specimen is first tested with a highly sensitive rapid test, and a negative result from this test should be reported as a negative HIV result; however, a positive result of this test must be confirmed by a highly specific second rapid test. A third test (called tie breaker) is only done if the results of the first two tests differ

Sample script for testing

Please add procedure of testing with photo from the lab and revised the national testing algorithm based on retesting principles

The below algorisms needs to be revised based on the new retesting principles to confirm positive test result in order to initiate ART

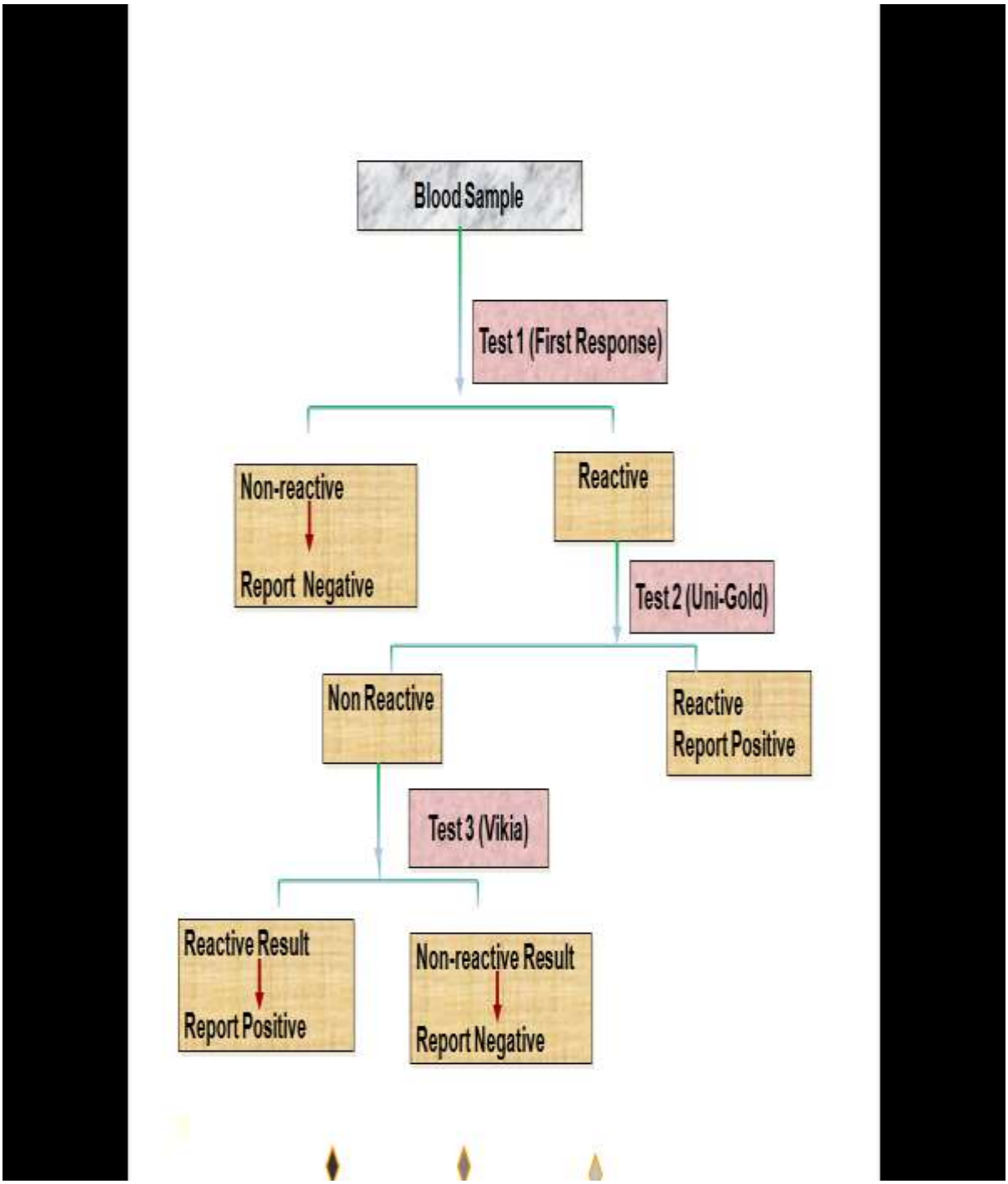


Figure 5: HIV Rapid Test Algorithm for Ethiopia

3.6.3. Post-Test Counseling

Post-test counseling is an important part of HIV testing, and it should be tailored to individual test results, risk behavior, and needs.

Post-test counseling may be provided to the woman alone or to the couple together,

The result of HIV testing should always be offered in person in a confidential setting. Along with the result, appropriate post-test, counseling, information or referral should also be offered.

Component 4: *provide HIV negative test result counseling : Inform negative test result*	
Task	***Script***
Providing the HIV negative test results to the pregnant woman	*Thank you for waiting.* *Your HIV test result is now ready.* *Your result is negative, Meaning that the test did not detect HIV in your blood.* *The test result indicates the status you had before 3 months. This type of test usually does not pick recent infections that are in window period (in the past three months).* *So, I recommend you to have another test after 3 months to confirm your status if you think that you had any exposure/ risk in the past three months.* *To stay HIV free, it is important to protect yourself from other STIs including HIV which can be harmful to your baby as well. You may need to always use condom and seek early treatment if you observe any signs or symptoms of an infection.*
Component 5: Address partner referral and motivate pregnant woman to reduce risk	
Motivate pregnant Woman to reduce risk.	*HIV infection is common in our community. You need to take steps to ensure that you do not become infected in the future.* *Knowing your own sero- status does not indicate the status of your partner, although rare, there is a possibility of being couples with discordant result.* *If your partner is HIV-negative, the two of you will need to be faithful to each other. This will protect both of you from getting HIV.* *If your partner is HIV-positive or you do not know his status, or if you*

have sex with more than one partner, you can protect yourself from HIV by:

- *Not having sex until your partner is tested and you find out that he is free of HIV or*
- *Using condoms properly every time you have sex.*

I would like to make you aware that if you get HIV infection while pregnant or breastfeeding, the chances of transmitting HIV to your child is much higher than any other time.

We have condoms available in the clinic, and you are always welcome to take some.

I can show you how to use condoms correctly. Would you like me to show you how to use condoms correctly?

[If a woman wants, demonstrate using model, show her the correct way to use condoms and give necessary instructions. Alternately give handouts on how to use condoms and how to avoid getting HIV.]

Address partner referral

If you think you will have any problems getting your partner to use the condom, we can offer you advice on how you should negotiate condom use.

As you probably know, the fact that you are HIV-negative doesn't necessarily mean that your partner is HIV-negative. Thus, it is strongly advised to ask your partner get tested.

You are encouraged to bring your partner to this clinic for HIV test or just refer him so that providers can offer and do HIV testing for him. If you need any information or referral slip for your partner, here is some information about where to get HIV testing service and how you can protect yourself from getting HIV.

I hope you will ask your partner to be tested; if you have difficulty asking

	your partner to be tested, we can give you an invitation letter for him to accompany you in your next visit so as we discuss with him the importance of being tested. *Thank you for coming in today. I hope that when you come in next time, your partner will have been tested for HIV*
Component 6: Provide HIV positive test result counseling: Inform positive test result	
Providing the HIV test results to the pregnant woman	*Thank you for waiting. Your test result is available and your HIV test result is positive. This means you are infected with HIV.* [Allow a moment for the patient to absorb the meaning of the result.]
Provide support	*I know how difficult it can be receiving this result—learning that you have HIV infection.* *It is normal to feel upset and overwhelmed at first.* *You need time to adjust to this, but I am confident that in time you will be able to adjust and cope. Now the services are good, there is treatment for HIV, people are living healthy life with medication.*
Component 7 :Provide HIV clinical care recommendations	
Provide HIV clinical care recommendations	*Being HIV infected and Pregnant make you in high need of treatment. This helps you that you feel better and live longer; prevent the risk of MTCT even though you have HIV infection.* *Have you heard about treatment for HIV infection, antiretroviral therapy (ART)?* [If pregnant woman does not know about these medicines, inform her in brief.] *Our facility provides ARV treatment to all HIV-positive pregnant.* *You benefit from ART, because you are pregnant and HIV infected,; you are automatically eligible to start ART, a treatment for life; this helps both for your own health and protecting the baby from HIV*

	infection (MTCT). In the meantime, I will do thorough examinations and request lab investigations for baseline. The baseline lab investigations are not pre-requisite for initiating ART, rather they use for follow up of your treatment. *It will be best for you to deliver your baby in a health facility where you will give birth by skilled birth attendance and receive low risk interventions to reduce the risk of MTCT, as well as ARV medication for the new born.* *After delivery, your baby will start ARV prophylaxis immediately and continue until the age of 6 weeks.*
Review woman's plan for delivery	[Discuss a birth preparedness plan: e.g. Planning for transportation? securing money for emergency, identifying who shall bring you to the health facility, who shall decide on emergency, or cover the cost of transportation, clinical services, etc.] ***In case a woman end up to deliver at home:*** *Both you and the baby have to be examined to make sure all is well.* • [Emphasise to the mother that they shall continue their ART at the regular time and they shall start giving the infant ARV prophylaxis immediately after birth and continue up to 6 weeks of age].
Provide ARV prophylaxis	*"If you accidentally deliver at home, make sure that you come with your newborn baby to the health facility for the infant ARV prophylaxis to be started immediately after birth. You need to give ARV prophylaxis for the baby until 6 weeks of age."* *"The ARV prophylaxis (NVP) for the baby is safe, is a daily dose, and it is supplied with a syringe for administration."*

	Do you have any questions that I can answer at this time? *When you arrive at the health facility for delivery, please let your clinician treating you during labour know that you are HIV-positive. Your baby will also start medication after birth.* *As we talked before, there is a risk of your baby getting infected via breast milk.*
Infant feeding counseling	*We will now discuss some options for you to choose to feed your newborn baby.* Counseling on infant feeding Options: **Exclusive breastfeeding for the first 6 months—**this is beneficial in that it is nutritious, easily accessible and has a disease-protective effect and promotes bonding. If you follow the treatment and advice given here, you can reduce the chance of passing the virus to the baby. This is the preferred infant feeding choice in Ethiopia. *Alternative Option* **Commercial infant formula—**if you are using this option, there is no risk of virus transmission through breastfeeding, but unless it is given in a safe way, it carries a higher risk of death in Ethiopia. From these feeding options you can choose whichever is applicable for your infant feeding practice. However, there may be situations that prevent you from continuously practicing your feeding method of choice, thus alternatives are given to temporarily substitute your choice. We will support you in the process of practicing the feeding options you choose.
Component 8 : Address disclosure and partner referral	
Address disclosure	How do you feel about letting your partner know that you are infected with HIV?

	I also want to clarify that your test result does not reflect your partner's HIV status. It is important that he also get tested. [Discuss possible approaches to disclose of HIV status to partner.] How do you think your partner will react when you tell him about your being HIV-positive? Would you be telling your partner about your HIV test result before coming for the next visit? What further help do you need to tell your partner about your HIV test result? Because HIV can spread through sex, your partner needs to be tested right away to determine if he is also infected. Your partner can go for HIV testing at the VCT center within the health facility or other VCT centers around. Do you think you can get your partner in for testing by our next visit? [Support patient to refer partner for testing. Provide her partner with an invitation letter if she agrees.]
Discuss partner referral	

Component 9: Address risk issues and provide referrals	
Provide preventive messages for HIV-positive pregnant women	The best way to assure that your partner does not get HIV or any other STIs is not to have sex. If you do have sex, you need to use a condom every time. Condoms will not only protect you from HIV but also from other STIs. We have condoms available in the clinic and you are welcome to take some. Where else can you get condoms? Prevention and early treatment of other STIs will reduce the chance

of spreading them to your partner or your baby.

Do you think you will be able to convince your partner to use a condom?

[Demonstrate to the patient the use of condoms or provide him/her with a pamphlet on how to use condoms and how to prevent transmission of HIV where necessary.]

Lastly, we shall briefly discuss nutrition. Taking a varied and nutritious diet, including micro-nutrients, is essential for your own health, as it provides the basis for the production of immune system and delays progression of infection. At the same time, it helps the fetus to grow and develop well.

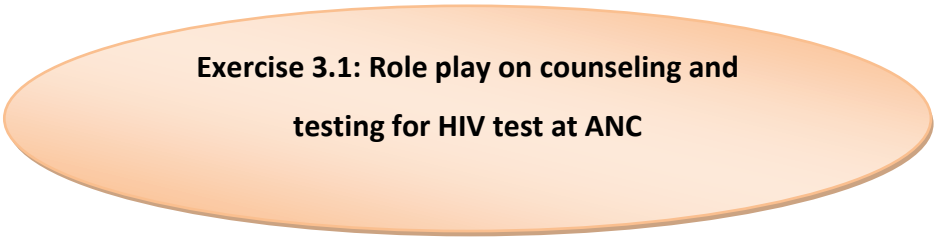
I know this has been a very stressful day for you. However, now that we know you have HIV, we will start on ART and give you appointment for next visit

Before you leave today, I will give you information about how to get further support from some organizations within our community. [Mention some support organizations and provide the patient with appropriate referrals.]

Most people find it helpful to tell someone about their problems and get their support. Is there anyone that you can talk to about your HIV status?

Thank you, (patient's name) for coming in today.

NB: Prepare and make ready partner invitation letter



Standardized Case scenarios for Post-Test Counseling

Scenario 1: For HIV-Negative Test Results

Fethia is 30 years old and 36weeks pregnant. This is her first pregnancy. She feels well, and her pregnancy is without incident. She comes to the clinic today for a check-up before her due date. Fethia has never been tested for HIV.

Fethia's B/P is 120/75 mmHg, and she weighs 45 kilos. All her clinical review is normal.

How would you recommend HIV-testing and counseling to Fethia today?

The health care provider used the cue card to recommend HIV testing. Fethia agreed to be tested for HIV. The nurse did an HIV test which was Negative.

How would you inform Fethia about her HIV test result?

Scenario 2:For HIV-Positive Test Results

Lelise is 35 years old and 20 weeks pregnant. She is Gravida II Para I. She comes to the clinic for the first time today for a routine check-up. She feels well. She has never been tested for HIV. She doesn't know her husband's HIV status.

Lelise's B/P is 90/70 mmHg, and she weighs 50 kilos. All her clinical review is normal.

How would you recommend HIV-testing and counseling to Lelise today?

The health care provider used the cue cards to recommend HIV testing. Lelise agreed to be tested for HIV. The nurse did the HIV test with finger prick. The HIV test result is Positive.

How would you inform Lelise about her HIV test result?

Table 3: Checklist for observing counselling sessions during role play

Skills and techniques	Specific strategies, statements, behaviors	√
Establishing a relationship	• Greets the patient; shakes hands if appropriate	
	• Offers a seat	
	• Leans forward when talking	
	• Makes eye contact (when appropriate)	
	• Shows interest in the client	
	• Other (specify)	
Listening	• Looks at the client	
	• Body language indicates attentiveness to speaker	
	• Makes eye contact to indicate care and interest (when appropriate)	
	• Facial expression indicates caring and interest in the client	
	• Uses minimal encouragers such as yes, okay, etc.	
	• Checks to be sure s/he understands what the patient is saying	
	• Occasionally sums up patient's statements	
	• Other (specify)	
Empathy	• Comments on patient's challenges while also indicating patient's strengths	
	• Reflects statements back to patient to indicate understanding	
	• Other (specify)	
Questioning	• Uses closed-ended questions to get basic information such as demographic data	
	• Avoids overuse of closed-ended questions	
	• Uses open-ended questions to get more in-depth information from client	
	• Style of questioning reflects interest, care and concern, not interrogation	
	• Asks relevant questions	

	• Other (specify)	
Clarifying	• Checks understanding of what the patient is saying	
	• Uses phrases such as: "Are you saying that?" Or "Correct me if I am wrong."	
	• Other (specify)	
Providing technical information (on pre-test counseling, testing procedures, test results, post-test counseling)	• Provides information on HIV • Use of cue card • Steeps to follow as per the cue card/ script	

3.7. Couple counseling

Couples counseling is when two or more partners are counsel plus test and receive their results together. When couples receive their results together, they can receive appropriate support and be linked to follow-up services by a counselor, health care provider, or community-based worker.

Some potential benefits of couples HIV testing and counseling include:

- Individual is not burdened with the need to disclose results and persuade partner to be tested
- Offer safe environment for couples to discuss risk concerns and issues
- The counselor can help relieve tension and diffuse blame.
- Partners hear information together, enhancing the likelihood of shared understanding.
- Counseling messages are tailored, based on the test results of both partners.
- The counselor creates a safe environment and can help couples talk through difficult issues that they may not have discussed before.

- Prevention, treatment, and care decisions can be made together.
- Decisions about family or child testing, as well as family planning, can be made together

3.7.1. Couple HIV counseling & testing protocol component structure

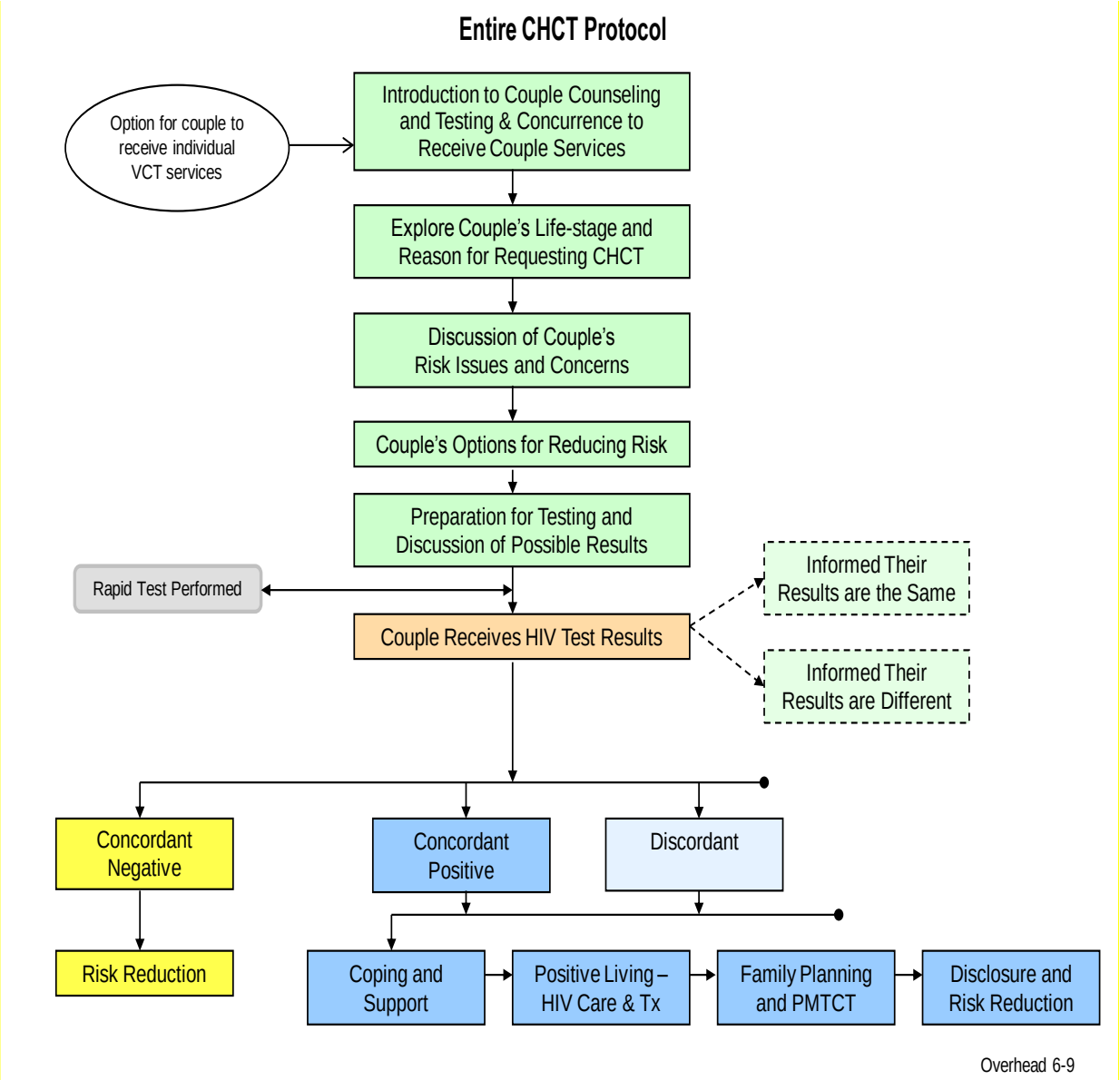


Figure 6: couple HIV counselling & testing protocol component structure

3.7.2. Couple counseling skills

- Demonstrate neutrality and non-biased concern for both members of the couple
- Convey respect and regard for the couple's relationship/partnership
- Facilitate balanced participation of both partner
- Model appropriate listening and communication skills

- Facilitate dialogue between the couple
- Raise the difficult issues that the couple may need to contend with
- Mitigate tension and avert blame

3.7.3. Conditions for Receiving CHCT Service

- Voluntary participation of each partner
- Agreement to mutually discuss HIV risk issues and concerns
- Willingness to receive results together
- Commitment to shared confidentiality
- Mutual decisions about disclosure of results

3.7.4. Prevention of transmission of HIV in discordant couples

A discordant couple is a couple in which one partner is HIV-positive and one partner is HIV-negative. It is possible for couples to stay HIV discordant indefinitely if they consistently practice safer sex using condoms. Treatment for the HIV-positive partner also is highly effective in reducing the risk of transmission to the HIV- negative partner. Combined, treatment and consistent condom use are likely to offer greater protection than either one alone. New evidences on prevention of transmission of HIV in discordant couples recommend offering ART to the HIV-positive member of a couple irrespective of CD4 count and/or clinical staging to help prevent HIV transmission to an HIV-negative partner.

3.8. Disclosure

1. Prioritize what to tell first and what to make next
2. Identifying the person to disclose own HIV status
3. Identifying convenient environment
4. The discussion has to be secret
5. Repeating the key points before starting the discussion
    - What to tell
    - How to tell (use role play)
    - When to tell
    - Where to tell
    - Why to tell
6. Exercise points to be communicated for disclosure

7. Identify and discuss Points that can be raised by the other person (partner? Mother? Friends?)

3.8.1. Mutual disclosure

Disclosure is when one partner shares his or her HIV status with another partner (or any other person). Mutual disclosure is when two (or more) partners share their HIV status with one another. When individuals learn their HIV test results alone, they often bear the burden of disclosing their HIV status to their partners without assistance from a trained counselor or health care provider. Couples HIV testing and counseling ensures mutual disclosure of HIV status between partners. When partners learn their HIV status together, they also agree that decisions about mutual disclosure to any third parties must be made together. To be effective mutual disclosure, we need to discuss with the client the 4 w and 1 H which are whom, why, when, where, and how.

3.9. Integration of HIV testing into antenatal care services

The HTC service at MNCH clinics is the key entry point to comprehensive HIV/AIDS prevention, care, and treatment services for a pregnant, laboring and lactating woman and her family. As such, it should be provided during ANC, L&D PNC FP and EPI. This calls for integration of HIV/AIDs services into the MNCH platform.

3.10. Recommending HIV and syphilis testing to all pregnant women

Recommending HIV testing to pregnant women and their partners is a **"gateway**" to helping women, their partners, and their children access HIV prevention, treatment, and care services.HIV testing should be recommended on the first antenatal visit, with counseling, in order to ensure that as many women as possible receive HIV-related information and services. It is important that the woman receives the test result on same day.

Syphilis is a systemic disease caused by Trepanoma Palladium. The disease has been divided in stage based on clinical findings which helps to guide treatment and follow up. HIV and syphilis are major public health problems directly affecting women and their newborns, and indirectly affecting all communities. Without treatment an estimated 50 to 80 percent pregnancies with syphilis infection result in adverse events, including abortion, fetal death ,neonatal mortality, premature labor, low birth weight and congenital syphilis. Efficacious and affordable interventions are available to prevent mother-to –child transmission of both

HIV and syphilis. Placental inflammation form of congenital infection might increase the risk for perinatal transmission of HIV; therefore all pregnant women should be screened for syphilis.

Prevention of mother to child transmission of HIV and congenital syphilis will contribute to reduction in maternal and neonatal morbidity and mortality. All women should be screened serologically for syphilis using VDRL in the first ANC visit. PenicillinG (2.4 million IU single dose) is the effective treatment for all forms of syphilis.

Syphilis testing should also be offered to all pregnant women in all settings. A diagnosis of syphilis in an HIV-negative woman is an opportunity to identify women at increased risk of HIV acquisition. Syphilis in an HIV-positive woman should be immediately treated to avoid increases in the woman's HIV viral load and to decrease the risk of transmission of HIV and syphilis to her sexual partner and to her baby

Exercise 3.2: Challenge yourself with questions on HIV testing during antenatal care

True or False

1. Partner/male involvement in maternal and newborn care can help reduce the risks of MTCT of HIV.
2. All pregnant women should be tested for HIV with or without their consent because, if HIV-positive, they can transmit the virus to their babies.
3. If a pregnant woman tests negative for HIV she probably is not infected with HIV, but the test cannot detect very recent infection.
4. All pregnant women are at risk for HIV infection because the pregnancy is the result of unprotected sex.
5. Confidentiality is less important for pregnant woman because health workers need to know her HIV status in order to provide PMTCT services.

Short Answers

6. List two reasons that disclosure of HIV status is important for pregnant women in general.
7. List two benefits for an HIV-positive pregnant woman of knowing her HIV status.

SESSION 4: SPECIFIC INTERVENTIONS FOR PMTCT IN THE ANC SETTING

Learning Objectives:

After going through this module, you will be able to:

- Conduct HIV clinical review (physical examination, order investigation) for HIV positive women.
- Determine clinical staging of HIV positive pregnant women.
- Identify Opportunistic infections and provide prophylaxis and ARV treatment.

Core competencies:

Participants are expected to exhibit the following core competences

Knowledge:

- Clinical staging of HIV/AIDS

Skill:

- Clinical skill on HIV patient physical examination (WHO staging)
- Prevent or mange OI infection likes: TB and PCP

Session outline

Activity	Topic	Time	Methodology
4.1	HIV Clinical Review and assessment	30 minutes	Discussion
4.2	Determine clinical staging	40 minutes	Discussion, Card sorting exercise, drill
4.3	Laboratory	15 minutes	Discussion
4.4	Opportunistic infections and prophylaxis	30 minutes	Reading/discussion Drill
	Summary	5 minutes	Wrap-up

4.1. HIV Clinical Review and assessment

HIV infected women should get comprehensive care and support including ART. This section briefs the components of clinical care ART.

Assessment of HIV-positive pregnant women consists of the same routine pregnancy-related review as provided to all pregnant women plus HIV clinical review and assessment. In this section, we will focus on the HIV clinical assessment.

Clinical assessment of the HIV-positive pregnant woman should be performed each time she comes for antenatal services, for childbirth, and during the postnatal period. It is important to do a clinical review of pregnant women with HIV at the first antenatal visit and during each subsequent follow-up visit. Clinical review comprises targeted history taking and physical examination.

Table 4: History taking & physical examination.

1. History	**2. P/E**	**6. Assess Family Status**
If this is first visit: Review history. Check record for TB, other opportunistic infections, chronic problems. **For all visits:** • How have you been? • Have you developed any new symptoms or problems? • Have you had any of the following? ***If yes,*** evaluate the patient : o Cough? o Night sweats? o Fever? o STI signs (**For all**: genital discharge, sore, dysuria. **For men**: scrotal swelling, inguinal	**In all patients:** · Look for pallor. ***If pallor,*** check for hemoglobin. · Look for jaundice · Look for thrush. · Weigh. Calculate weight gain, or loss. If weight loss, ask about food intake. ***If any new symptoms:*** · Measure vital signs. · Measure weight, height, head circumference and MUAC · Check for nodes. If >2 cm, · Look for skin rash. · Look for evidence of violence.	o For women: o Ask if she is pregnant, ask LMP o If she is not pregnant, ask for pregnancy intention o Assess for FP need o For men: o Ask about pregnancy status of their partner o Ask for intention to have a baby o Have you disclosed your HIV status to your partner or someone significant? o Is your partner tested for HIV?

swelling. **For women**: Lower abdominal pain) ○ Diarrhoea? ○ Mouth sores? ○ New skin rash? ○ Headache? ○ Fatigue? ○ Nausea or vomiting? ○ Poor appetite? ○ Tingling, numb or painful feet/legs? ○ Any other pain? ***If yes, assess using WHO stepladder*** ○ Problems sleeping at night? ○ Sexual problems? • Additionally in children ask ○ Unable to feed ○ Difficulty of breathing ○ Grunting ○ Leg swelling ○ Convulsion ○ Lethargy/coma ○ Ear pain • Are you sexually active? How many partners do you have? Do you use condoms? • Have you been feeling sad or unhappy or have you lost interest in your normal activities recently? **If so assess for depression** • Have you been feeling scared or	· Do further assessment of symptoms ***If first visit* (also check every 6 months; skip if known problem):** ○ Tell patient you want to check his memory. ○ Name 3 unrelated objects, clearly and slowly. Ask patient to repeat them: ○ Can he or she repeat them? (Registration problem?) ***If yes,*** wait 5 minutes and ask again, "Can you recall the 3 objects?" (Recall problem? **3. Laboratory** ○ Request relevant laboratory tests **4.WHO Clinical Staging** ○ Determine the WHO Clinical Stage of your client	○ Are your children tested for HIV? **7. Review TB status** ○ Active TB ○ Newly diagnosed ○ On anti TB ○ Positive TB screen ○ TB suspected on previous visit, check for sputum result and respond as per the TB guideline ○ Order sputum examination ○ Negative TB screen ○ Give IPT **8. Eligibility for ART** ○ All HIV positive pregnant, labouring and lactating mothers are eligible for ART **9. Adherence Counselling** ○ Conduct ongoing

frightened recently? • Do you drink 'tella', 'tej', beer or other alcohol beverage? How many days of a week do you drink? How much drink? • Have you needed urgent medical care? ***If yes,*** ask for record/diagnosis. • Which drugs (anti TB, traditional remedies, ARVs, illicit drugs, etc) are you taking and how often? • Assess adherence • How are things at home? • What usual physical activities are you doing? • Is there anything else you want to talk about?		adherence counselling
	5.Functional/Developmental Status	**10. PHDP** Positive Health Dignity and prevention (PHDP)
	Determine the functional status for adult and Developmental appropriateness for children	○ Give client condoms at every visit ○ Agree on a prevention goal for the client to address

Table 5.Physical examination for HIV positive pregnant women

Systemic Examination	**Check for the following findings**
Vital signs and Anthropometry	• Pulse and Respiratory Rates, BP and Temperature • MUAC • Weight, Height
HEENT	• Check for Pallor, Jaundice, Oral thrush, Ear discharge, Tonsillar enlargement, Sinus tenderness
Lymph Glandular System	• Check for Enlarged lymph node in the neck and axillae and groin
Respiratory system	• Central Cyanosis • Check for Air entry and • Abnormal sounds (Bronchial breath sound, crepitation and wheezing)

Cardiovascular system	• Heart sounds and other abnormal sounds
Gastrointestinal system	• Tenderness and/or Guarding • Mass and Organomegally (e.g. Hepato-splenomegaly) • Sign of fluid collection (shifting dullness and fluid thrill)
Musculoskeletal system	• Tenderness, Abscess collection
Dermatologic	• Skin rash
Nervous System	• Consciousness • Orientation to Time, Place and Person • Meningeal signs, Weakness/paralysis • Signs of anxiety and /or depression

4.2. Determine clinical stage

The criterion for WHO clinical staging for pregnant woman is the same as for any adult Use the WHO staging for adolescents and adults − the only modification for pregnant women is the weight loss criteria in clinical stage 2 and 3. For a pregnant woman, failure to gain weight during pregnancy may also be considered to be weight loss. (Refer table 6 below)

Staging systems for HIV can:

- Help for follow up of HIV positive pregnant/lactating mother who are on ART
- Provide a framework for follow-up and clinical management
- Help understand prognosis and guide patient counseling
- Help evaluate whether ARV therapy is working
- Assist with clinical decision-making, including decisions on when to change ARV therapy.
    - Note: clinical staging is not used for ART initiation in HIV positive pregnant and lactating women but will be used for clinical monitoring after the treatment initiated.

There are multiple exercises given successively to help you understand the clinical features of HIV, their significance related to the identifying the magnitude of the illness and treatment.

Table 6 WHO Adolescent and Adult HIV Clinical Staging

WHO Clinical Stage1 Asymptomatic	**WHO Clinical Stage 2 Mild Disease**	**WHO Clinical Stage 3 Advanced Disease**	**WHO Clinical Stage 4 Severe Disease (AIDS)**

No symptoms or only:
• Persistent generalized lymphadenopathy
	• Weight loss 5-10%**
	• Sores or cracks around lips(angular chelitis)
	• Itching rash (seborrhoea or prurigo)
	• Herpes zoster
	• Recurrent upper respiratory infections such as sinusitis or otitis
	• Recurrent mouth ulcers
		• Weight loss > 10%**
		• Oral thrush
		• Oral hairy leukoplakia)
		• More than 1 month:
		  ○ Unexplained fever or Diarrhea
		• Severe bacterial infections (pneumonia, muscle infection, etc)
		• Pulmonary TB
		• Acute necrotizing ulcerative gingivitis/ periodontitis
		• Pyomyocites
			• HIV wasting syndrome
			• Oesophageal thrush
			• More than 1 month:
			  ○ Herpes simplex ulcerations
			• Recurrent severe pneumonia within months
			• Lymphoma*
			• Kaposi sarcoma
			• Invasive cervical cancer*
			• CMV retinitis*
			• Pneumocystis pneumonia
			• Extra pulmonary TB*
			• Toxoplasma*
			• Cryptococcal meningitis*
			• Visceral leishmaniasis*
			• HIV encephalopathy (Significant neurological impairment interfering with independent functioning and not due to other cause will often improve on ARV treatment)

* Conditions marked with an asterisk require a clinical diagnosis–this could be obtained from records of a previous hospitalization. Muscle infection, Pneumocystis pneumonia, or any other severe pneumonia, toxoplasma, cryptococcal meningitis, and Extra pulmonary TB, et care all infections which should be referred for hospital for diagnosis and treatment.

** Failure to gain weight can be considered as weight loss in pregnant women.
Calculation of wt. loss =initial wt. minus present wt, divided by initial wt. x100

Case scenario on diagnoses and management of Fethia andLelise in the context of PMTCT

Please read carefully the situation of Fethia and Lelisie as narrated below.

	The health care provider did post-test counseling, and she discussed routine ANC services including PMTCT services. She discussed disclosure and partner testing with Fethia. She did a clinical review, staging, and sent blood for a CD4 count. Following the clinical assessment, thehealth care provider decided that Fethia is in WHO clinical stage I. Fethia`s CD4 count is 400. Her hemoglobin is10g/dl. Which PMTCT interventions would you recommend for Fethia, today? Why?
	The health care provider did post-test counseling with Lelise. She explained the test result, including the window period, the importance of remaining negative, and the danger of new HIV infection during pregnancy and breastfeeding Lelisie plans exclusive breastfeeding, and to deliver at the health center.

Exercise 4.1 photograph exercises: You will be provided with photographs displaying various clinical manifestations of HIV. Your job will be identifying the health problem and the clinical stage it suggests.

Photo label	**Case study**	**Clinical stage and likely diagnosis**
A	30 years old with small swelling on the neck. Has also swelling under the arm pits	
B	41 yr. old HIV +ve woman who comes to the HC having ulcers on the side of mouth	

D	37 years old Woman complains of itchy rash over her back	
E	50 yrs. old HIV + who comes to the HC due to rash	
F	27 years old HIV positive woman with multiple sores in her mouth. She says they are painful and gets them often	
G	35 years old HIV positive woman who says she has lost weight and has whitish debris on her tongue, the inside of her cheeks, and the back of her throat	
H	41 years old who says he has whitish patch at the side of his tongue	
I	33 years old HIV +ve woman who says that she has a whitish vaginal discharge. She is frustrated because she has had it for over a month(Pregnant women may have it commonly)	
j	38 years old HIV +ve woman with painful ulcer on genitalia. She says she had this for long time	
K	47 years old thin man with a mass in his mouth	
L	48 years old HIV positive extremely thin woman with a purple –black rash over her chest.	
M	14 years old HIV +ve boy complains of weight loss and large swelling on the neck	

Exercise 4.2. Clinical staging:

- Read the cases below and, for each woman described, determine the clinical stage only
- Write the stage number under the column of clinical stage
- When you complete the exercise your facilitator will lead discussion for correction

Cases	**Clinical Stage**	**ART in MNCH unit**	**Refer**
W/o Leila learned that she was HIV-positive when she has her first ANC visit at 29 weeks gestation. She is asymptomatic, has a normal clinical review, and has a normal activity level. CD4 count = 400; hemoglobin = 10.4 gr/dL.			
W/o Tirsit learned that she was HIV-positive on her first ANC visit at 14 weeks gestation; she presented with angular cheilitis; she has a normal activity level; she complains today of recurrent bronchitis. CD4 count = 320; hemoglobin = 10 gr/dL.			
W/o Fatuma learned that she was HIV-positive and pregnant when she came for care. She is in her first trimester by estimated dates. She presented with oral thrush; she said that she is only bedridden almost half of her active life (40% of the time); and she complained of an unexplained fever for the last five weeks. CD4 count = 240; hemoglobin = 6.8 gr/dL.			
W/o Sinidu finally accepted testing and learned that she was HIV-positive on her third antenatal visit. She is at 35weeks gestation; she is asymptomatic and has a normal clinical review; and she has a normal activity level. CD4 count = 370; hemoglobin = 10.8 gr/dL.			

W/o Beletu learned she was HIV-positive at 12 weeks gestation. She came for her third ANC visit today at 38weeks gestation; she presented with oral candidiasis (thrush); said she is bedridden some times (about 20% of the time); and she complained of unexplained diarrhea for the last five weeks. CD4 count = 300; hemoglobin = 9 gr/dL.			
W/o Tigest is 21 weeks pregnant and has just been tested HIV-positive. She just finished treatment for pulmonary TB, and she has no any other abnormal findings. Her hemoglobin is 8.5.			
W/o Biya is 29 weeks pregnant and has known she was HIV-positive since her last pregnancy but did not tell her nurse until today. She has esophageal thrush and poor weight gain in this pregnancy. Her hemoglobin is 8.			
W/o Wuleta is 18 weeks pregnant. She is doing well and has a normal clinical review. She is surprised by her positive test and will bring in her partner soon for a test. Her hemoglobin is 11.			
W/o Tirhas is 22 weeks pregnant. She has a normal clinical review except for many small lymph nodes and a zoster rash. She just tested positive today and is very upset. She does not want to travel to the hospital for a CD4 count.			

4.3. Laboratory

- Tests routinely performed as a standard component of ANC should be ordered as per ANC protocol.
- CD4 should be done as soon as available and every 6 months thereafter, but this should not delay the initiation of ART
- Viral load monitoring test every year.
- Other laboratory tests including Liver/Renal function tests should be ordered only if clinical symptoms warrant further evaluation.

- If renal or liver function tests confirm underlying renal or hepatic disease, the patient should be referred to ART clinic for ongoing

4.4. Opportunistic infections and prophylaxis

4.4.1. General information

- Opportunistic Infections are common infections which occur in any HIV infected individual especially when the immunity drops.
- Microorganisms which are usually harmless cause illnesses in an individual whose immunity is weakened by HIV.
- Bacteria, fungi, protozoa and viruses can cause Opportunistic infections;
- Any system in the body can be affected by opportunistic infections
- Symptoms of opportunistic infections vary mainly according to the affected body system. For example:
    - Infection of respiratory system: usually manifest with cough, difficult breathing
        - E.g. Pulmonary Tuberculosis, PCP, etc.
    - Gastro-intestinal system: usual presenting with diarrhoea.
        - E.g. Oral candidiasis, angular cheilitis, etc.
    - Central nervous system: usually presenting with severe headache or confusion
        - E.g. Toxoplasmosis, Cryptococcosis
    - Skin – can manifest with bluish vascular lesions (Kaposi sarcoma), multi-dermatomal lesions E.g. Herpes zoster, seborrhoea, etc.

Your Facilitator will show you the most common opportunistic infections using power point

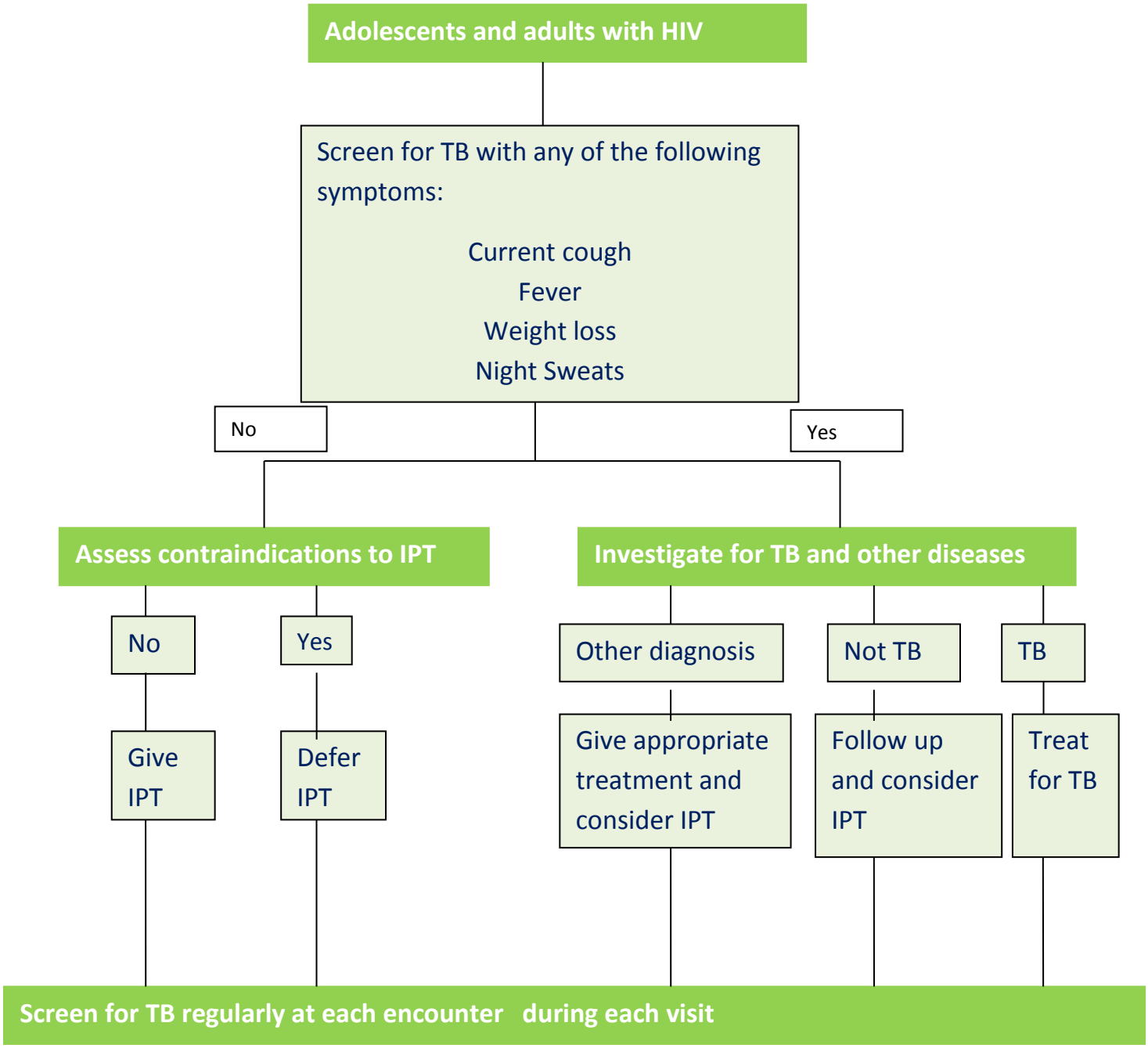
4.4.2. TB screening guide:

One of the important activities required form you while providing care to an HIV infected pregnant women is routine screening for tuberculosis.

- Questions for TB screening:
    - Do you have cough currently?
    - Do you have fever?
    - Do you have night sweats?

- Poor weight gain

- Interpretation:
  - If YES to any one of above symptoms, patient is a TB suspect (we call it Screen Positive) and should be further evaluated (see national TB/HIV/Leprosy guideline for further information).
  - If NO to all 4 questions (we call it Screen Negative), patient is candidate for IPT.



4.4.3. INH Prophylaxis and CPT

Major OI infection can be prevented by prophylactic treatments. In Ethiopia, the most frequently used prophylactic therapy are INH against TB and Co-trimoxazole against pneumonia and other GI infections at PMTCT/MNCH platform. But Patients with active TB should be referred to TB clinic.

Table 7 INH prophylaxis and CPT

Opportunistic Infection	Prophylaxis	Remark
Pulmonary TB	Isoniazid preventive therapy(IPT): INH 300mg/day (150mg/day if Wt. <30kg) x 6 months + Pyridoxine 25mg qd *[Indication: ALL HIV-infected patients without active TB]-see screening guide below (see 4.4.3)*	Remember to adjust dosage according to client's weight. Directly observed therapy (DOTs) is the strategy in Ethiopia. Be vigilant about overlapping side effects of ARVs and anti-TB drugs. Always look up drug-drug interactions when using rifampicin and ARV. Avoid combining rifampicin with NVP (unless no alternative is available) and with PIs (exception of saquinavir/ritonavir combination). In an HIV-positive client it is always preferable to start TB treatment before starting ARV, but the exact timing is undefined.
Pneumocystis Pneumonia (PCP)of	Co-trimoxazole one double strength(DS) tablet daily(or 2 single strength tabs)	**Criteria to stop Cotrimoxazole** • CD4 ≥350 cells/mm3 after 6 months of ART(2 CD4 measurements at least 3 months apart should be documented) • Dapson and pentamindine are alternative.

	[<u>Indication:</u> WHO Stage II, III, IV); asymptomatic individuals with CD4 counts below 350]	• CO-trimoxazole preventive therapy also prevents Other OI infection such us diarrhea, malaria, toxoplasmosis and other bacterial infection

The national TB control program do not recommend either repeating INH preventive therapy after the first cycle of IPT or the provision of IPT after completion of full course of TB therapy.

Exercise 4.3. Challenge yourself-Prophylaxis and TB screening:

Read the cases carefully and fill the three columns. You will discuss with your facilitator at the completion of the exercise**.**

No	Case	Stage	TB screen	IPT	CPT
1	W/o Sinidu finally accepted testing and learned that she was HIV-positive on her third antenatal visit. She is at 35weeks gestation; she is asymptomatic except having cough of 5 days and has a normal clinical review; and she has a normal activity level. CD4 count = 370; hemoglobin = 10.8 gr/dL.				
2	W/o Beletu learned she was HIV-positive at 12 weeks gestation. She came for her third ANC visit today at 38weeks gestation; she presented with oral candidiasis (thrush); said she is bedridden some times (about 20% of the time); and she complained of unexplained diarrhea and night sweats for				

	the last five weeks. CD4 count = 300; hemoglobin = 9 gr/dL.				
3	W/o Tigest is 21 weeks pregnant and has just been tested HIV-positive. She just finished treatment for pulmonary TB, and she has no any other abnormal findings. Her hemoglobin is 8.5.				
4	W/o Biya is 29 weeks pregnant and has known she was HIV-positive since her last pregnancy but did not tell her nurse until today. She has esophageal thrush and poor weight gain in this pregnancy. No other symptom. Her hemoglobin is 8.				

Table 8.Opportunistic infection screening and Management

OIs	Clinical Presentation	Treatment	Remark
Herpes Zoster	• Vesicles in one area on one side of body with intense pain or scars plus shooting pain.	• Keep lesions clean and dry, if patient comes within 48 to 72 hrs, give acyclovir(800mg po five times per day for 7 days/10 mg/kg/dose every 8 hours • Give pain relief • If eye involved –needs ophthalmic evaluation	
Herpes Simplex	• Vesicular lesion or sores, involving lips and / or mouth • Usually painful	• Local antiseptics to avoid super infection • If severe ulceration , oral acyclovir 400 mg PO 3x/day for 1 week	• Can become extensive with serious mouth ulcerations • If > 1 month, stage 4 disease
	• Peri-anal and/or genital herpes	• The response to Acycovir is gratifying if it is done in sufficient dose (400mg 4 to 5 X/d) and sufficient duration (10 days to 2 weeks in moderately severe or severe cases).	
Pruritic Papular Eruption	• Intensely pruritic discrete, firm papules with variable stages of	• Treat with topical steroid and oral antihistamines; however it is often refractory	

	development and predilection for extremities, though they can involve trunk and face. • Pigmentation, scarring and nodules due to excoriation.	to treatment and hence short course prednisolone may be used. • HAART is often effective.	
Molluscum contagiosum	• Umbilicated and raised lesions usually involving the face that tends to be very big during immune deficiency state.	• May not require therapy; for extensive lesions refer for cryo-therapy • HAART if eligible	
Warts/verucca e	• Painless flat to raised warts over fingers or genitalia. • In advanced immune deficiency, they tend to be multiple and exophytic	• Treat with Podophyllin or extensive lesions refer for Cryotherapy.	
Cellulitis	• Poorly defined erythema. Pus and crust at the site plus signs of inflammation	• Amoxicillin 500mg tid for ten days or erythromycin 500mg qid if allergic to penicillin.	
Impetigo or folliculitis	• Red, tender, warm crusts or small lesions	• Clean sores with antiseptic • Start Amoxycilline	

		• Drain pus if fluctuant • Start cloxacillin if size >4cm or red streaks or tender nodes or multiple abscesses for 5 days • If allergic to cloxacillin, use erythromycine	
Papular Itching Rash (Prurigo)	• Itching rash with small papules and scratch marks. • Dark spots with pale centers	• Give potent topical steroid • Calamine solution • ART • Antihistamine	
Fixed drug reaction	• Generalized red, widespread with small bumps or blisters; or one or more dark skin areas (fixed drug reaction)	• Stop medications • Give oral antihistamine	• **Drug related itchy skin** disorders, Cotrimoxazole is a common cause • Not OIs , The condition must be differentiated from OIs
Stevens-Johnson	• Generalized bullous lesion with skin sloughing, involving mucosal	• Stop medication • Refer URGENTLY to Hospital	• A rare but fatal reaction to ARV's

Syndrome	surfaces including the mouth and the eyes		and co-trimoxazole • Not OIs, The condition must be differentiated from OIs
Bacterial Pneumonia	• Sudden (3-5 days) onset of cough, sputum production, chest pain, chills rigors, fever and/or shortness of breath • Chest pain and pleurisy in older children and adults • Tachypnea and decreased oxygen saturation indicate moderate to sever pneumonia o may consider hospitalizing patients • egophony and pleural effusion on examination	• Amoxicillin 500mg tid for ten days • In patients with penicillin allergy use erythromycin 500mg qid for the same duration.	**Admission criteria** • Tachypnea (RR>30/minute), • Old age (>70 years), • Cyanosis, • Hypotension, systolic blood pressure <90mm Hg, • Multi-lobar involvement and altered mental

			status
PCP	• Sub acute onset of progressive dyspnea, • Fever, • Non-productive cough, • Chest discomfort that worsens within days to weeks. • In children highest incidence is seen between 2-6 months of age and is characterized by abrupt onset of fever, tachypnea, dyspnea and cyanosis. • Presumptive diagnosis of PCP is based on clinical judgment • Physical examination of the chest may be normal in mild cases and early presentation. • Note that the chest X-ray can be normal in 20% of patients.	• Trimethoprim 15-25 mg/Kg and sulphamethoxazole 75-125mg/kg, three or four times daily for 21 days. • if patient grows sicker, administration of oxygen is useful. • In severely ill adults with marked respiratory distress prednisolone has to be given simultaneously; ○ 40mg BID for the first five days then, ○ 40 mg daily for the next 6 days and ○ 20 mg daily until completion of intensive co-trimoxazole therapy. • For severe cases of PCP in children provide prednisolone 2mg/kg per day for the first 7 - 10 days followed by a tapering regimen for the next 10 - 14 days. • Secondary prophylaxis after completion of the course of treatment with co-trimoxazole	

	• Definitive diagnosis of PCP is based on demonstration of the organism from an induced sputum sample using special stains like Giemsa or methylamine silver stains, but these tests are not routinely done in Ethiopia.	should be started. *Alternative regimens for mild to moderate cases of PCP include:* 1.Clindamycin 600 mg qid plus primaquine 15 mg bid Or 2.Clindamycin 600 mg qid plus dapsone 100 mg daily	
Necrotising Gingivitis	• Inflammation of the gums • Extensive and necrotic • Tooth loss • Anaerobic infection	• Amoxycillin 500mg PO TID for 10 to 14 days • Metronidazole 500mg PO BID for 10 to 14 days • Debridment is indicated for severe cases	
Oral candidiasis	• White plaques on the buccal mucosa, palate, tongue easily scrachable and bleeding base , or the oropharynx	• Topical therapy with ✓ Clotrimazole oral lonzenges 10 mg 5x/d until resolution or ✓ Nystatin 500,000 IU q 6H − Sucked and retained in the mouth for 20 minutes − Until 48 hours after symptoms	

		resolve or ✓ Miconazole oral jel 2% BID for 2-3wks or • Oral fluconazole 100mg/d for 2wks is considered drug of choice	
Oral hairy leukoplakia	• Lesions are described as white corrugated painless plaques • Commonly on lateral aspect of tongue • Unlike candida, cannot be scraped • Relatively specific to HIV infection	• HAART	
Oral kaposi sarcoma	• Is a multicentric neoplasm consisting of multiple vascular nodules appearing in the mucous membranes skin or visera • Lesions - reddish to purple to brown raised maqules	• Majority showed spontaneous regresion with HAART • Other options- radioterapy,or cryothearapy	
Oesophageal candida	• Can Present with oral thrush or alone	• Fluconazole 200 mg PO daily for 21 days	

	• Dysphagia (difficulty in swallowing) and odynophagia (painful swallowing) and/or retrosternal pain		
Toxoplasma Gondii Encephalitis	• Focal encephalitis with headache, confusion, or motor weakness and fever. • Patients may also present with non-focal manifestations, including only non-specific headache and psychiatric symptoms. • Focal neurological abnormalities may be present on physical examination, and • In the absence of treatment, disease progression results in seizures, stupor, and coma.	**First line regimen in Ethiopian context** • Trimethoprim/sulfamethoxazole 80/400, oral, 4 tablets 12 hourly for 28 days, followed by 2 tablets 12 hourly for 3 months in adults. **Alternative regimen** ✓ Sulfadiazine, 1-2 gm p.o.q 6h for six weeks or 3 weeks after resolution of lesion PLUS ✓ Pyrimethamine Loading dose of 200 mg once, followed by: Pyrimethamine 50-75 mg/day PLUS ✓ Folinic acid (Leucovorin): 10-20 mg/d • **Secondary prophylaxis:** use co-trimoxazole 960mg daily for adults	
Cryptococcal meningitis	• Subacute meningitis or meningoencephalitis with fever,	**Induction phase (2 weeks)** High dose fluconazole- Fluconazole 600 mg twice	Requires hospitalization and

	malaise, and headache. • Neck stiffness and photophobia, occur in only one-quarter to one-third of patients. • Some patients experience encephalopathic symptoms, such as lethargy, altered mentation, personality changes, and memory loss that are usually a result of increased intracranial pressure, thought to result from impaired cerebrospinal fluid (CSF) absorption.	daily alone (In children 12mg/kg/day in two divided doses): **Consolidation phase (8 weeks)** Fluconazole 800 mg/day, in children 12mg/kg/day) **Maintenance treatment** (or secondary prophylaxis)- Fluconazole 200 mg daily(in children 6mg/kg/day) **<u>Alternativein Ethiopian situation</u>** **Induction phase (2 weeks)** Amphotericin B + fluconazole: Amphotericin 0.7-1 mg/kg/day + fluconazole 800 mg/day **Consolidation phase (8 weeks)** Fluconazole 400-800 mg/day **Maintenance treatment** (or secondary prophylaxis)- Fluconazole 200 mg daily(in children 6mg/kg/day). ***NB:Discontinuation of maintenance treatment (secondary prophylaxis)***	evaluation by physician

		When patients are stable and adherent to ART and anti-fungal maintenance treatment for at least one year and have a CD4 cell count of greater than or equal to 200 cells/mm3 (two measurements six months apart).	

NB. Most WHO stage 3 and 4 conditions can be managed at higher facility with ART clinic. While few (oral thrush, HSV, esophageal thrush) may be managed at PMTCT site based on OIs management guidelines

SESSION 5: CARE AND TREATMENT FOR HIV POSITIVE PREGNANT WOMEN

Learning Objectives:

By the end of this section, the participants will be able to:

- Identify classes of ARV drugs,
- Monitor and manage ARV side effects
- Prescribe appropriate ART for HIV positive pregnant women
- Provide adherence counseling and support to HIV positive pregnant women.
- Provide appropriate nutritional assessment,
- Link an HIV infected women. to palliative care

Core competencies:

You are required to have the following competencies.

Knowledge:

- Classes of ARV drugs, ART regimens, side effects and drug-drug interactions
- Comprehensive and palliative care and support for HIV positive mother, her child and family

Skill:

- Counseling skill on ARV drug adherence and nutrition
- Perform MUAC measurement to classify nutritional status and management

Session Outline

Activity	Topic	Time	Methodology
5.1	ARV Drugs For Pregnant Women including adherence support and monitoring	60 minutes	Reading, Discussion, Exercise
5.2	Nutritional support	40 minutes	Reading/discussion Exercises MUAC measurement
5.3	Palliative care support	20 minutes	Discussion and reading

5.4	Peer support	30 minutes	Brainstorming and discussion
	Summary	5 minutes	Wrap-up

5.1. Introduction to ARVs

What is ART?

- A-anti, R-retroviral, T-Therapy, ART is the treatment of HIV infected individual with anti-retroviral drug.
- What is HAART?
    - H-Highly, A-Active, A-anti, R-retroviral, T-Therapy

It is the use of three or more anti-retroviral drugs for the treatment of HIV infection.

5.1.1. ARV Drugs for Pregnant Women

Classes of antiretroviral drugs

There are **three major classes of ARV drugs** available for use in Ethiopia:

- The NRTI: This stands for 'Nucleoside and Nucleotide Reverse Transcriptase Inhibitors'
- The NNRTI: This stands for 'Non-Nucleoside Reverse Transcriptase Inhibitors'.
- The PI: This stands for 'Protease Inhibitor'.

The **nucleoside and non-nucleoside inhibitors (NRTI and NNRTI)** both have the same "target." They prevent HIV from entering the infected cell's center, so HIV can't start making new copies.

Protease inhibitors (PIs): When the central part of the body cell makes parts of the HIV virus after infection, these parts have to be cut and put together in the right way before the new HIV copies can leave the cell. Protease inhibitors prevent this "cutting and putting together" from happening correctly, so the newly produced virus parts cannot leave the infected cell and infect other cells.

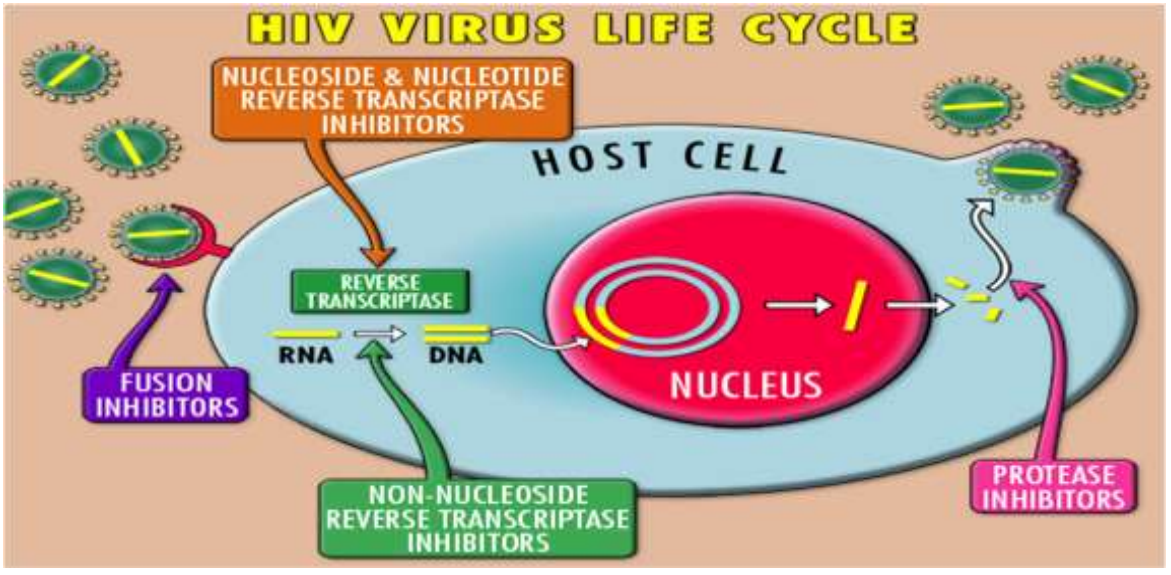


Figure 8. Site of actions for NRTI, NNRTI, and PI

Table 9. ***Classes and Dosages of Antiretroviral Drugs for Adults and Adolescents and children currently used in Ethiopia***

Drug class/ drug	**Dose**
Nucleoside RTIs	
Abacavir (ABC)	300 mg twice daily
Lamivudine (3TC)	150 mg twice daily or 300 mg once daily
Zidovudine (ZDV)	300 mg twice daily.
Nucleotide RTI	
Tenofovir (TDF)	300 mg once daily
Non-nucleoside RTIs	
Efavirenz (EFV)	600 mg once daily
Nevirapine (NVP)	200 mg daily for the first 14 days, then 200 mg twice daily
Protease inhibitors	
Lopinavir/ ritonavir (LPV/r)	400 mg/ 100 mg twice daily
Atazanavir /ritonavir(ATV/r)	300mg/100 once daily
These dosages are in common clinical use. The dosages in this table were selected on the best available clinical evidence. Dosages that can be given once daily or twice daily were preferred in order to enhance adherence to therapy. The doses listed are those for individuals with normal renal and hepatic function. Product-specific information should be consulted for dose adjustments that may be indicated with renal or hepatic dysfunction or for potential drug interactions with other HIV and non-HIV medications Zidovudine, lamivudine, dosages should be adjusted for the Creatinine clearance during renal insufficiency whereas Tenofovir should be avoided.	

Combination therapy makes sense for lots of reasons.

1. **It takes three drugs to have sustained viral suppression (low level of virus in the body).** HIV makes new copies of itself very rapidly. Everyday billions of new copies of HIV are made and many infected cells die. Giving a single drug might suppress viral replication for a short period of time but resistance to the drug develops soon. The same holds true to two drugs regimen and therefore giving two drugs alone for treatment is strongly

discouraged. Whenever ART is given, it is administered as a minimum of three drugs combination referred as HAART.

2. **Antiretroviral drugs from different drug groups attack the virus in different ways.** In the beginning of this chapter, we learned how different anti-HIV drugs attack HIV at different steps of the process of making copies of itself (first when entering the cell centre, and then when new copies want to leave the cell). Hitting two targets increases the chance of stopping HIV and protecting new cells from infection.
3. **Combinations of anti-HIV drugs may overcome or delay resistance.** Resistance is the ability of HIV to change its structure in ways that make ARV drugs less effective. HIV has to make only a single, small change to resist the effects of some drugs. For other drugs, HIV has to make several changes. When one drug is given by itself, sooner or later HIV makes the necessary changes to resist that drug. But two drugs are given together; it takes longer for HIV to make the changes necessary for resistance. When three drugs are given together, it takes even longer.

5.2. ART for pregnant women (Option B+ regimen)

ART will improve the health of the woman and is the most effective intervention in decreasing the risk of transmission of HIV to the infant.

All HIV positive pregnant women should be started on ART as soon as possible irrespective of gestational age, clinical stage and CD4 count. HAART for HIV positive pregnant is indicated based on WHO programmatic update issued in April 2012, Option B+ (test-and-treat principle). Once started, a woman should continue taking ART for her entire life.

1st Line ART Regimen for HIV positive pregnant, laboring and lactating women in Ethiopia with different scenario

1. If a women diagnosed HIV positive at ANC, labor delivery and post natal should be started TDF/3TC/EFV, the fixed dose combination (FDC) as soon as possible and PMTCT provider should provide ART integrated into ANC, labor and post-partum care.
2. If the woman on pre ART becomes pregnant, she should be referred to ANC unit and TDF/3TC/EFV, the fixed dose combination (FDC) should be started as soon as possible (in MNCH platform).

3. If the woman is already on ART, when she becomes pregnant, she should be transferred out using TO format to continue her treatment at ANC unit(in MNCH platform).
4. If additional consultation is needed, the client can be referred to ART unit for further evaluation and management. The client can be referred back to ANC after evaluation and management.

Table 10. Recommended ARV drug regimen in PMTCT

Scenario:-Diagnosis of HIV and initiation of ART at:	**Type of regimen for the woman**
ANC (newly identified)	TDF+3TC+EFV
Intra-partum(L&D), newly identified	TDF+3TC+EFV
Postpartum period(newly identified)	TDF+3TC+EFV
Pregnant mother on Pre-ART follow up	TDF+3TC+EFV
Already on HAART before pregnancy	Continue with the regimen the woman has started

Justification for Tenofovir (TDF), Lamivudine (3TC) and Efavirenz (EFV):

- Why is TDF preferred?
    - TDF is safe drug with rare side effect and toxicity than other ARVs.
    - TDF and 3TC are rarely discontinued due to side effects or toxicity, compared to the other NRTIs.
- Why EFV?
    - It is alternative to NVP.
    - EFV is found to be safe in 1st trimester and is dosed once daily.
    - NVP which may cause severe liver and skin toxicity especially in pregnant women with high CD4 count

Alternative regimen:

- AZT +3TC +EFV

Exercise 5.1 & 5.2. Card sorting exercise and drill on decision of treatment site

Now that you have understood staging and treatment for HIV infection from the perspective of PMTCT, it is imperative to do two kinds of exercises so that you can consolidate your knowledge and build confidence in managing your clients. Your facilitator will give you guidance on how to go about the exercise.

5.3. Monitoring of response to ART

Patients qualifying for antiretroviral therapy are thoroughly evaluated at baseline and for the rest of their lives to monitor toxicity, intolerance, response or failure to treatment. Before ART initiation and thereafter patient readiness and adherence to therapy are always assessed and necessary support provided. Opportunistic infections including TB, IRIS, and co morbidities are always looked for and managed.

Table 11: Recommended laboratory tests for monitoring response to ARVs and its toxicities

Regimen	Drugs	Monitoring Tests	Frequency
First-line Regimens	TDF/3TC/EFV	CD4	Baseline and every 6 months
		ALT	Symptom-directed
		Creatinine	symptom-directed
		HIV viral load test	6 months after ART initiation and Every 12 months thereafter
	AZT/3TC/NVP	Haemoglobin	At baseline, 4th, 8th, and 12th weeks. Thereafter symptom-directed
		ALT	Symptom-directed
		CD4 Count	Baseline and 6 monthly (if available)
		HIV viral load test	6 months after ART initiation and Every 12 months thereafter

	AZT/3TC/EFV	Haemoglobin	At baseline, 4th, 8th, and 12th weeks; thereafter symptom-directed
		ALT	Symptom-directed
		CD4 count	At baseline and 6 monthly
		HIV viral load test	6 months after ART initiation and Every 12 months thereafter

5.3.1. What to expect in the first months of ART

Although taking ART is a lifelong commitment, the first six months of therapy are especially important. These complications are commonest when the people starting ART already have advanced HIV disease with severe immunodeficiency and existing co-infections and/or co-morbidities, severely low hemoglobin, low body mass index and very low CD4 counts or are severely malnourished.

Scenarios to look for

- Clinical and immunological improvement and virological suppression
- Opportunistic infections and/or immune reconstitution inflammatory syndrome (IRIS) may develop
- Early adverse drug reactions, such as drug hypersensitivity, especially in the first three months of ART.
- Death rates are also highest in the first three months of ART.

5.3.2. Monitoring and Management of ARV drug toxicities

Most common toxicities associated with ARVs appear within the first 3-6 months of ART initiation, therefore it is wise to be vigilant and check for these toxicities in the follow up visits.

What should be done?

- Establish whether the adverse event is due to ARV drugs, other drugs, or clinical illness.
- Try to identify the responsible ARV drug.

- Assess the severity using ACTG (AIDS Clinical Trial Group) grading system

Monitoring adverse effects:

Side effects to the TDF/3TC/EFV regimen are generally mild, usually most noticed during the first few weeks of treatment, and tend to disappear by the end of the first month; hence TDF/3TC/EFV has the lowest rate of switching to an alternative regimen.

The most common side effects of TDF/3TC/EFV are summarized in table 12.

Table 12. The most likely side effects of TDF/3TC/EFV

ARV Drug	Very Common side effects (Warn patients and suggest ways patient can manage; Be prepared to manage when patient seeks care)	Potentially Serious side effects (Warn patients to seek Care)
Zidovudine (AZT)	Nausea, Diarrhea, Headache, Fatigue Muscle pain	Pallor
Tenofovir (TDF)		Renal insufficiency, Effect on fetal bone
Lamivudine (3TC)	Nausea; Diarrhea;	
Nevirapine (NVP)	Nausea, Diarrhea	Yellow eyes Skin rash Fatigue AND shortness of breath Fever
Efavirenz(EVF)	Nausea, Diarrhea,Strange Dreams,Difficulty Sleeping, Memory problems, Headache; Dizziness	Seek care urgently, Yellow Eyes, Psychosis or confusion, Skin Rash

5.3.3. Monitoring and managing Drug-Drug Interaction

Effect of drugs can be modified by use of another drug (i.e associated drugs gives increase or decrease in ARV drug levels). HIV positive women may be under treatment for other conditions besides HIV. Thus it is important that you know what interactions exist between

the groups of drugs that you use to provide effective treatment for your clients. Most of the drugs are metabolized by kidney and liver.

E.g. TDF/3TC is metabolized by kidney, EVF by liver; thus interactions by TDF/3TC and EFV are minimal.

Examples of common interactions are given below.

Table 13: Examples of common interactions are given below.

ARV drugs	**Interacting drugs**	**Key interaction**	**Suggested management**
NVP	Rifampicin	Both have Hepatotoxicity effect	Substitute NVP with EFV
	Itraconazole and ketoconazole	Decrease concentration of anti-fungal to sub therapeutic level	Use an alternative antifungal agent (for example fluconazole)
EFV	Estrogen-based hormonal contraception	Decrease contraceptive effectiveness	Use alternative or additional contraceptive methods
	Methadone	EFV induces metabolism and decrease level of methadone	Adjust methadone dose as appropriate
	Amodiaquine	EFV induces metabolism and decrease level of Amodiaquine	Use an alternative antimalarial agent
Boosted PI (ATV/r, LPV/r)	Rifampicin	Levels of both Refampicin and ARVs may be decreased	Substitute rifampicin with rifabutin Adjust the PI dose or substitute with three NRTIs (for children)

	Estrogen-based hormonal contraception	Levels of both contraceptives & PI may be decreased	Use alternative or additional contraceptive methods
	Methadone	Retinovir decreases methadone effect-withdrawal syndrome Both can cause cardiac conduction abnormality	Adjust methadone doses as appropriate

Source: Ethiopian consolidated national guideline for HIV prevention care and treatment, FMOH 2014, PP-53

Note: Herbal medicines can interact with ARVS and can cause serious harm or may reduce efficacies of ARVs and other medicines so should not be taken at all.

5.4. Diagnosis of Treatment failure

Monitoring individuals receiving ART is important to ensure successful treatment, identify adherence problems and determine whether and which ART regimens should be switched in case of treatment failure. The value of viral load testing as a more sensitive and early indicator of treatment failure is increasingly recognized. Viral load testing should be done after 6 months of initiating ART and every 12 months then after in order to detect treatment failure proactively. Viral load testing should be used aside from the routine testing whenever there is clinical or immunologic suspicion of treatment failure. If treatment failure is diagnosed patients should be switched to second line regimen. A second line regimen is a combination of three ARV drugs (at least two of which are new to the patient) provided when the first line regimen is no more effective for that particular patient.

Table 14.Definitions of clinical, immunological and virological failure for the decision to switch ART regimens

Failure	Definition	Remark
Clinical failure	Adults and adolescents New or recurrent clinical event	The condition must be differentiated from immune

	indicating severe immunodeficiency (WHO clinical stage 4 condition and certain WHO clinical stage 3 conditions (pulmonary TB and severe bacterial infections) may also indicate treatment failure)after 6 months of effective treatment	reconstitution inflammatory syndrome occurring after initiating ART.
Immunologic failure	Adults and adolescents CD4 count falls to the baseline (or below) or Persistent CD4 levels below 100 cells/mm3	Without concomitant or recent infection to cause a transient decline in the CD4 cell count. Current WHO clinical and immunological criteria have low sensitivity and positive predictive value for identifying individuals with virological failure
Virologic failure	Plasma viral load above 1000 copies/ ml	An individual must be taking ART for at least 6 months before it can be determined that a regimen has failed. VL testing should not be done when there is an acute infection/fever.

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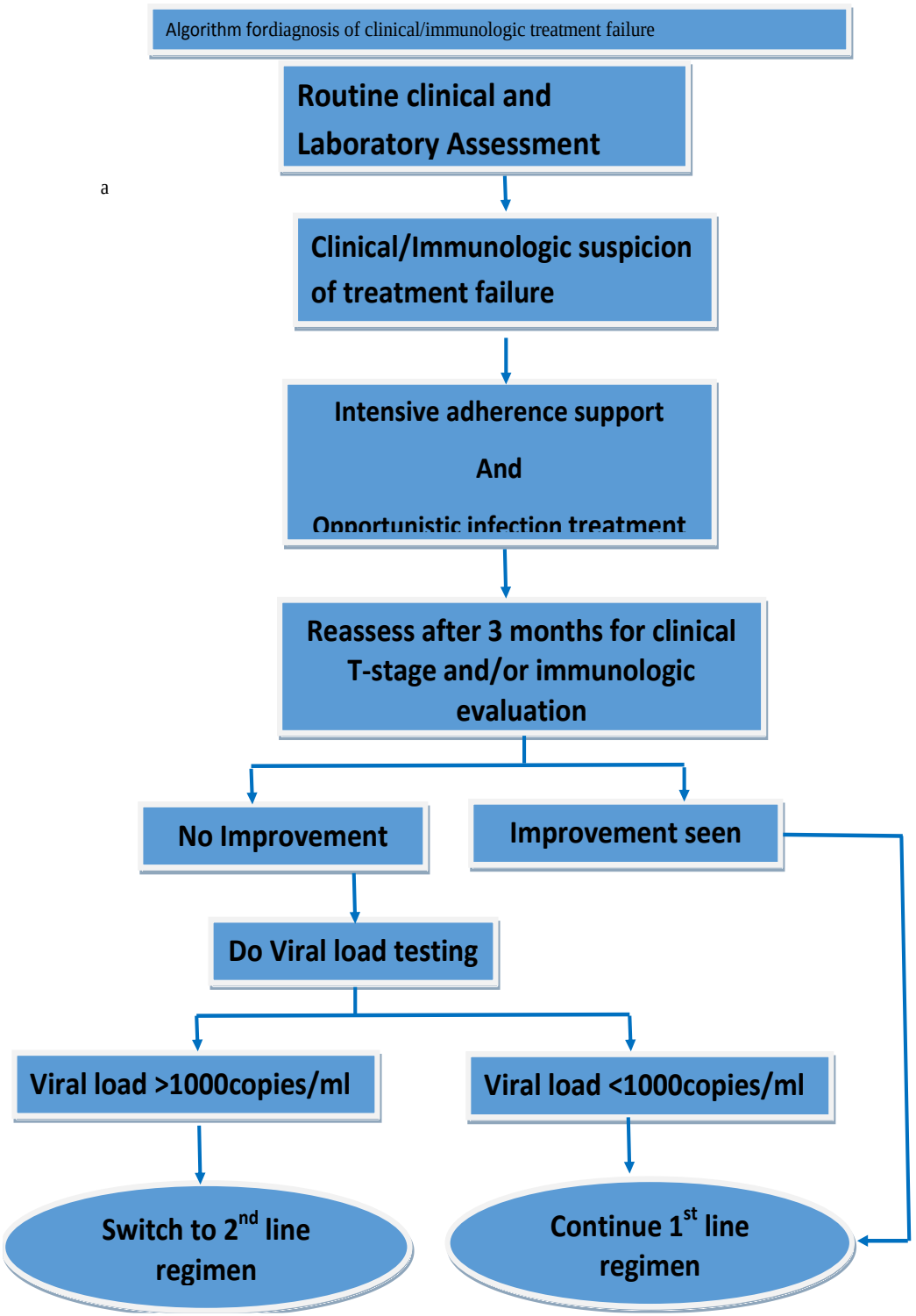
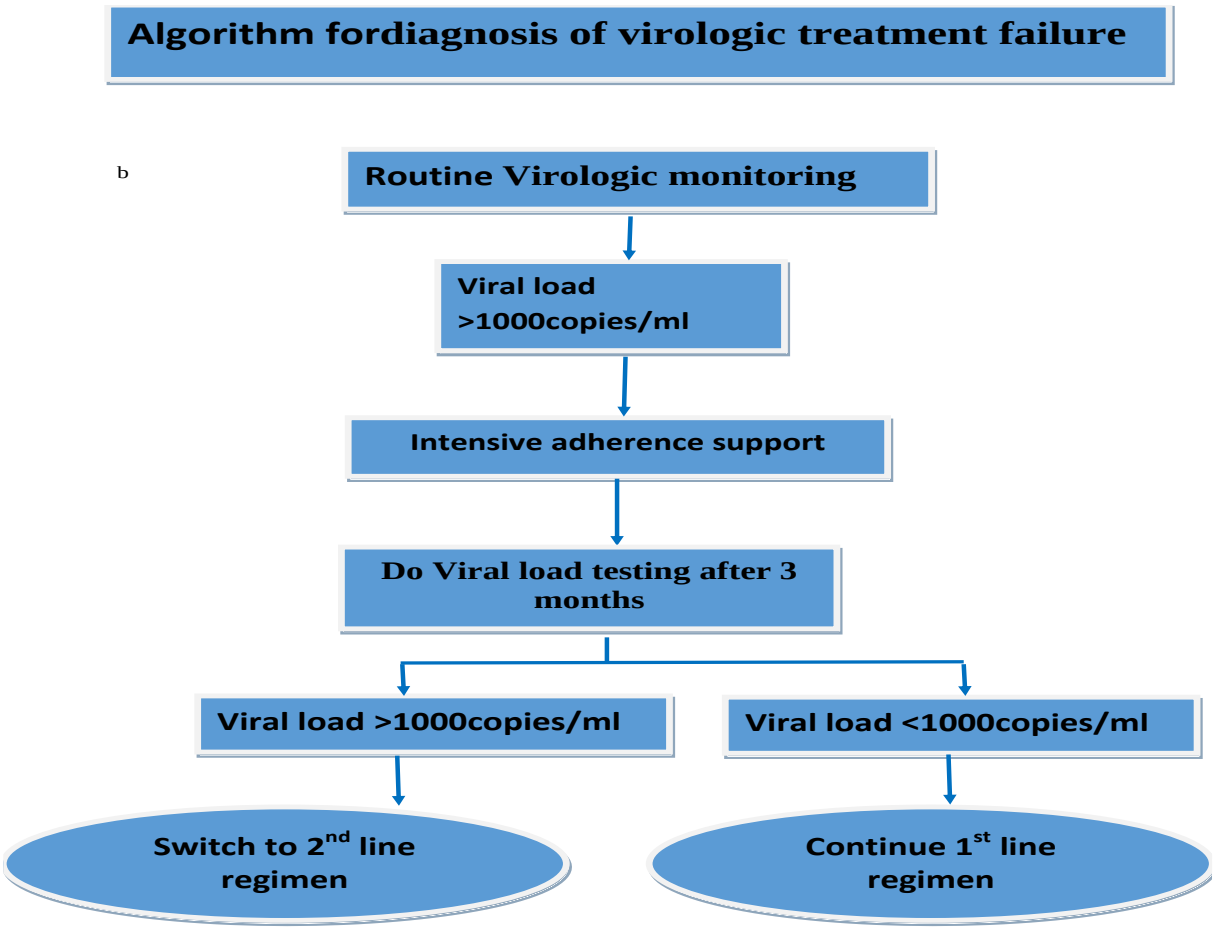


Figure 9 Algorithm for diagnosis and management of a) clinical and immunologic b) virologic treatment failure



5.4.1. Monitoring of women initiated ART per option B+

All HIV infected individuals require a standard clinical assessment at every visit. Patients don't necessarily volunteer to tell their symptoms; hence active inquiry is required. At each visit HCW should be checking for:

- HIV related diseases including TB screening questions
- Change in WHO stage; any finding suggesting ART treatment failure
- Drug side effects (ARV, CTX, INH, Anti-TB drugs)
- Adherence

Table 15: Symptom/sign screening checklist and possible causes of Symptoms after HAART

Symptom/sign	Possible cause	Drug side effects
Weight loss /Body change	TB/Malnutrition, Treatment failure	Not related to ART
Swollen Glands	Persistent generalized lymphadenopathy (PGL), Glandular TB, IRIS(TB)	Not related to ART
Headache, confusion, Dizziness	Cryptococcal or TB Meningitis, CNS Toxo, HIV dementia	EFV
Mouth Sores	White patches: Candidiasis, Ulcers: Herpes simplex, Angular Cheilitis, ulcerative stomatitis	Co-trimoxazole hypersensitivity NVP (in context of Stevens-Johnson Syndrome)
Yellow Eyes	Viral Hepatitis, Cancer, Alcoholic Liver Disease, IRIS Hepatitis, Malaria, Cancer	EFV INH, Fluconazole, NVP
Cough with/without shortness of breath	Less than 2 weeks with fever: Pneumonia or ?TB, Greater than Two weeks: TB	Not caused by ART
Vomiting, Abdominal Pain	Acute gastroenteritis; Abdominal TB	3TC (rarely),Antibiotics
Diarrhoea	(< 1 month: Salmonella; E.coli, HIV),(Blood in stool: Ameba, Shigella),(> 1 month: HIV OI, Abdominal TB)	3TC (rarely),NVP (rarely),AZT,Antibiotics
Rash on arm, leg, or Trunk	Herpes zoster, Fungal skin infection, Molluscum-contagiosum, Scabies	CTX, NVP, EFV, Fluconazole

Exercise 5.3: ART Regimens during Pregnancy

Instructions: Fill in the blanks in the table, by answering Yes (Y) or No (N) to each question asked about the ART regimen.

First-line ART regimens	OK in first trimester	OK if hemoglobin less than 7	Preferred regimen in pregnancy	OK during breastfeeding
TDF-3TC-EFV				
AZT-3TC-NVP				
TDF-3TC-NVP				
AZT-3TC-EFV				

Clients follow up schedule:

HIV positive pregnant women who are on ART need to have a regular follow up until mother baby pair is discharged from the MNCH clinic after 2 years delivery.

Table 16 summarizes the schedule

If diagnosed at ANC:	•Once found +, will need > 4 focused ANC visits •If started on ART at 1st visit, schedule return for 2 wks. •If not started on ART at 1st visit, schedule return for 1 wk. •Thereafter, schedule monthly for 6 months plus extra visit 2 wks. prior to due date, and 6-7 days PP and 6 wks. PP and monthly thereafter through 6th month post-birth. •Once stable, schedule every 2 months
If diagnosed prior to ANC:	If already on ART, PMTCT provider takes over ART management as per above schedule. •If not yet on ART, start 1e and follow above schedule.

TIPS: Good management of side effects includes:

- Discuss very common possible side effects before the person starts the medication.
- Give advice on how to manage minor side effects.
- Warn patients about potentially serious side effects and tell them to seek care urgently if any serious side effects occur.
- Give immediate attention to side effects and access to the clinic.
- Initiate a discussion about side effects, even if the patient does not mention them spontaneously.
- Refer the patient to peer-educators.
- Inform the patient not to discontinue ARV drugs due to side effects, without consulting the care provider.

5.5. Adherence Preparation and Support for Pregnant Women

In the 7 days after diagnosis of HIV infection, pregnant women need to be rapidly prepared for adherence to ART and given special adherence support in order to get the most benefit from it. The 5As (Ask, Advise, Agree, Assist, Arrange) are very much useful in order to prepare for adherence and are good tools to use. Encourage the woman to disclose her status and help her to identify a treatment supporter (and if possible start preparing the supporter at the same time). You will need to schedule several visits for education and adherence support so that the woman can start as soon as possible

There are two kinds of adherence:

- *Adherence to care(Clinical adherence): Regular attendance of patient according to given appointment*
- *Drug Adherence: taking prescribe medicines in the right amount on the right time according to given special advice.*

Adherence is crucial for ensuring ARVs maximum effectively and delaying drug resistance. ARVs do not cure HIV but will stop HIV from multiplying which allows the body's defense system to recover. If ARVs are stopped, the virus will start multiplying again and damage the

immune system. It also learns to evade ARV. So the drug may not work for patients that stop and start ART again.

There are three levels of adherence: Good, fair and poor (see Table 17 below).

Table 17: Levels of adherence

Grading	Percent	Missed of 30 doses	Missed of 60 doses
Good(G)	**>95%**	**≤2doses**	**<3doses**
Fair(F)	**85-94%**	**3-5 doses**	**3-9doses**
Poor(P)	**<85%**	**≥ 6doses**	**> 9doses**

Note that the patient should not compensate for missed medications inadvertently. It is strongly recommended that medicines are taken always at around the specific time; however, in some extreme situation, if a client is not able to take his/her medication on the specified time, flexibility is possible. That is:

If the client is able to access TDF/3TC/EFV within 12 hours of usual schedule dose, then the missed dose can be taken; if beyond 12 hours then skip and take the next day dose as per the schedule.

5.5.1. Continuous Adherence Counseling

Like other patients with HIV, pregnant women need adherence counseling and support. They need to be rapidly prepared for ART in order to prevent MTCT of HIV as soon as possible. Starting ART as soon as possible is critical for preventing MTCT. In the past the emphasis has been on several sessions of adherence preparation for the person starting ARVs, ideally with a chosen treatment supporter. However, in some settings and especially for pregnant women, this may delay initiation of treatment, and even lose women to follow-up. Therefore, providers should give adherence support and counseling concurrent with the immediate initiation of therapy, and follow up with ongoing counseling and support as the woman needs.

Encourage the woman to disclose her HIV status and identify her treatment supporter (and if possible start preparing the supporter at the same time). You will need to schedule several visits for ongoing education and adherence counseling and support after she has started ARV.

Adherence Advice includes:

- Providing basic information on HIV and its manifestation;
- Clearly stating the benefits and side effects of drugs;
- Identifying when a client should seek urgent help;
- Explaining how medications should be taken;
- Stressing importance of not missing any dose.

The principles of counseling follows by using '**5As**' – **A**ssess, **A**dvise, **A**gree, **A**ssist and **A**rrange.

Continuing Adherence Support

After therapy has begun, it is essential to continue with support for adherence. This should involve adherence assessments during every visit and emphasize adherence principles to the patient.

Use adherence supporters, such as mother mentors, case managers, peer educators, if available.

Continuous involvement of relatives, friends and/or community support personnel is also essential after addressing confidentiality adequately.

Table 18 Barriers to adherence and solution

Common barrier	**Possible cause**	**Possible solutions**
Forgot to take pills	• Travelling • Alcohol /active drug use • Depression /psychiatric illness • living alone and sick • Homeless, no family support	• Plan before travel • Take extra pills • Use reminder cues • Address addiction (alcohol and drugs) • Enlist family support • Treat depression • Use PLHIV support groups or religious groups
Wrong attitude -Pills may not help	Inadequate knowledge	• Adherence preparation (involving case managers and peer

		counselors)
Patient's condition getting worse while on ART	• Acute toxicities like nausea, vomiting, diarrhea, fatigue and skin rashes • Worsening clinical condition from OIs on treatment or already treated(IRIS)	• Warn patients about potential short term toxicities and long term toxicities and discuss how to manage them if these happen • Warn about possibility of IRIS
Felt better, so did not continue	Inadequate knowledge	• Provide scientific information and examples • Ask for family support.
Family prohibit taking medication	• Inadequate knowledge • Incorrect beliefs and attitudes	• Family counseling • Provide scientific information and examples
Did not understand how to take medications	• Low literacy level , Alcohol /active drug use • Depression /psychiatric illness • Insufficient time to counsel	• Use literacy materials • Use demonstration pills and repeat instructions • Ask patient to repeat instructions • Ask family support • Treat depression • Address addiction (alcohol and drugs)
Unable to care for self	• Living alone • No employment • AIDS dementia/mental illness • Debilitation	• Use PLHIV support groups • Register with community base care programs • Link with NGO support groups • Locate family and support • Identify a friend who could help
Did not want to be	• Stigma at place of work	• Provide counseling

seen by others when taking medications	• Non-disclosure in the family	• Support to help with disclosure
Fear of toxicity	• Insufficient treatment preparation • Inadequate knowledge	• Involve peer educators, Case managers and adherence supporters. • Provide scientific information on what to expect and how to manage it. • Counsel on risks of non-adherence

Tips in achieving optimal drug dose adherence

- Ask at every visit
  - Have you had any problems taking your ART
  - Were there any days where you cannot manage taking your tablet at the right time?(weekends, evening, week days)
- Remind every patient at every visit the importance of good adherence
  - Initial ART counseling
  - Reinforce individual counseling if any signs of poor adherence is noted
  - Give practical counseling on how to achieve good adherence
  - Include ARVs to a daily routine (e.g. Before washing face or after evening meal)
  - Ask families or friends to remind
  - Set a daily alarm on cell phone
- Encourage honest dialogue.
  - Avoid the impression of “policing” the patient.
  - Work with patient to help them achieve good adherence.
- Poor adherence has valid reasons and often can be resolved

5.6. Nutritional support

5.6.1. General information:

- An HIV infected pregnant or lactating woman has two main reasons for increased nutritional demand.
    - The body needs more energy to fight HIV and to compensate for increased body catabolism due to HIV and related diseases
    - A pregnant/lactating woman needs additional nutrients to support fetal growth development and lactation.
- However, there may be reduced intake due to loss of appetite, oral lesions, and side-effect of medication, depression, impaired absorption.
- Nutrition related goals for HIV patients may be grouped into three categories:
    - Maintain weight or prevent weight loss : prevent disease/ promote adequate Calorie intake; advice on avoiding practices that negatively influence food intake and nutrient use
    - Improve body composition: by promoting regular exercise to prevent muscle loss
    - Improve immunity and prevent infections by:
        - promoting increased micronutrient (vitamin and mineral) intake;
        - Encouraging the observation of food safety and handling practices to prevent food borne illnesses and promoting the use of ARVs to reduce viral load where necessary and possible.

5.6.2. Nutritional interventions for pregnant women

Nutritional care for HIV +ve pregnant women includes nutritional assessment, intervention selection, design and follow- up and review.

Nutritional assessment and treatment

Assessment:

- Review of dietary history such as appetite, food habits and stress or depression that may affect eating, life style practices such as smoking, drinking alcohol and caffeine and using drugs that may affect food intake or utilization

- Use MUAC instead of BMI for pregnant and lactating women
- MUAC 19 - 23CM: Start therapeutic Feeding (TF) for Moderate Malnutrition
- MUAC less than 19CM: Start Therapeutic feeding for Severe Malnutrition
- If you don't have Therapeutic center you should refer to where the service is available.

- Measurements of body size or proportions such as weight and height ,MUAC (Anthropometric measurements) for pregnant and lactating women:
- Clinical assessment of symptoms and illnesses associated with HIV/AIDS infection such as oral thrush and diarrhea, anemia, etc. often appropriate in the absence of laboratory facilities
- Monitor weight gain during pregnancy; the woman needs to gain at least one kilogram per month during the second and third trimesters
- Laboratory tests for blood sugar, Hgb, etc.

Management:

Nutrition management of HIV positive pregnant and lactating mothers depends on a classification of the nutritional status of the mother, other medical conditions and the available therapeutic or Supplementary food products. The management includes treatment of malnutrition by prescribing RUTF, supplementary foods and locally available diversified energy and nutrient dense foods for rehabilitation from malnutrition based on nutrition care plans. Nutrition care plans are interventions determined based on the mother's nutritional status and health conditions that affect their nutritional needs and absorption/utilization. There are three nutrition care plans for treatment of malnutrition:

Nutritional Care plan C

Mothers classified as Severe Acute Malnutrition (SAM) with Medical Complication and/or failed appetite test and those classified as Moderate Acute Malnutrition) MAM with Medical Complication and/or failed appetite test will be managed at inpatient/stabilization Center according to the national SAM management guideline. Therefore, should be referred to those facilities as identified. Pregnant and lactating women classified as SAM without Medical Complication and passed appetite test will be managed at Outpatient Therapeutic program (OTP) or PMTCT unit with Ready-to-Use-Therapeutic Food (RUTF) / Plumpynut. Dose and duration of prescription for outpatient management:

Pregnant and lactating women: 4 sachets per day; maximum for 3 months. Then, transition to care plans B.

Children: Dosage Based on their weight in kg as indicated on the national SAM management guideline.

Nutritional Care Plan B

Pregnant and lactating women classified with MAM and without medical complication and those transitioned from care plan C will be managed with RUSF/PlumpySup based on the availability of supply. Otherwise, stress on nutritional counseling on the need to have additional energy from the locally available foods.

Dose and duration of prescription:

Pregnant and lactating women: 2 sachets per day; maximum for 3 months.

Nutritional Care plan A

- Counsel about reducing energy expenditure, the woman needs to rest during pregnancy and lactation.
- Health care provider need to encourage the pregnant woman to increase food intake during pregnancy and lactation, as well as explain to the woman to eat at least one extra serving of staple food per day during pregnancy and lactation.
- Micronutrient supplements are important during pregnancy and lactation
    - Iron prevents and treats anaemia. For prevention, it should be supplemented as 200mg ferrous sulphate once a day as early as possible in pregnancy
    - Folate- helps in blood formation and prevents as well as treats anemia
    - Iodine- helps normal physical and mental development of the body; hence encourage using iodine fortified salt in their meal.
    - Vitamin A-keeps the eyes and the skin healthy and protects the body against infections. In addition to recommending to eat food rich in Vitamin A (meat, fish, poultry, milk, fruits and vegetables), giving the woman Vitamin A capsule 200,000IU within four weeks of delivery is commendable.
        - Vitamin C- needed to enhance the absorption of the iron

5.7. Palliative care:

HIV palliative care: This is an essential component of a comprehensive package of care for people living with HIV/AIDS because of variety of symptoms they can experience—such as pain, diarrhea, cough, shortness of breath, nausea, weakness, fatigue, fever, and confusion.

Palliative care is patient and family centered care. It optimizes quality of life by active participation, prevention, and treatment of suffering. It emphasizes the use of an interdisciplinary team approach throughout the continuum of the illness, placing critical

importance on building respectful and trusting relationships. Palliative care addresses physical, intellectual, emotional, social, and spiritual needs. It facilitates patient autonomy, access to information, and choice.

Table 19 ***Components of palliative care***

Essential components of palliative care	
• Symptom control • Effective communication • Rehabilitation • Continuity of care	• Terminal care • Support in bereavement • Education

5.7.1. The continuum of care

The needs of people living with HIV/AIDS fall into four spheres all of which must be addressed by palliative care, within the context of prevention and a supportive policy and social environment. However, these needs change over time so that the proportion of the total care given as disease-modifying/curative treatment (e.g., treatment for an OI, ART) and the proportion given as palliative treatment (e.g., pain and symptom control) will also vary.

5.8. Mother support groups for HIV positive pregnant women

The mother support program has seven broad objectives:

- To **enhance access** to and use of PMTCT services by building strong linkages between health care providers and peer support networks
- To **ensure adherence** to ART among pregnant and postpartum women
- To **lessen** HIV-related **stigma** and discrimination
- To **increase** HIV-positive mothers' **understanding** of infant feeding options
- To **reduce** the **incidence** of new STIs and HIV among girls and women
- To **increase acceptance** and use of FP among postpartum women
- To **build linkages** with other programs and services that strengthens women's health and decision-making (e.g. nutritional support, income-generating activities, and skills training).

Mothers-to-mothers, or women-to-women groups help HIV-positive women to demand their rights and to access appropriate treatment and care. Moreover, they empower the women's negotiation skills which help them to disclose their status to their partners, family members, and to the community at large; are found to be effective in ensuring initiation of ARVs and adherence to treatment. And help to link up patient with community care through HDA.

Module Two

PMTCT IN LABOR AND DELIVERY SETTING

MODULE II: INTRODUCTION TO INTRAPARTUM CARE FOR PMTCT

Learning Objectives:

By the end of this module, participants will be able to:

- Explain factors that contributes to MTCT of HIV during L&D
- List principles and practice of standard precautions during labor and delivery
- Demonstrate Management of Labor and Child birth in the context of PMTCT through using partograph
- Demonstrate Immediate Postpartum Care

This module comprises 4 sessions.

Session I: Introduction to PMTCT during Labor and Delivery

Session II: Standard Precautions during Labor and Delivery

Session III**:** Management of Labour and Childbirth

Session IV: Immediate Postpartum Care

SESSION 1: INTRODUCTION TO PMTCT DURING LABOR AND DELIVERY

Learning objectives:

Bythe end ofthissession you will be ableto:

- Discuss basics of MTCT of HIV during L&D
- Describe basics of intrapartum care in the context of HIV/PMTCT

Competencies:

- Knowledge of MTCT of HIV during labor & Delivery
- Knowledge of essential elements of care for PMTCT during L&D

Session outline

Activity	Topic	Time	Methodology
A	Introduction to the session	5 minutes	Discussion
B	Basics of MTCT of HIV during labor and delivery	15 minutes	Brainstorming, reading
C	Interventions for PMTCT during L&D	10 minutes	Discussion, reading, summarizing
D	Summary	5 minutes	Wrap-up

1.1. Interventions for PMTCT during L&D

The goal of intrapartum care for PMTCT is to reduce HIV transmission risk by providing ARV treatment, minimizing exposure of fetus to maternal blood and body fluids, and supporting safer delivery practices. Proper diagnosis and monitoring of labor is of paramount importance to minimize maternal morbidity and mortality. In addition it will also help prevent MTCT of HIV.

Interventions for PMTCT during L&D include the following:

- **Use standard infection prevention practices for all patient care** (see Session 2: Standard Precautions during Labor and Delivery)
- Use of partograph for labor follow-up.
- Continue ARV treatment as per schedule

- Use safe obstetric practices for PMTCT of HIV

Women whose HIV status is not known need to be tested for HIV and counseled. For newly diagnosed HIV positive pregnant women should start ART unless the delivery is eminent within 4 hours. In such cases, she should start ART (TDF +3TC + EFV) immediately postpartum.

SESSION 2: STANDARD PRECAUTIONS DURING LABOR AND DELIVERY

Learning objectives

By the end of this session you will be able to:

- Follow standard precautions throughout labour and childbirth.
- Apply important principles of universal precaution and its applications including management of needle stick injury and other potential exposures to HIV in health care settings

Competencies

- Skill in standard precautions protocol application
- Decision and managing occupational post exposure prophylaxis to HIV

Session Outline

Activity	Topic	Time	Methodology
A	Introduction	2 minutes	Discussion
B	Standard precautions during L&D	30 minutes	Reading/discussion Case study Demonstration and practice
C	Management of Needle Stick and Other Potential Exposures to HIV in the Workplace	15 minutes	Reading and discussion, Case study
D	Summary	3 minutes	Wrap-up

2.1. Standard Precautions during Labor and Delivery

Standard precautions are simple infection control measures that reduce the risk of transmission of blood-borne pathogens through exposure to blood or body fluids among

patients and health care workers. Standard precautions and standard cleanliness should be adhered to throughout labor and childbirth. Standard precautions should be followed with every client, regardless of whether or not the service provider thinks or knows the client might be infected with HIV, hepatitis or any other transmittable illnesses.

Good infection prevention practices help to:

- Prevent MTCT of HIV by reducing contact with maternal secretions and blood
- Prevent transmission of HIV or other blood-borne infections in the health care setting.

Important principles to follow are shown as follows:-

1. Follow general hygiene practices:

- Hand hygiene:
    - Hand washing: wet hands and apply soap; rub all surfaces for 30 seconds (10 -15 seconds for hand rub); rinse hands with running water and dry thoroughly with a single use towel or air dry your hands;
    - Handrubs: apply enough products to cover all areas of the hands; rub hands until dry. But when hands are visibly soiled, it is preferred to wash hands.
    - Apply waterproof dressing to cover all cuts and abrasions.
- Practice hand hygiene before and after direct contact with patient and procedures.

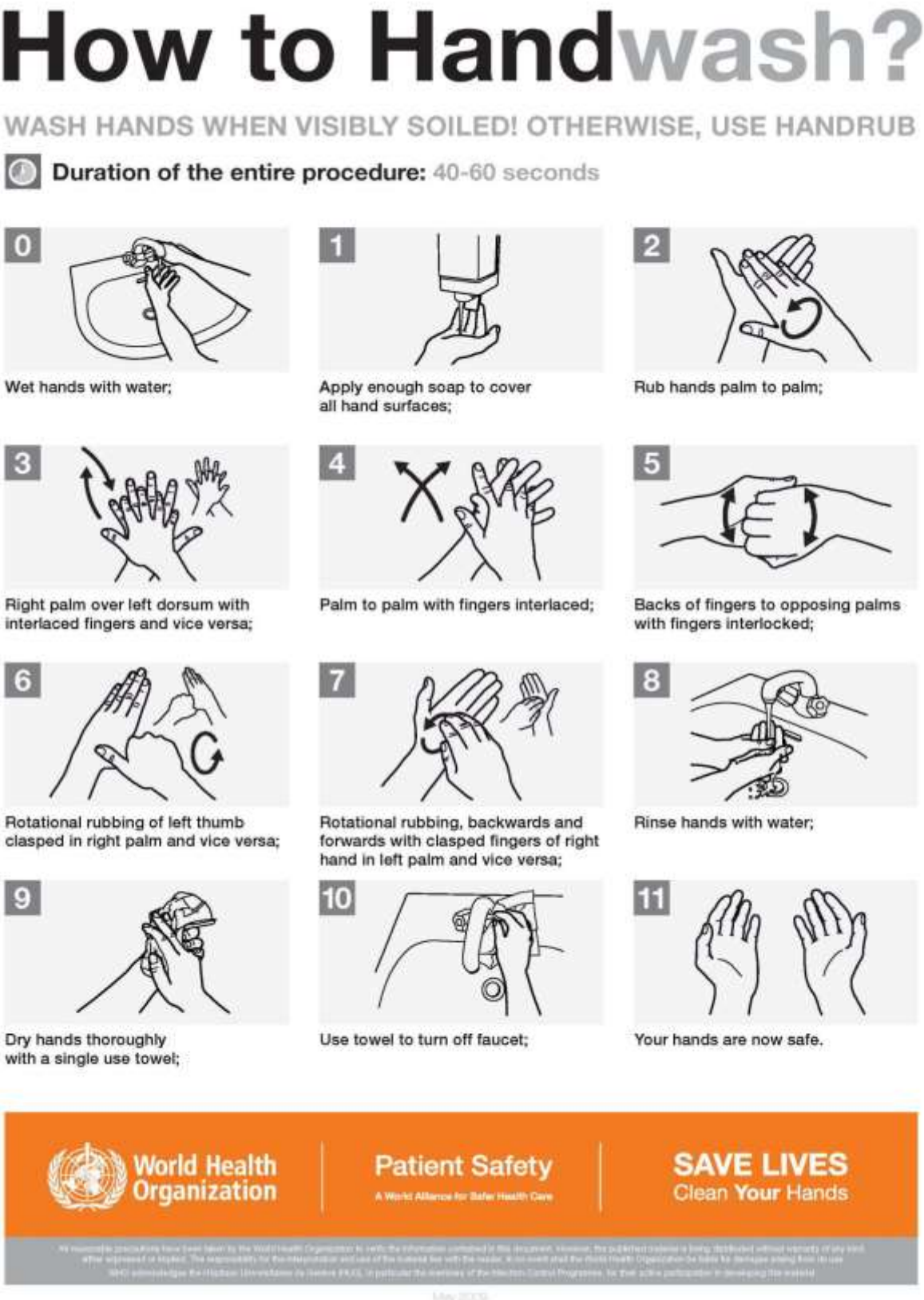


Figure 10: Steps in hand washing

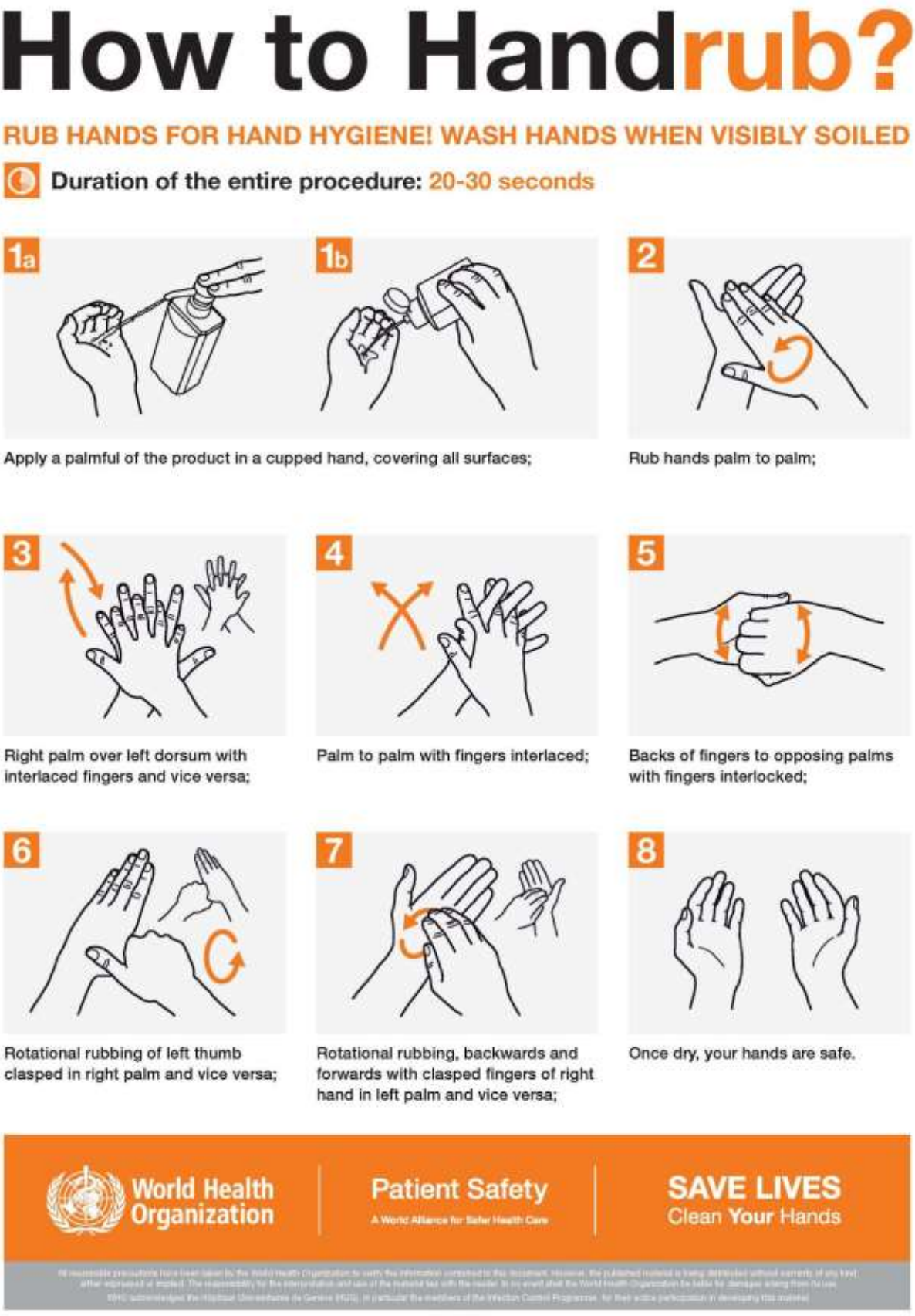


Figure 11: **Steps in hand rub**

2. ***Use safe injection techniques:***

- Do not recap needles. When recapping is necessary, use the **one-handed scoop technique** for recapping needles.

Step 1: Scoop up the cap

Step 2: Push cap firmly down

Figure 12: **One-handed scoop technique for recapping needles.**

Tips on handling sharps

- Always point the sharp end away from yourself and others.
- Pass sharps (scalpels, blades, lancets, razors, scissors and other sharp instruments) with the sharp end pointing away from the person receiving; or place the sharp on a designated "safe zone" flat surface or in sterile kidney basin (or other receiver) where it can then be picked up by the receiving person rather than passing them hand-to-hand.
- Do not bend, break, manipulate, or remove needles before disposal of syringes.
- Pick up sharps one at a time, and do not pass handfuls of sharp instruments or needles.

3. Use sharps disposal containers

Using sharps disposal containers helps prevent injuries from disposable sharps. Sharps containers should be fitted with a cover and should be puncture-proof, leak-proof, and tamper-proof (i.e. difficult to open or break).

If plastic or metal containers are unavailable or too costly, use containers made of dense cardboard (cardboard safety boxes) that meet WHO specifications. If cardboard safety boxes

are unavailable, many easily available objects can substitute as sharps containers (Tin with a lid, thick plastic bottle, heavy-duty plastic box, and heavy-duty cardboard box.)

Recommendations for safe use of sharps containers:

- All sharps containers should be clearly marked "SHARPS" and/or have pictorial instructions for the use and disposal of the container.
- Place sharps containers away from crowded areas and as close as possible to where the sharps will be used. The placement of the container should be practical (ideally within arm's reach) but unobtrusive. Do not place containers near light switches, overhead fans, or thermostat controls where people might accidentally put one of their hands into them.
- Attach containers to walls or other surfaces if possible. Position the containers at a convenient height so that staff can use and replace them easily.
- Never reuse or recycle sharps materials.
- Mark the containers clearly so that people will not unknowingly use them as garbage receptacles.
- Avoid shaking a container to settle its contents to make room for more sharps.
- Seal and close containers when ¾ full. Do not fill safety box beyond ¾ full. Once a sharp's container has been closed, do not reopen it.

4. Handle, clean, or dispose of instruments safely

- Pass all sharp instruments on to a receiver, rather than hand-to-hand.
- Use needle holders and forceps so as to avoid using your fingers for needle placement and retrieval.
- Properly process instruments, devices, and equipment used during invasive procedures—decontaminate, clean, and disinfect or sterilize all devices and equipment.

Steps in Instrument Processing:

1. **Decontamination:** This is the first step in making equipment safe to handle. This requires a ten-minute soak in a 0.5% chlorine solution.
2. **Cleaning:** Efficient cleaning with soap and water is essential prior to disinfection or sterilization. Cleaning:
   - Removes a high proportion of micro-organisms
   - Removes contaminants such as dust, soil, salts, and the organic matter that allows them to adhere to instruments.
3. **High-level Disinfection (HLD) -** is a process that eliminates all microorganisms except some bacterial endospores from inanimate objects by boiling, steaming or the use of chemical disinfectants.
4. **Sterilization -** a process that eliminates all microorganisms (bacteria, viruses, fungi and parasites) including bacterial endospores from inanimate objects by high-pressure steam (autoclave), dry heat (oven), chemical sterilization or radiation.

5. Use personal protective materials:

Gloves:

- Wear gloves in all invasive procedures;
- Use gloves during provision of patient care;
- Do not wear gloves away from the bedside, delivery couch, or procedure site; e.g. to handle phones, chart, to handle clean linen, in hallways or elevators;
- Use heavy duty gloves to clean equipment or patient care supplies;
- Use long, cuffed sterile gloves during manual removal of a placenta;
- Use sterile gloves for any procedure where aseptic technique is required.
- Know which gloves are required for each procedure. This varies whether to use sterile or clean/disinfected; short or long gloves.

Tips for effective glove use:

- *Wear gloves that are the correct size for you.*
- *Use water-soluble hand lotions and moisturizers often to prevent hands from drying, cracking, and chapping.*
- *Avoid oil-based hand lotions or creams as they can damage latex rubber gloves.*
- *Do not wear rings under gloves.*
- *Keep fingernails short [less than 3 mm (1/8 inch) beyond the fingertip].*
- *Store gloves in a place where they are protected from extreme temperature.*

Aprons, gowns, masks and eye protection:

- Use masks, eye protection, and gowns (or plastic aprons) when blood or other body fluids could splash – e.g. while attending second and third stages of labour.
- When possible, wear eye shield during caesarean section and episiotomy suturing.
- Wear a clean, non-sterile, and impermeable plastic apron while attending delivery.
- Ensure gloved hands are held high above the level of the waist and do not come into contact with the gown.
- After use: Remove soiled gown promptly, perform hand hygiene& dry hands with towel.

6. Handle and dispose of waste safely:

- Use systems for safe waste collection and disposal.
- Collect wastes by type: general waste, medical waste, and hazardous chemical waste
- Materials should be deposited in approved leak-proof materials.
- Delivery couch should be disinfected properly.

2.2. Management of Needle Stick and Other Potential Exposures to HIV in the Workplace

When needle stick injuries or other potential exposure to HIV occurs:

- Stop what you are doing and attend the injury.
- If blood or body fluids splash on intact skin, immediately wash the area with water and soap. If splashed in the face (eye, nose, and mouth) wash with clean water only.
- If a finger prick or a cut occurred during procedures such as suturing, allow the wound to bleed for few seconds; do not squeeze out the blood, as you squeeze and release your finger, it produces vacuum and sucks in the virus to your system. Wash with soap

and water. Use regular wound care. Dry and apply waterproof dressing, as necessary. Topical antiseptics may be used. If the glove is damaged, wash the area with soap and water, and change the glove.

- Check records for the HIV status of the woman.

Follow the post-exposure prophylaxis (PEP) protocol in Ethiopia. Contact your district.

- Check records for the HIV status of the woman.
- Follow the post-exposure prophylaxis (PEP) protocol in Ethiopia. Contact your district team if your facility does not have the protocol, necessary supplies, or if no one on your team has been trained in the management of occupational exposure (someone on the clinical team should take a PEP short course). Health workers should be encouraged to report incidents of exposure.

The facilitator will take you through discussion over of two series of case studies after giving you few minutes for reflection.

Case Study 2.1:

***Case Study: Reducing HIV Transmission Risk in MNCH Settings*:** (30 minutes)

One of you will read the story paragraph by paragraph to pause and answer the question posed by your facilitator and s/he will take you through discussion.

Case:

Seble arrives at the labor ward of your local hospital. She hands you a small card, which identifies her as someone who has received care at a neighboring ANC clinic. This card is coded to let you know that she is HIV-infected. She explains that her contractions are steady now and about two minutes apart. You perform a cervical examination and estimate that Seble has at least two more hours until delivery; you gave her ART at this time.

It has now been several hours since Seble's water broke (rupture of membranes). She is exhausted and crying. It is decided that a carefully administered dose of oxytocin may shorten her labor time so you prepare a setup of oxytocin drip.

Seble is now fully dilated and ready to deliver. An episiotomy is done because it was required to prevent significant tearing. As the head is delivered, you use gauze to carefully free the infant's mouth and nostrils from fluids. Then, with one final push the infant is delivered completely. You hand the beautiful newborn boy to a gloved assistant who wipes him dry and

continues with newborn care. Then the placenta is delivered.

You are now physically and emotionally exhausted. Seble was your twelfth delivery in the past 24 hours. You need to get home and tend to your family, but your replacement has not yet arrived. You speak with your supervisor, and she is able to locate someone else to take your place.

Case Study 2-2:

2.3. Management of needle stick and other potential exposure to HIV in the work place

Case Study: Accidental needle stick injury: (30 minutes)

One of you will read the story paragraph by paragraph to pause and answer the question posed by your facilitator and s/he will take you through discussion.

Case:

Nurse Aster is working in a very busy labour and delivery unit. She is called to help a colleague with a woman in labour. While Aster is administering IM injection of oxytocin, she accidentally struck by a needle.

A. After this occupational exposure, what is the very first thing Nurse Aster should do?

B. List each subsequent step according to the PEP protocol (refer to your national PEP guideline or protocol).

C. How could Nurse Aster and her colleagues have prevented this accident?

Session Notes (write key points from the session in the space provided below)

SESSION 3: MANAGEMENT OF LABOUR AND CHILDBIRTH IN THE CONTEXT OF PMTCT

Learning objectives

By the end of this session participants will be able to:

- Conduct HTC during L&D.
- Provide ARV drugs according to the national guidelines.
- Demonstrate proper use of partograph for follow-up of women in labor.
- Apply safe obstetric practices during labor and delivery for PMTCT

Competencies

- Communication/Counseling clients in labor
- Conduct HIV rapid testing on couch
- Administer ARV drugs
- Use of partograph and interpretation
- Conduct safe delivery practices

Session Outline

Activity	Topic	Time	Methodology
A	Introduction	5 minutes	Discussion
B	HIV testing and counseling during L&D	40 minutes	Small group discussion Case studies Exercise
C	Basics of ARV use during L&D in different scenarios	25 minutes	Reading, discussion Case studies
D	Use of partograph for follow-up of women in labor	60 minutes	
E	Safe obstetric practices for PMTCT during intrapartum period	10 minutes	Reading/discussio n/ summarizing
F	Summary	5 minutes	Wrap-up

3.1. HIV Testing and Counseling during Labor

You have already discussed HIV testing and counseling while discussing Module I. The basic principles of a routine provider-initiated, opt-out approach also apply for testing and counseling during labor.

3.1.1. Check for HIV status

Check the woman's record to be sure the test result is recorded on her card.

If she has been tested and is HIV-positive:

1. *Check the woman's record and ask her if she is taking ART.*
2. *Determine the number of weeks on ART.*
3. *Tell the mother that you will provide her with ARV drugs during labor and to her newborn baby as soon as possible after birth.*

If she has been tested HIV-negative:

- *Check to see when the woman was tested for HIV, and recommend repeat HIV testing if the previous test was done during or before early pregnancy.* ***If she has not been tested:***

Recommend HIV testing and counseling, if appropriate.

NOTE: *As up to two-thirds of pregnant women attend health facilities for the first time when in labor, HIV counseling and testing should be recommended routinely for all mothers admitted for delivery. Active identification of women in labor with unknown HIV status and the offering of HIV counseling and testing shall be part of standard care. HIV-positive women identified through this means will receive ARV drug and be linked to HIV care for themselves and their infants.The right of women to decline HIV testing must always be respected. Partner testing and counseling should be addressed for those require it.*

3.1.2. Provide HIV testing and counseling:

The guiding principles of provider-initiated testing and counseling (PITC) for HIV are tailored to the special needs of a woman in labour and should not be compromised when providing rapid testing in early labour. The 5 C's: Consent, Confidentiality, Counseling, Correct test results, and Connections to care are similar with counseling for HIV during pregnancy (refer to module 1 for detail). For the woman in labour, an additional C is important: Comfort of the woman.

Comfort

The health worker should assess the woman's stage of labour, comfort level, and need for analgesics. Providers need to show empathy while presenting information about HIV testing and counseling: explained based on the comfort level of the woman e.g. between contractions. The health worker should ask the woman to signal for a pause when a contraction is starting. Always consider the woman's language and culture and, as needed, must adjust the terminology used. The health worker should make sure that the woman being counseled understands the content being covered by checking after each point is made and before beginning the next point to be sure she understands.

Support tools for HIV testing and counseling during labour

To support the delivery of pre- and post-test sessions use available counseling job aids or counseling support tools such as flipcharts, protocol wall charts, client information brochures, reference guides, and CD-ROMs..

Tasks to be considered during couch- counseling:

- Make pre-test messages short & specific,
- Focus on and HIV transmission during L&D
- Explain possible interventions, for the mother & baby
- Provide information, HIV testing and counselling between contractions
- Don't give pre test information while conducting procedures.

Task to be completed after delivery

- Before going to post-test counseling, please make sure that the mother is well-rested and ready to listen to you.
- Ensure that baby has been given first doze of the NVP prophylaxis.
- Ensure immediate postpartum care has been given to both the mother and her baby.
- Institute exclusive breastfeeding or methods of infant feeding of her choice.
- Ensure post-test counseling has been delivered properly and well understood by the mother.
- Ensure mother receives her first 1 month doze of ART with adequate adherence preparation and information.
- Ensure mother receives adequate supply of NVP for the baby

The facilitator will take you through the case study of Alemnesh read the case and reflect your idea through discussion

Case study 2.3: Testing and Counseling in Labor and Delivery

Case: Alemnesh

Purpose: acquaint yourself with the national and local policies on testing and counseling in labor.

Alemnesh arrives to the health centerto deliver. This is her fourth child. She tells you that she has had a good pregnancy. Alemnesh has received no antenatal care, and was never tested for HIV. At this time, her contractions are regular and about 2 minutes apart. During your examination, you find that her cervix is 7-8 cm dilated.

Q: Considering the national policy on testing and counseling during L&D, what are your next steps?

3.2. ARV drug use during Labor and Delivery in different scenarios

ART reduce the risk of MTCT of HIV by decreasing the viral load in the mother which means less exposure for the newborn to the virus during pregnancy, labor, and delivery.

The ARV regimen to be followed by the pregnant woman presenting in labor will depend on the regimen administered to her during ANC. The pregnant woman presenting in labor will fall into one of three categories:

- Women who have started ART regimen prior to her current pregnancy:- will continue her treatment schedule based on same ART regimen, OR
- Women who started ART regimen during current ANC:- will continue the treatment schedule based on the same ART regimen, OR
- Newly diagnosed HIV-positive women and previously diagnosed HIV-positive women who have **not** received ART during current pregnancy: - will start ART (TDF+3TC+EFV) at the time of labor or early post- partum period. All women, however, should be retested with different sample taken at initiation of HAART.

For all HIV exposed infants/newborns (or infants born from each of the above three categories), provide NVP syrup for prophylaxis as per the infant dosing guide according to the national PMTCT guideline.

The facilitator will take you through the series of four cases.

Case Study 2-4:

Case study: ART for Mothers during Labor and Delivery

Purpose: Discuss administration of ART L&D

Follow the instruction of your facilitator

Case #1: Tigist

Tigist arrives at the L&D unit. This is her first baby. She hands you her ANC card, which indicates that she was tested during pregnancy and is HIV-positive. Her water broke 4 hours ago, and her contractions are now fewer than 3 minutes apart. Earlier, Tigist received ARV tablets to take at home. When you examine her, you find that her cervix is 5 cm dilated.

Q: after providing general labor support, what is your first priority?

Q: If you discover that she has not taken her tablets, what do you do?

Case#2: Chaltu

Chaltu arrives at your health centre in labour that started 4 hours ago. This is her first pregnancy. She tested positive for HIV in the second trimester, is in WHO clinical stage 3, and her last CD4 is 190. She is on TDF-3TC-EFV. Her last dose was 12 hours before arrival at your health centre in the morning. She does not want to take the ARV drugs during labour because she is concerned that it might harm the baby.

What would you advise her?

Case#3: Fetia

Fetiaarrives at your health centre in active labor. She has never been tested for HIV. She declines to be tested, but wants her new born protected with “the ARV drugs”.

How would you counsel her? What interventions would you suggest?

Session Notes (write key points from the session in the space below)

3.3. The partograph

A very important way of recognizing prolonged labor, which is a risk factor for MTCT of HIV. Routinely use the partograph to monitor progress of labor for all women. The partograph is a graphic recording of the progress of labor and the salient condition of the mother and the fetus.(Refer to Figure 14 for sample of partograph for use in Ethiopia, adopted from WHO) It serves as an “early warning system” and assists in the early recognition of prolonged and/or

obstructed labor that enable to take decisions as to whether to transfer/referral, augment labor, or the need for surgical intervention in order to prevent and save lives of both mother and/or fetus. The partograph has been modified to make it simpler and easier to use. Plotting on the partograph begins in the active phase of labor when the cervix is 4 cm dilated. The components to record on the partograph are the following:

Patient information: Fill out name, gravida, para, hospital number, date and time of admission, and time of ruptured membranes or time elapsed since rupture of membranes (if rupture occurred before charting on the partograph began).

Fetal heart rate: Record every half hour.

Amniotic fluid: Record the color of amniotic fluid at every vaginal examination:

- I: membranes intact
- R: membranes ruptured
- C: membranes ruptured, clear fluid
- M: meconium-stained fluid
- B: blood-stained fluid.

Moulding of the fetal head:

1. Sutures apposed
2. Sutures overlapped but reducible
3. Sutures overlapped and not reducible.

Cervical dilatation: Assess at every vaginal examination and plot with an "**X**" mark. Begin plotting on the partograph at 4 cm. Only begin to use the partograph in active labor, when the woman is having strong, regular contractions and the cervix is at least 4 cm dilated.

Descent is assessed by abdominal palpation: It refers to the descent of the fetal head into the maternal pelvis, and is measured as the part of the head (divided into five stages) palpable above the symphysis pubis; recorded as a circle (**O**) at every abdominal examination. At 0/5, the fetal head is fully descended into the pelvis and is at the level of the symphysis pubis.

Alert line: Draw a line starting at 4 cm of cervical dilatation to the point of expected full dilatation at the rate of 1 cm per hour. If a woman's course of labor crosses over the alert line, the birth attendant caring for her should be alerted that her labor is longer than usual and

consider what interventions might be necessary—transfer if not in a health center with full emergency obstetric care, rupture of membranes or oxytocin if contractions are inadequate.

Action line: Parallel and four hours to the right of the alert line. If a woman's course of labor crosses over the action line, immediate steps should be taken for delivery (Caesarean section or forceps/vacuum delivery depending on the position and descent of the baby's head) in order to prevent maternal and neonatal morbidity and mortality.

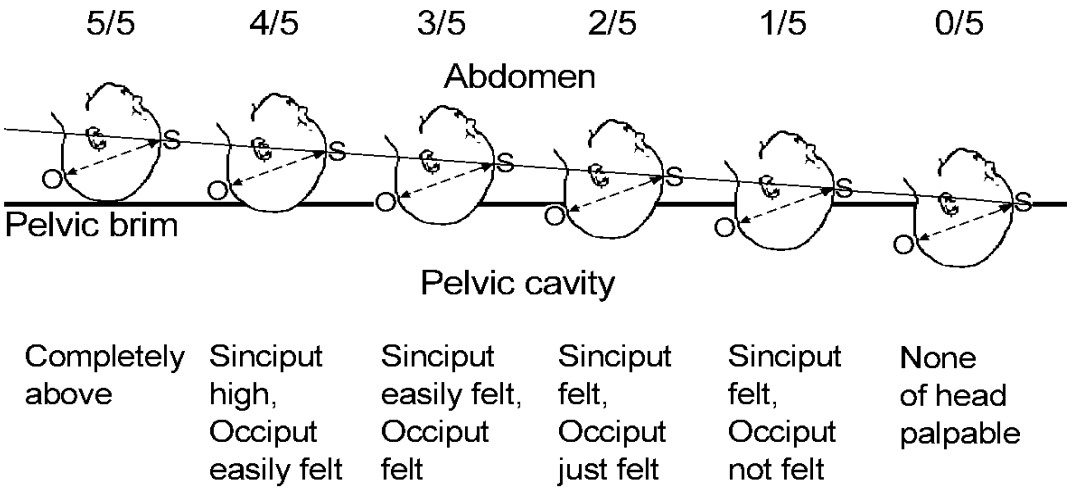


Figure 13: Fetal Head descent to the pelvic cavity

Hours: Refers to the time elapsed since onset of active phase of labor (observed or extrapolated)

Time: Record actual time.

Contractions: Chart every half hour; count the number of contractions in a 10-minute time period, and their duration in seconds.

- Less than 20 seconds:
- Between 20 and 40 seconds:
- More than 40 seconds: .

Oxytocin: If oxytocin is being used to augment labor, record the amount of oxytocin per volume of intravenous fluids in drops per minute every 30 minutes.

Drugs given: Record any additional drugs given.

Pulse: Record every 30 minutes and mark with a dot.

Blood pressure: Record every four hours and mark with arrows.

Temperature: Record every two hours.

Protein, acetone and volume: Record when urine is passed.

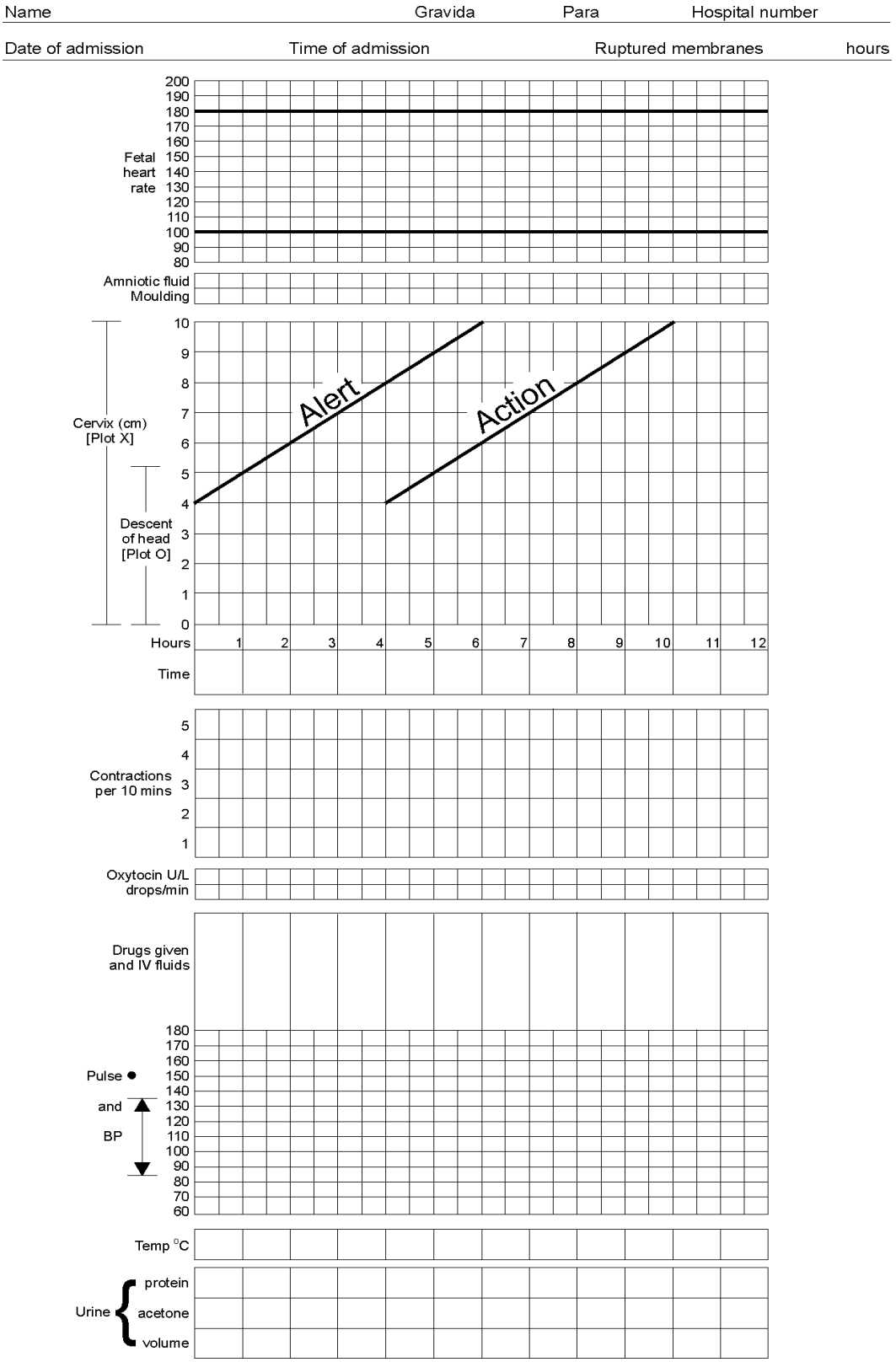


Figure 14 **: Partograph adopted from WHO for use in Ethiopia**

A woman in labor should be accompanied by the people she trusts and feels comfortable with: - her partner, best friend, doula, or midwife. Women who have supportive people with them during labor have shorter labors, remain more ambulatory, and are less likely to need pain medications. The nurse or midwife caring for her can help with this role but it is still better if a woman has someone she knows and trusts with her. In addition, women who receive continuous support are less likely to report dissatisfaction with their childbirth experience.

The facilitator will take you through the exercise to build your competency on the use of partograph

Exercise 2.1

Exercise: Using the Partograph

Read the two cases below and, for each, answer the questions and plot the information on your partograph forms.

CASE #1: Amina

STEP 1

- Amina was admitted at 05.00 on 19.9.2003
- Membranes ruptured 04.00
- Gravida 3, Para 2+0
- Hospital number 7886
- On admission the fetal head was 4/5 palpable above the symphysis pubis and the cervix was 2 cm dilated.

STEP 2

09.00:

- The fetal head is 3/5 palpable above the symphysis pubis.
- The cervix is 5 cm dilated.
- Three contractions in 10 minutes, each lasting 20–40 seconds
- Fetal heart rate (FHR) 120
- Membranes ruptured, amniotic fluid clear
- Sutures of the skull bones are apposed
- Blood pressure 120/70 mmHg

- Temperature 36.8°C
- Pulse 80/minute
- Urine output 200 ml; negative protein and acetone

STEP 3

Plot the following information on the partograph:

09.30 FHR 120, contractions 3/10 each lasting 30 seconds, pulse 80/minute

10.00 FHR 136, contractions 3/10 each lasting 30 seconds, pulse 80/minute

10.30 FHR 140, contractions 3/10 each lasting 35 seconds, pulse 88/minute

11.00 FHR 130, contractions 3/10 each lasting 40 seconds, pulse 88/minute, temperature37°C

11.30 FHR 136, contractions 4/10 each lasting 40 seconds, pulse 84/minute, head is 2/5 palpable

12.00 FHR 140, contractions 4/10 each lasting 40 seconds, pulse 88/minute

12.30 FHR 130, contractions 4/10 each lasting 45 seconds, pulse 88/minute

13.00 FHR 140, contractions 4/10 each lasting 45 seconds, pulse 90/minute, temperature37°C

13.00:

- The fetal head is 0/5 palpable above the symphysis pubis.
- The cervix is fully dilated.
- Amniotic fluid clear
- Sutures apposed
- Blood pressure 100/70 mmHg
- Urine output 150 ml; negative protein and acetone

STEP 4

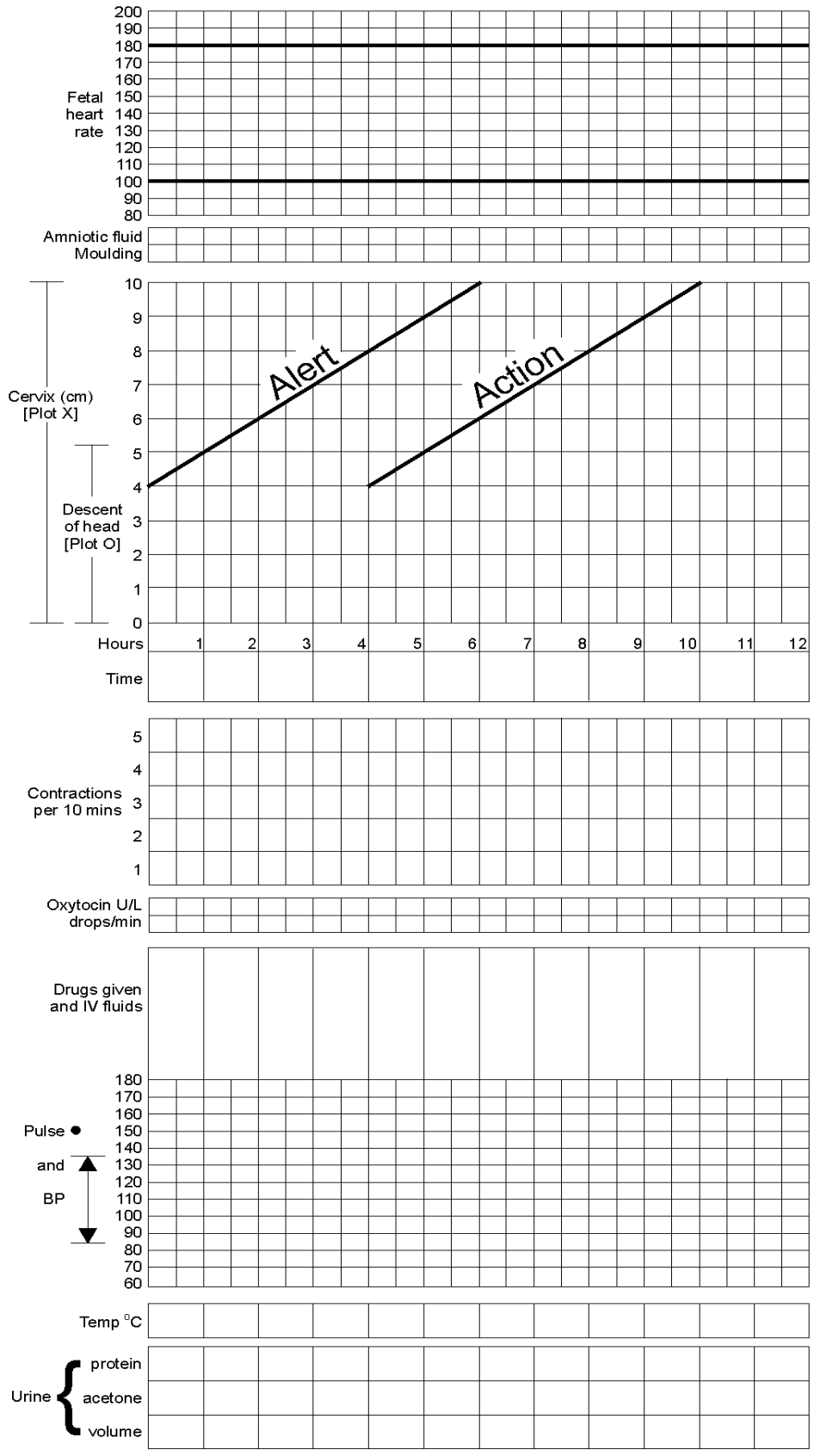
Record the following information on the partograph:

13.20: Spontaneous birth of a live female infant weighing 2,850 g

Partograph for CASE 1: Ms. Amina

Name Gravida Para Hospital number

Date of admission Time of admission Ruptured membranes hours



CASE #2: Ms. Beletu

STEP 1

Ms. Beletu was admitted at 10.00 on 19.9.2003.

- Membranes intact
- Gravida 1, Para 0+0
- Hospital number 1443

Record the information above on the partograph, together with the following details:

- The fetal head is 5/5 palpable above the symphysis pubis.
- The cervix is 4 cm dilated.
- Two contractions in 10 minutes, each lasting less than 20 seconds
- FHR 140
- Membranes intact
- Blood pressure 100/70 mmHg
- Temperature 36.2°C
- Pulse 80/minute
- Urine output 400 mL; negative protein and acetone

STEP 2

Plot the following information on the partograph:

10.30 FHR 140, contractions 2/10 each lasting 15 sec, pulse 90/minute

11.00 FHR 136, contractions 2/10 each lasting 15 sec, pulse 88/minute

11.30 FHR 140, contractions 2/10 each lasting 20 sec, pulse 84/minute

12.00 FHR 136, contractions 2/10 each lasting 15 sec, pulse 88/minute

- Temperature 36.2°C
- The fetal head is 5/5 palpable above the symphysis pubis.
- The cervix is 4 cm dilated, membranes intact

What is your diagnosis?

What action will you take?

STEP 3

Plot the following information on the partograph:

12.30 FHR 136, contractions 1/10 each lasting 15 sec, pulse 90/minute

13.00 FHR 140, contractions 1/10 each lasting 15 sec, pulse 88/minute

13.30 FHR 130, contractions 1/10 each lasting 20 sec, pulse 88/minute

14.00 FHR 140, contractions 2/10 each lasting 20 sec, pulse 90/minute, temperature 36.8°C, blood pressure 100/70 mmHg

14:00:

- The fetal head is 5/5 palpable above the symphysis pubis.
- Urine output 300 mL; negative protein and acetone

What is your diagnosis?

What will you do?

Plot the following information on the partograph:

14:00:

- The cervix is 4 cm dilated, sutures apposed
- Labor augmented with oxytocin 10 units in 500 mL IV fluid at 10 drops per minute (dpm)
- Membranes artificially ruptured, clear fluid

STEP 4

Plot the following information on the partograph:

14.30:

- Two contractions in 10 minutes, each lasting 30 seconds
- Infusion rate increased to 20 dpm
- FHR 140, pulse 90/minute

15.00:

- Three contractions in 10 minutes, each lasting 30 seconds
- Infusion rate increased to 30 dpm
- FHR 140, pulse 90/minute

15:30:

- Three contractions in 10 minutes, each lasting 30 seconds
- Infusion rate increased to 40 dpm
- FHR 140, pulse 88/minute

16.00:

- Fetal head 2/5 palpable above the symphysis pubis
- Cervix 6 cm dilated; sutures apposed
- Three contractions in 10 minutes, each lasting 30 seconds
- Infusion rate increased to 50 dpm
- FHR 144, pulse 92/minute
- Amniotic fluid clear

16.30:

- Three contractions in 10 minutes, each lasting 45 seconds
- FHR 140, pulse 90/minute
- Infusion remains at 50 dpm

What steps would you take?

STEP 5

17.00 FHR 138, pulse 92/minute, contractions 3/10 each lasting 40 sec, maintain at 50 dpm

17.30 FHR 140, pulse 94/minute, contractions 3/10 each lasting 45 sec, maintain at 50 dpm

18.00 FHR 140, pulse 96/minute, contractions 4/10 each lasting 50 sec, maintain at 50 dpm

18:30 FHR 144, pulse 94/minute, contractions 4/10 each lasting 50 sec, maintain at 50 dpm

STEP 6

Plot the following information on the partograph:

19.00:

- Fetal head 0/5 palpable above the symphysis pubis
- Four contractions in 10 minutes, each lasting 50 seconds
- FHR 144, pulse 90/minute
- Cervix fully dilated

STEP 7

Record the following information on the partograph:

19.30:

- Four contractions in 10 minutes, each lasting 50 seconds
- FHR 142, pulse 100/minute

20.00:

- Four contractions in 10 minutes, each lasting 50 seconds
- FHR 146, pulse 110/minute

20.10:

- Spontaneous birth of a live male infant weighing 2,654 g

How long was the active phase of the first stage of labor?

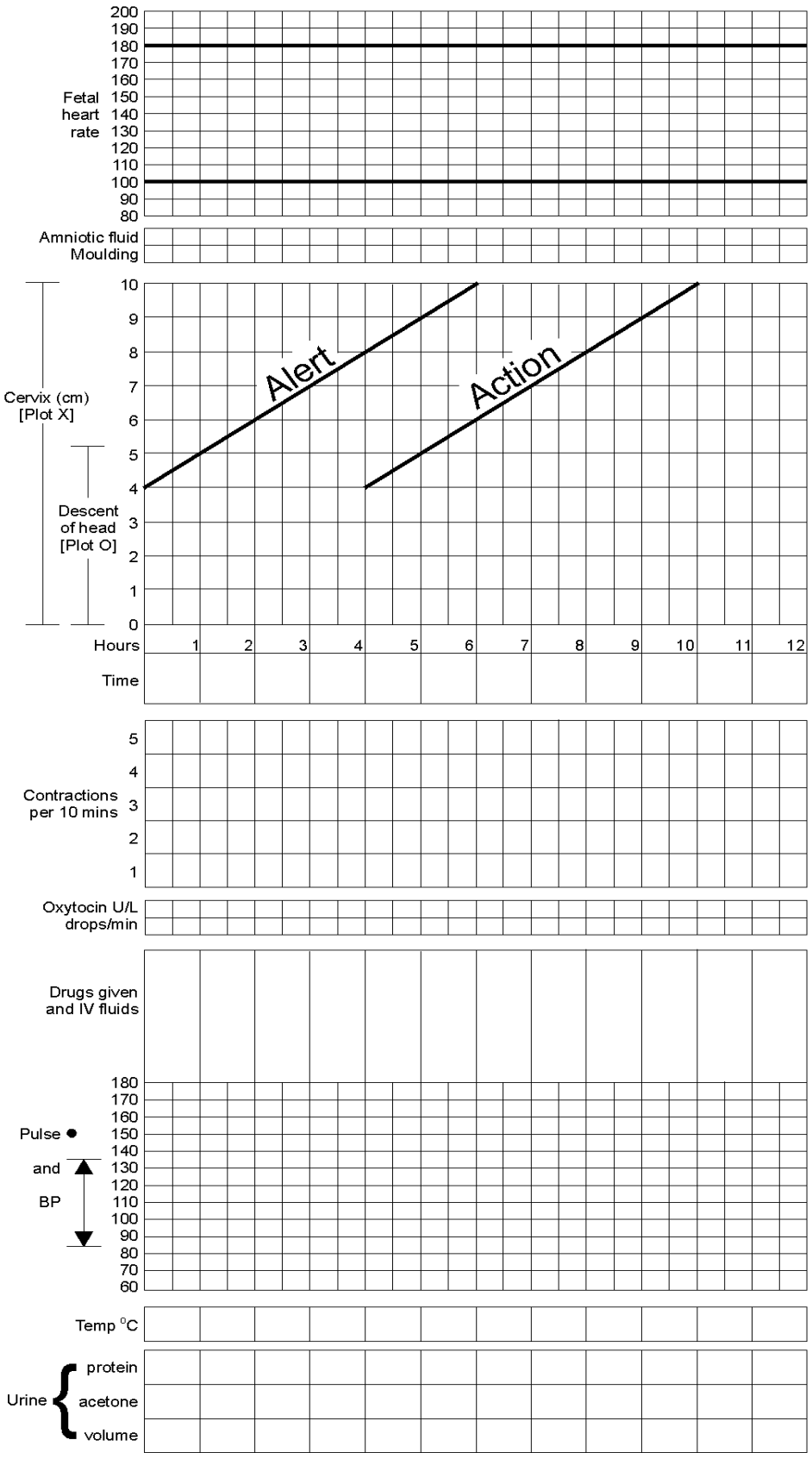
How long was the second stage of labor?

Why was labor augmented?

Partograph for CASE#2: Ms. Beletu

Name Gravida Para Hospital number

Date of admission Time of admission Ruptured membranes hours



At the end of your exercise the facilitator will take you through the answers and provide you with an answer sheet or you will be able to erase the incorrect answer and replaced by the correct one.

3.4. Safe obstetric practices during labor and delivery for PMTCT

Safe obstetric practices could minimize MTCT of HIV during L&D. Some of the critical interventions are cited below:

Minimize cervical examinations.

- Perform cervical examination with appropriate clean techniques and only when absolutely necessary (general recommendation is no more often than every 4 hours in active labor).

Always use partograph and avoid prolonged labor.

Avoid artificial rupture of membranes, unless necessary.

Do not perform routine episiotomy (unless absolutely necessary).

- Minimize the use of forceps or vacuum extractor for delivery unless absolutely necessary.

Use safe blood transfusion procedures

- Minimize the use of blood transfusions.
- Do not transfuse blood which has not been screened for infections including HIV, Hepatitis B and C, and malaria.

Considerations regarding mode of delivery

Vaginal births are more likely to increase the risk of MTCT of HIV while elective caesarean operations in women who have high viral loads of HIV, when performed before the onset of labour or membrane rupture, have been shown to reduce the risk. However, the use of Caesarean Section solely for PMTCT should be carefully considered because there are inherent risks of Caesarean deliveries such as increased complications of blood loss, infection, anesthesia and longer hospital stays for both the mother and infant, particularly in low resource settings. Further, if the mother is taking ARV treatment the HIV transmission is significantly reduced, even during a normal vaginal delivery. Given the capacity of most of the health facilities in Ethiopia, routinely offering Caesarean delivery for all HIV-positive pregnant

women is not recommended. In deciding mode of delivery always consider the benefits and risks of vaginal delivery versus elective Caesarean section, including the safety of the blood supply and the risk of complications.

If a Caesarean section is necessary for other obstetrical indications (such as fetal intolerance of labor or hemorrhage), it should not be delayed, irrespective of the woman HIV status and availability and intake of ARV drugs for HIV positive pregnant woman.

Session Notes (write key points from the session in the space provided below)

SESSION 4: IMMEDIATE POSTPARTUM AND NEWBORN CARE

Learning objectives

Bythe end ofthissession you should be ableto:

- Describe the components of immediate postpartum care for women with HIV-infection
- List out the components of immediate postpartum care for women with unknown HIV status
- Describe the immediate newborn care
- Perform resuscitation for newborn with asphyxia

Competencies

- Communication/Counseling
- Early recognizing and treating of complications
- Demonstrate infant feeding technique
- Demonstrate disposal of soiled/ blood stained materials
- Skilled in immediate newborn care and resuscitation

Session outline

Activity	Topic	Time	Methodology
A	Introduction	5 minutes	Discussion
B	Postpartum care of HIV-infected women	30 minutes	Reading, discussion, and case studies
C	Postpartum care of women with unknown HIV status	10 minutes	Reading, discussion
D	Immediate newborn care	15minutes	Brainstorming and discussion
E	Newborn resuscitation	120 minutes	Presentation,\demonstration and practice using mannequins
F	Summary	5 minutes	Participants' presentation

4.1. Immediate Postpartum care of HIV-infected women

HIV increases the risk of postpartum complications. In HIV-infected mothers, anemia, puerperal sepsis, and poor wound healing are more common. It is important to recognize and treat complications, including infections, immediately. Identifying congenital abnormalities related to anemia such as cleft lip and palate, closed anal orifices'

4.1.1. *Provide continued prevention and care services in the following areas:*

- Routine immediate postpartum care, including review of the warning signs as well as early recognition and treatment or referral according to the national guidelines.
- Ongoing treatment, care, and support for HIV/AIDS including OI prophylaxis, treatment, and nutritional support
- Treatment and monitoring of TB and malaria
- Assessment of WHO clinical staging.
- Provision of appropriate information about safe infant feeding options before mother leaves the clinic after childbirth. Support the mother's choice of feeding options

  Training and observation for proper infant feeding technique of her choice prior to discharge.

4.1.2. Provide advise / instruction on:

- ***Perineum care:***
  - Use plain warm water to clean your perineum.
  - Wash your perineum after every visit to the toilet.
  - Change sanitary pads / towels frequently to reduce the risk of infection (Change pads 6 times/day in first week; then 2 times/day).
  - It is normal to bleed for 2 – 4 weeks after the birth but progressively the amount will decrease.
  - More than 2 or 3 pads soaked in 20-30 minutes after delivery or bleeding increases rather than decreases after delivery should be reported.
  - Avoid constipation to minimize discomfort: Fibre in your diet, lots of water to drink will soften the stools.
- ***Breast Care***
  - Breast care includes wearing a good support bra and keeping your breasts clean and free from infection and skin problems. Nursing pads can be worn

inside her bra to soak up the milk when she is not breast-feeding. These should be changed often, to keep her nipples clean and dry. She can use a cotton handkerchief or other cotton squares inside the bra. Avoid pads that are lined with plastic.

- Counsel and educate the mother about breast self examination

- ***Waste disposal:***
  - Disposal of potentially infectious materials such as lochia and blood-stained sanitary pads as per the national guideline for infection prevetion.

- **Family planning**
  - limiting and spacing of births should be discussed with every woman duringANC and reiterated in the immediate postpartum period.
  - As much as possible, a woman should be encouraged to make a plan for family planning (both the method she and her partner plan to use and where/how they will access it) before leaving the facility after delivery.
  - In addition; those family planing method options (e.g. IUCD, EBF, …) decided to be used before delivery can be initiated during the immediate postpartum period.

NB: Emphasize the value of dual protection and further the options of methods will be discussed in module three session 4

The facilitator will take you through the case study on the immediate post-partum care

Case study 2.5:

Cases: Immediate Postpartum Care of Women who are HIV-infected: (10 minutes)

This is a continuation of case study of Alemnesh and Tigist, after complete reading answer the questions posed under each paragraph

1. Alemnesh presented to the L&D ward without having had an HIV test during her pregnancy. The result of the rapid HIV test done during labor was positive. When told of the test results, Alemnesh became upset but agreed to take the ART for PMTCT. Subsequently, she had an uneventful labor and delivered a 2.5 kg healthy baby boy named Mengistu. Although breast milk substitute is available at the clinic, Alemnesh is determined to breastfeed her baby. It is now two hours after her delivery, and she is resting. Her mother and husband stayed with her.

a) **What postpartum care does she require?**

b) **What HIV-specific services does she need?**

2. **What can you accomplish before she leaves the facility in 24 hours?** Tigist, who is HIV-positive, received ARV tablets. After a short labor, she delivered a 2 kg girl named Kidist. Tigist has chosen to use breast milk substitute; she will be discharged in 48 hours.

   a) **What postpartum care does she require?**

   b) **What HIV-specific services does she need?**

   c) **What can you do to support her infant-feeding choice?**

   d) **What support do you anticipate providing her before she leaves the clinic?**

Your facilitator will discuss the answers for the Case Study of Alemnesh and Tigist. Correct your answers,

4.2. Immediate Postpartum care of women with unknown HIV status

Women whose HIV status is unknown should receive the same components of postpartum care as women with HIV infection (outlined above). All women should be encouraged to be tested for HIV and follow the national recommendations for safe infant feeding. HIV testing in the immediate postpartum period can assist women who tested HIV-positive to:

- Immediate initiate ART for the mother
- Initiate post-exposure prophylaxis for the infant
- Choose the best infant feeding option, and
- Link her to prevention, care and treatment services in the MNCH setting.

The immediate care of newborns exposed to HIV follows standard practice. Regardless of the mother's HIV status, all newborns should be handled with gloves until maternal blood and secretions are washed off, and the newborns should be kept warm and dry after birth.

4.3. Immediate Newborn Care for HIV Exposed infant

Most babies breathe and cry at birth with no help. The care you give immediately after birth is simple but important. The immediate assessment of the newborn includes assessment of vital signs (e.g. color, heart rate, breathing, and temperature and muscle tone) as the newborn

transitions to life outside the womb, as well as an anatomic evaluation for any congenital abnormalities. The condition of the newborn can change quickly. Skin-to-skin contact with the mother keeps newborn at the perfect temperature.

The following are the steps of immediate newborn care which should be given to all newborns at birth. Maintain standard precautions throughout care.

Step 1: dry and stimulate the baby by delivering on mother's abdomen

Step 2: Assess breathing. Make sure the baby is breathing well.

Step 3: If the baby does not breath, clamp/tie and cut the cord immediately and start resuscitation if the baby does cry/breathes well, clamp/tie and cut the cord after pulsations stop or after 2- 3 minutes.

Step 4: place the newborn in skin-to-skin contact on the mother's chest and cover both with linen and blanket as required. Carry out all the steps noted below up to step #9, preferably with the baby on the mother's chest.

Step 5: Initiate breastfeeding within the first hour.

Step 6: administered tetracycline eye ointment.

7: Apply 4% chlorhexidine gel on the cord.

Step 8: Administer vitamin K injection.

Step 9: Place the baby identification bands on the wrist and ankle.

Step Step 10: weigh the infant when he/she is stable.

Note: Record observations and treatment provided in the registers/appropriate chart/cards. Defer the bath for at least 24 hour clean the HIV exposed newborn with clean towel and give HIV prophylaxis for the newborn based on national guideline.

Decide together with the mother on the appropriate feeding option for the HIV exposed newborn based on national guideline, Try to assess the baby for any abnormalities like cleft lip and palate as such abnormalities may affect suckling breast and infant feeding.

Source: Essential care for every baby training participatns manual (FMOH,2015)

HIV exposed infants should link to PMTCT/ANC from L&D before discharge, after giving required service at labor and delivery, to register on MBPC register and for further follow up with his/her mother/.

Case study 2.6: Use of ARV Drugs for PMTCT in the Immediate Postpartum Period: Case Studies

Instruction: Write the answer for the following cases in the space provided

1: Facility Delivery

Kidist, the newborn daughter of Tigist, is irritable and crying a lot. Tigist's mother-in-law, who is visiting her at the facility and will be helping care for the infant after discharge, is worried. You overhear her repeatedly telling Tigist that the baby needs breast milk, and that the breast milk substitute is not satisfying the baby.

a) **What can you do to help Tigist at this stressful time? What support will Tigist need from the PMTCT program to continue using breast milk substitute after discharge?**

2: Home Birth

Almaz was diagnosed as HIV-positive during her 1st ANC visit prior to delivery at home. She has returned to the health center six days after the birth of Beza, her daughter. The baby appears happy, well-hydrated and thriving. Almaz remains convinced she is not infected with HIV and that the baby is not at risk. In fact, she did not give the NVP syrup to Beza because the baby "didn't need it" and is breastfeeding.

a) **Is this a typical response in your setting?**

b) **What services will you offer?**

c) **What follow-up and referrals are necessary for this mother and her infant?**

d) **How will you deal with her denial of her diagnosis and risk for her infant?**

Session Notes (write key points from the session in the space below)

4.4. Newborn Resuscitation

4.4.1. Introduction

The first minute after delivery is a “Golden Minute”, which means within one minute of birth, a baby should either be breathing well or should be supported for ventilation with a bag and mask. The majority (90%) of newborns make the transition from intrauterine to extra-uterine life without difficulty. However, approximately 10% of the newborns require some assistance to begin breathing at birth, and only about 1% needs extensive resuscitative measures to survive.

Always anticipate the need for resuscitation and have a plan to get assistance for every newborn; especially if the fetus is at higher risk. Timely and correct resuscitation will not only revive them but will enable them to develop normally. Most will need no further special care after resuscitation. Functional resuscitation equipment should always be ready and close to the delivery area since you must start resuscitation within 1 minute of birth.

Three situations require immediate resuscitation:

- No breathing (or gasping, below),
- Cyanosis (blueness) or
- Breathing with difficulty.

ABCs of resuscitation are the same for babies as for adults:

- **Airway (position and clear)**
- **Breathing (stimulate to breathe)**
- **Circulation (assess the heart rate)**

4.4.2. Steps in newborn resuscitation

In the first 30-60 seconds after birth, every newborn requires the initial steps of newborn care as stated above. However; if the newborn is not breathing or breathing with difficulty or is cyanotic by 60 seconds, ventilation with bag and mask should be initiated immediately. The steps in newborn resuscitation include:

Resuscitation using bag and mask:

- Place the newborn on his/her back on a clean, warm surface and keep covered except for the face and chest.
- Position the head in a slightly extended position to open the airway.

- Clear the airway by suctioning **the mouth** first and **then the nose**.
- Place the mask on the baby's face so that it covers the chin, mouth and nose.
- Squeeze the bag with two fingers only or with the whole hand, depending on the size of the bag.
- If the baby's chest is rising, ventilate at a rate of 40 breaths per minute, and observe the chest for an easy rise and fall.
- Ventilate for 1 minute then quickly assess the baby for spontaneous breathing and color; if breathing is normal and the heart beat is more than 100 bpm, stop ventilating, give to mother and continue to monitor.
- If the baby is not breathing after 1 minute or is not breathing well, call for help and improve ventilation (reposition the head, suction and open the mouth, reapply the mask).
- If the baby's heart rate is normal but breathing is less than 30 breaths per minute or irregular, continue to ventilate for 3-5 minutes until the baby is breathing well; stop ventilating and monitor baby with mother.
- If the baby is not breathing and the heart rate is normal or slows (less than 80 bpm), continue ventilation with oxygen if available, organize transfer and refer baby to a tertiary care centre, if possible.
- If there is no gasping or breathing at all after 20 minutes of ventilation, stop ventilating, provide emotional support to mother and family.

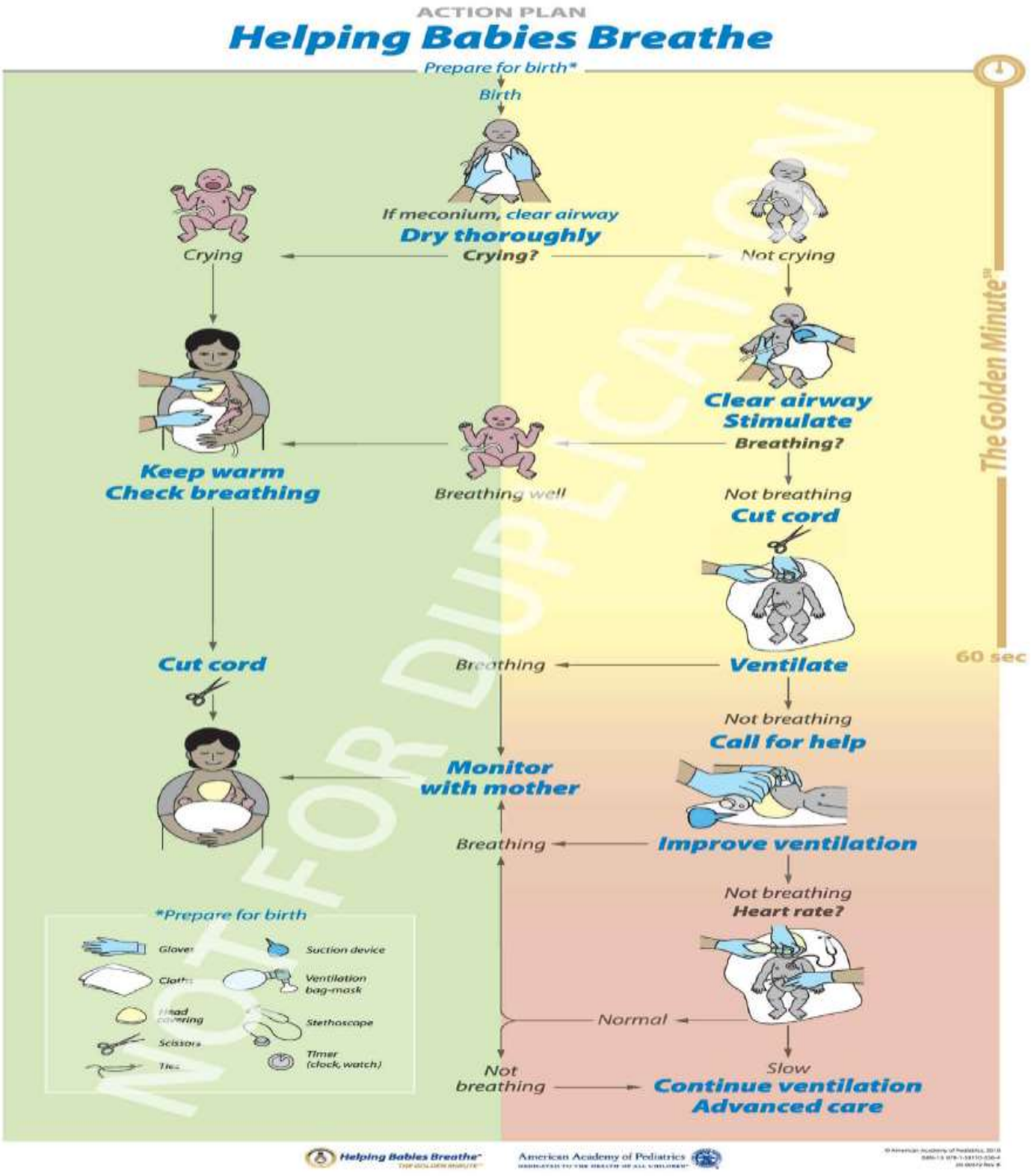


Figure 15: ***Diagrammatic sketch demonstrating the steps of newborn care, adopted from*****www.helpingbabiesbreathe.org (accessed February 21, 2011)**

4.4.3. Post resuscitation care

Babies who have required ventilation must be carefully observed, as they are at risk for having more complications, even after their vital signs have returned to normal. The longer a baby

has been without breathing spontaneously (apneic), the longer s/he may take to return to a healthy state.

Care after successful resuscitation:-

- Prevent heat loss:
  - Keep the baby skin-to-skin with the mother until the newborn's condition is stable.
  - Alternatively, place the newborn under a radiant heater.
- Monitor the baby's respiratory rate every 15 minutes and observe for other signs of illness. If **signs of breathing difficulties recur or the newborn appears sick**, arrange to transfer the newborn to the most appropriate service for the care of sick newborns.
- Measure the newborn's body temperature: If the **temperature is less than 36°C**, rewarm the newborn.
- Encourage the mother to begin breastfeeding. A newborn that required resuscitation is at higher risk of developing hypoglycemia.

Table 20: Immediate newborn problem, care and management

Ask, check record	**Look and listen**	**Sign**	**Classify**	**Treatment**
Is the infant having difficulty breathing?	• Is baby not breathing ? • Is baby gasping? • Count the breaths in one minute	• Not breathing or • Gasping or • Breathing poorly (less than 30 per minute)	Birth asphyxia	Start resuscitation (see to Helping Babies Breathe figure 15 in previous page): • If meconium is present, clear the airway with a suction bulb • Rub the baby's back or foot gently for ten seconds to stimulate • Position the newborn • Ventilation using appropriate size mask /self-inflating bag
		• Strong cry or • Breathing more than 30 per minute	No birth asphyxia	• Dry the infant and cover with a warm, dry cloth • Provide cord care • Provide eye care • Give vitamin K, 1mg IM on upper outer

				thigh • Initiate skin-to-skin contact • Initiate exclusive breastfeeding
Is the infant bleeding from the umbilical cord?	• Umbilical stump bleeding • Pallor	• Active bleeding from umbilicus or • Sign of shock	Bleeding	• Secure umbilical cord for visible bleeding • Vitamin K 1mg IM once if not previously given • Ensure warmth • Perform blood group/Rh and hemoglobin if possible • *Refer if bleeding does not stop*
Gestational age	• Weigh the baby	• Weight <1500gm • Gestational age <32 wks	Very Low birth weight or preterm	• Continue with expressed breastfeeding • Give vitamin K 0.5mg IM mid-thigh • *Refer urgently*
		Weight 1500 to <2500gm OR Gestational age 32 -36 weeks	Low birth weight or preterm	• Educate mother and initiate Kangaroo Mother Care(if less than 2000 gm) • Counsel on optimal breastfeeding • Counsel on prevention of infection • Give vitamin K 1mg IM on upper outer thigh

Take-Home Messages

Module II

- Interventions to reduce MTCT of HIV during L&D should be maximized since majority of the transmissions of HIV occur during this period.
- Using proper infection prevention practices while attending L&D prevents HIV infection to mothers, newborns, and health care providers.
- Mothers should have access to testing and counseling services during L&D to have an opportunity for PMTCT services.

- Every health facility with PMTCT services should have ARV drugs available for PMTCT to improve adherence and significantly reduce MTCT of HIV.
- Always record PMTCT-related information to ensure continuity of care.

MODULE THREE

PMTCT IN PNC SETTINGS

Module III: PMTCT IN PNC SETTINGS

Module Three Session Outline

Session	Time	Title	Methodology
Section 1	10 minutes	Introduction to module III	Reading and discussion
Section 2	40 minutes	Overview of postnatal care in the context of HIV	Reading ,Discussion, brain storm
Section 3	50 minutes	PMTCT after the first 12 hours since child birth	Reading and discussion
Section 4	90 minutes	continue PMTCT after the first 12 hours since child birth	Reading and discussion
Section 5	120 minutes	New born care after the first 12 hours	Reading and discussion
Section 6	90 minutes	Family Planning Counselling	Reading and discussion

Introduction to Module III

Learning Objectives

By the end of this module, participants will be able to:

- Describe general concept of intervention to reduce the risk of MTCT in post-natal care in the context of HIV
- Discuss Post-natal care 12 hours after childbirth in the context of HIV
- Explain Newborn care after the first 12hours of age in the context of HIV
- Demonstrate Family Planning counseling in context of HIV positive women

This module comprises 5 sessions.

1. Session I: Overview of post-natal care in the context of HIV
2. Session II: Post-natal care 12 hours after childbirth
3. Session III: Newborn care after the first 12hours of age
4. Session IV: Family Planning counseling in context of HIV positive women

SESSION 1: OVERVIEW OF POST-NATAL CARE IN THE CONTEXT OF HIV_____

Learning objectives:

By the end of this session you should be able to:

- Describe general concept of intervention to reduce the risk of MTCT
- Explain the value of integrating HIV into Post-natal services
- Describe Male /partner involvement in PMTCT interventions

Competencies:

- Shaping oneself for care of others

Session Outline

Content	Methods	Duration
Intervention to reduce the risk of MTCT of HIV	Reading, brain storming and discussion	10 minutes
Integrating HIV care into outpatient postnatal services	Explain and discussion	5 minutes
Male/partner involvement in PMTCT	Discussion	10 minutes
Exercise	Individual with short discussion	15 minutes

1.1. Interventions to reduce the risk of MTCT of HIV during postnatal period

Interventions to reduce the risk of MTCT of HIV during breastfeeding have two approaches.

A) Reducing exposure to the virus by:

- Using a safer infant feeding option.
- Aggressively treating oral problems in the infant who is breastfeeding.
- Preventing HIV infection in breastfeeding women and their partners.

B) Reducing HIV viral load in breast milk by:

- Preventing and aggressively treating any co-infections in the mother, especially breast infections and cracked nipples.
- Reducing factors that lead to progression of HIV-infection in the mother.
- Providing ART to HIV positive women, which also reduce the risk of HIV transmission

to the baby during breastfeeding.

1.2. Integrating HIV care into outpatient postnatal services

This course assumes you are familiar with maternal and child health care provider and have basic knowledge in how to provide HIV care to pregnant and lactating women and their children.

Wherever possible, HIV care and family planning services should be integrated into routine postnatal care. If this is not possible, linkages should be developed so that the woman will receive follow-up of HIV care and family planning services when she needs them.

Traditionally the postnatal is the period up to 6 weeks after birth. The first6weeks fits very well into cultural traditions in many countries, where often the first 40 days after birth are considered a time of convalescence for the mother and her newborn infant. In many countries, a routine postnatal visit and examination are planned during this period. Six weeks after giving birth, the body of the woman has largely returned to the non-pregnant state.

There are "crucial" moments when contact with the health system/informed caregiver could be instrumental in identifying and responding to needs and complications in postnatal women and their babies. Women should be encouraged to return with their babies for routine postnatal follow-up visits at 2 or 3 days, 6 -7 days and at6weeks.Women and newborns that develop problems need to be assessed and treated as soon as possible. Encourage them to visit more often if they have any concerns, questions, or health problems.

Women need to understand the importance of continued care. Women, who give birth at home, should be encouraged to go/return to the health facility as soon as possible after child birth. Women who give birth at the health facility need to know when to return before being discharged.

Integration supports most postnatal women in receiving comprehensive routine maternal and HIV care at a single visit, and at a single point of care. When possible, postnatal visits should be coordinated with infant follow-up visits. This could prevent delays before receiving essential care, shortening waiting times during each follow up visit, and ensure more coordinated care. A woman’s own health (and her own treatment) is important for a healthy

baby.

Most care and treatment for HIV-positive postnatal women will be the same as for any pregnant HIV-positive adults. Some differences in treatment will be discussed later in this module.

Some discrimination still exists against HIV-positive individuals deciding to have children. Health workers caring for HIV-positive persons need to be sensitive to their own prejudices and be careful to show a caring, compassionate and non- judgmental attitude.

1.3. Male/partner involvement in PMTCT interventions

Efforts towards preventing mother-to-child transmission (PMTCT) of HIV should be as comprehensive as possible and recognize and support the involvement of partners in PMTCT services. Whenever possible, encourage couples to attend postnatal care visits together and emphasize the following:

- Partners need to be aware of the importance of safer sex practices throughout pregnancy and breastfeeding.
- Recommend HIV testing and counseling for the woman and her partner.
- Encourage and support disclosure. Encourage couple counseling and mutual disclosure.
- Inform both men and women about the risks of MTCT of HIV and services available to reduce these risks.

Experience in many settings shows that when a male partner is involved and informed, the woman is more likely to be able to:

- Participate in PMTCT interventions, including using condoms during pregnancy and breastfeeding
- Seek and receive maternal and HIV services
- Adhere to her infant feeding choice.

Exercise1. Individual exercise with short questions:

1. What are the key interventions to reduce the risk of MTCT of HIV in post-natal care?

2. What would be the ideal set up for post-natal care service delivery?

3. What is the appropriate attitude of health care provider towards its client in postnatal care services

4. Why is it important to involve male partner in key areas of PMTCT interventions

SESSION 2: PMTCT AFTER THE FIRST 12 HOURS OF CHILD BIRTH

Learning objectives

By the end of this session you should be able to:

- Assess, classify and treat postnatal women
- Offer HIV testing and counseling to postnatal women
- Describe postnatal care in the context of HIV
- Provide postnatal interventions that reduce the risks of MTCT of HIV.
- Respond to other observed signs and volunteered problems

Competencies

- Assessing, classifying and treating postnatal women
- Communication/Counseling
- Rapid HIV testing
- Use of flip charts/job aids
- Prescribing medicines
- Screening for TB, STIs and OIs
- Proper disposal of soiled/blood stained materials

Session Outline

Content	Methods	Duration
Assess. Classify and treat the postnatal women	Reading, discussion and flip chart exercise	15minutes
Counseling and testing	Discussion, checklist an flipchart	15minutes
Postnatal care in the context of HIV	volunteer reading exercise case of Betty an Abrehet	20minutes
Provide additional care for HIV positive postnatal women	– Reading – demonstration on administration of ARV drugs for infants – Brainstorm on safe disposal of stained material	30 minutes
Respond to observe signs an voluntary problems	Reading	15 minutes
PMTCT intervention during breast feeding	Exercise 1 and case studies 1 - 2	45 minutes

2.1. Assess, classify and treat the postnatal woman

The postnatal woman should be encouraged to have routine follow up visits in the 1st week and at 6 weeks after birth. She should also routinely be counseled on when to seek care urgently if she or the newborn experiences danger signs. A complete assessment of the woman should be performed at every postnatal visit.

At each postnatal visit:

1. Check for emergency signs.

The general principle of emergency check during postnatal period is the same as during pregnancy, though some of the emergency conditions in postnatal woman are different from pregnant women. You are familiar with this, having follow edit in Modules I and II. (Danger signs for newborn and mother annexed 3.1)

2. Perform postnatal examination of the woman.

Refer to the Job aids on postnatal care. Use this Job aids for assessing all postnatal women after discharge from the facility or after childbirth at home.

Ask the woman:

- When and where did you give birth?
- How are you feeling?
- Have you had any pain or fever or bleeding since delivery?
- Do you have any problem with passing urine?
- How do your breasts feel?
- How is breastfeeding going?
- Do you have any other concerns?
- Have you discussed family planning with your partner? Have you decided on a family planning method?
- Have you been tested for HIV before? What were the results?
- Has your partner been tested for HIV? What were the results?

Check records:

- Any complications during pregnancy or delivery?
- Receiving any treatments, including ART?
- HIV status.

Look, listen, feel:

- Measure blood pressure, pulse, and temperature.
- Look for conjunctival palmar pallor.
- Look and palpate the woman's legs(calves)
- Examine and palpate her breasts
- Feel the uterus:
  - Is it hard and round?
- Look at vulva and perineum for:
  - cleanliness
  - tear
  - swelling
  - pus
- Look at pad for bleeding and lochia.
  - Does it smell? Is it profuse?

- Ask the woman to feed her baby and assess the feeding, if applicable.
- Ask about and record any medications the woman is on, including ARV drugs.

Give preventive services, advice and counsel.

There are a number of measures that should be followed for all postnatal women and some that will apply to HIV-positive women only.

To all post natal women, recommend preventive measures, advice and counsel

- Encourage couple visit and counseling session.
- Give tetanus toxoid, if due.
- Provide iron/folic acid 1 tablet daily; counsel on adherence and safety and advice to take the tablets with meal, at night if a once per day dose.(Specify the duration for iron/folic)
- Provide vitamin A 200,000 IU supplement if not provided immediately after delivery.
- Provide Mebendazole500 mg once every six months.
- Advice and counsel on nutrition and self-care.
- Advice on breast care and for the woman to return immediately if she has any breast or breast feeding problems.

- Advise to stop smoking and avoid alcohol, harmful use of drugs if applicable.
- Encourage(mother and newborn)sleeping under insecticide-treated bed net(ITN) If malaria endemic region.
- Counsel on family planning; provide method of the woman's choice.
- Offer HIV testing for postnatal women encourage and support partner disclosure and HIV testing and counseling, if not already done.

Table 21: Routine postpartum care visits:

Visit	**Time**
First Visit	**6-24 hours****
Second Visit	**3 days (2-3 days)**
THIRD VISIT	**7 days (6-7 days)**
FOURTH VISIT	**6 weeks**

*****Encourage woman to bring her partner or family member to at least one visit

*** If she gave birth at Health facility 6-24 hours post natal visit will not reported as post natal visit

2.2. Counseling and testing in postnatal care service

For all postnatal women coming for follow up:

Check HIV status:

Check the woman's facility record to see if she has been tested for HIV and if the test result is recorded on the woman's maternal card.

And ask the woman:

- Have you had HIV testing and counseling? When? What was the result?

If she has been tested and is <u>HIV-positive</u>:

Check the woman's record and ask her:

- Are you taking any ARV drug?
  - If she is on ART, which ARV drugs is she taking? When did she start taking ART?
- Assess, counsel and support adherence to ART.

If she has been tested <u>HIV-negative</u>:

- Check to see when the woman was tested for HIV and discuss risks of HIV exposure since the last test.
- Ask whether she feels confident that she had not been exposed to HIV during the 6 weeks period just prior to the test, or after the test. If there are potential risks for HIV

exposure outside of the HIV test window or after the test is done, recommend repeat HIV testing and counseling.

If she has <u>not been tested</u>:

- Offer HIV testing and counseling as soon as possible.

In all situations, recommend disclosure and partner testing if not already done. Recommend couples testing, as appropriate for the woman's situation. Remind her that even if one partner is HIV-positive, the other may not be. It is important that both partners are tested.

HIV positive women partner and other family members should be strongly addressed for HTC accordingly using family matrix.

2.3. Postnatal care in the context of HIV infection and for all postnatal women

Postnatal care for HIV-positive woman includes basic postnatal services recommended for all postnatal women, **PLUS** special interventions for the woman's own health and to prevent mother-to-child transmission (MTCT) of HIV.

For example, the following healthy practices are necessary for all postnatal women:

- Counseling and support for safe breastfeeding practices.
- To eat two extra variety meal than usual and rest more in the postnatal period and while breastfeeding.
- To take special care of personal hygiene to prevent infections.
- To be supported to engage in healthy behavior (primary prevention), to obtain the postnatal care they need (care seeking), and to improve their own health (adherence to treatment) and that of their baby. These will reduce some of the risks of maternal and newborn complications.
- To be supported to know their HIV status by recommending testing and counseling if it is not yet done.
- To be counseled about family planning options and provided with the method they choose so they can prevent unintended pregnancies.
- To know how to reduce the risks of acquiring or transmitting HIV infection or other sexually transmitted infections.
- To be counseled on personal risk reduction, consistent and correct use of condom and safer sex practices.
- To be supported and encouraged for disclosure and partner testing including siblings.

All postnatal women, their partner and family, and community members must also know the danger signs (maternal: bleeding, fever, foul smelling discharge, abdominal pain and convulsion; newborn: convulsion, abnormal breathing, low or high temperature and bleeding) that may arise after childbirth so that help can be sought early and from the most appropriate place. She also needs to know when to bring her baby in for care if necessary between regular visits.

Read the following cases, we will follow the min this course.

Case study 1 the case of Betty:

	Betty is 20 years olds comes to the clinic 24 hours after home delivery at 36 weeks of gestation. She comes today, because she heard about “some medicine “to prevent the transmission of hit her baby. Betty is HIV-positive, but did not receive any ARVs during pregnancy or childbirth. The baby is exclusively breastfeeding. The nurse checked for emergency signs, performed examination and classified Betty as normal postnatal. The nurse recorded that the clinical review is normal. The baby weighs 3.5kg. *What else would you check about HIV?* The nurse checked the ANC register and maternal card and noted that Betty had one ANC visit, when tested HIV-positive at 20 weeks of gestation. She was WHO clinical stage I and her CD4 count was 400.Betty didn't return for subsequent follow ups, and also didn't receive ARV drugs. *How would you manage Betty and her baby today?*

Case of Abrehet, case study II

	Abrehet is 25 years old. She gave birth 4 days ago in your clinic at 38 weeks of gestation. She has regular follow-up visits at the HIV clinic and was referred at 20 weeks of gestation for antenatal care. She has been taking TDF-3TC EFV for the last 2 years. Abrehet is exclusively breastfeeding. She comes today for follow-up care with her husband who is also HIV-positive. *How would you manage* Abrehet *and her baby today? What else would you discuss about HIV care with* Abrehet*, her baby and partner?* The nurse checked the ANC register and the Abrehet's card. She noted that Abrehet received TDF-3TC-EFV during pregnancy and delivery. The newborn was given NVP 1.5 ml, and discharged with NVP daily for 6weeks. He has also received OPV0 and BCG while in maternity ward. Abrehet's last CD4 count was 500. *What else would you do or advice?*

Note: While care for the postnatal woman and newborn are presented separately in this training, the mother and her newborn should receive care at the same time whenever possible.

2.4. Provide additional care for HIV-positive postnatal women

HIV-positive postnatal women need care in addition to the routine postnatal care provided to all women.

Provision of ART for HIV positive postnatal women can influence disease progression, HIV viral load, and CD4 counts, all of which influence MTCT of HIV and maternal well-being. Perform clinical review and WHO staging during each postnatal visit of HIV-positive woman .The WHO Clinical staging and prophylaxis against OIs are the same for postnatal women as for HIV-positive adults.

1. **Check if the postnatal woman is on ART**

   Is the woman on ART or not? If so, look at the regimen and dosage that she is on. Review the facility register (ANC, and labour and delivery registers) and her HIV care/ART follow-up form.

   If the woman is on ART:

   - Assess and respond to new signs and symptoms, including ARV drug side-effects.
   - Review the medication with the woman and her treatment supporter, if she has one. Determine if there is an adherence problem, and if there is, address it.
   - Ask questions in a respectful and non-judgmental way that makes it easier for the woman to answer truth fully. The postnatal woman might need extra adherence support. Adherence maybe difficult in the postnatal period due to: physical changes them other is undergoing, the demands of caring for the baby, anxiety related to transmission of HIV to the baby, or postnatal depression.

If the woman is <u>NOT</u> on ART during the visit:

- Retest at the initiation of ART
- Do clinical staging and CD4 count, where available for baseline.
- Start ART immediately.
- Provide continuous adherence counseling and support.
- Screen for OIs at each facility visit.

2. **For all HIV-positive postnatal women:**
   - Asses TB status during each visit. (Current cough, weight loss, night sweat and fever)

- Provide chronic HIV care and ensure the woman and her baby continue to receive care.
- If services are provided at different points of care, coordinate timing of visits as possible. For example, coordinate visits for postnatal care, HIV care for the woman, her infant, and partner, and TB care if needed.
- Check if the woman is already on co-trimoxazole prophylaxis. Continue or initiate co-trimoxazole, if eligible.
- Initiate INH prophylaxis after excluding active TB (follow the national guideline).

3. **Respond to observed signs and volunteered problems:**
   - If elevated diastolic blood pressure, give appropriate antihypertensive and refer urgently to hospital.
   - If pallor, check for anemia. If on AZT and has severe anemia (Hgb <7 gm/dl), discontinue AZT and change AZT to TDF if on ART. Manage the anemia.
   - Advise on safer sex practices and consistent and correct use of condoms to prevent STIs, including HIV. A new HIV infection in a breastfeeding mother increases the risks of MTCT of HIV due to the high viral load associated with new infection. Provide condoms and instruct on correct and consistent use. Many women may need help preparing to talk with their partners about STI protection, how to use condoms and safe sex practices.
   - Advise the woman that lochia can cause infection in other people and therefore blood stained pads/clothes should be disposed safely.
   - Advise when to return to the facility: Advise the woman that she and her baby will need to return for subsequent postnatal visit in 4-6 weeks.
   - Advise on danger signs and when and where to seek medical care urgently.
   - Manage breast and breastfeeding problems and any other acute and chronic problems.
   - If a woman is on ART and develops new signs and symptoms: Differentiate between complications/common problems in the postnatal period and HIV-related illnesses, ARV drug side-effects, and immune reconstitution syndrome (IRIS).
   - Provide acute care for OIs and other HIV-related conditions, malaria, and manage drug side-effects as required.
   - Advise the postnatal woman to seek care early for any danger signs and infections;

including malaria, TB or other chest infections, and STIs. This will help to keep the mother healthy and provide appropriate care for the baby.

- At the end of the postnatal follow up visits, refer the HIV-positive woman (for continued HIV care) where she could continue to get HIV care, treatment, prevention and support services.
- Provide counseling on family planning, or refer to where she goes for counseling.
- Encourage and support the HIV-positive woman on her infant feeding choice. If the baby is exclusively breastfeeding: Arrange for further counseling to prepare for infant feeding from 6 months of age onwards.
- Provide psychosocial support: Like all persons in chronic care, PLHIV need continued support and care. This may include counseling and support for both adherence to medications and also for retention in care so that she continues to come back to the clinic for services. An HIV-positive postnatal woman might need additional support if she is experiencing postnatal depression, and is anxious about the HIV status of her baby and issues surrounding infant feeding.

Therefore, encourage her to disclose her HIV status to family members, her partner, or friends so that she can continue to receive support at home. Support the woman's infant feeding choice, and advise her on the importance of HIVcare, co-trimoxazole prophylaxis, and HIV testing for her baby.

Exercise 2: PMTCT interventions during breast feeding

True or False

1. _____HIV-positive women should be assessed for breast feeding status and for adherence to ART at each postnatal visit.
2. _____ If HIV positive breast feeding woman does not receive any ARV drugs during pregnancy or labour, she will not be eligible for initiation on ART unless her CD4 count is less than 500.
3. _____ It is optional to advise the postnatal woman to seek care early for any danger signs and infections; including malaria, TB or other chest infections, and STIs as it does not directly affect the breastfeeding baby
4. _____ If a woman on ART develops new signs and symptoms, it is important

to differentiate between complications/common problems in the postnatal period and HIV-related illnesses, ARV drug side-effects, and immune reconstitution syndrome (IRIS)

SESSION 3: NEWBORNCAREAFTERTHEFIRST12 HOURS

Learning objectives

By the end of this section you will be able to:

- Provide routine newborn care
- Explain the difference between HIV-exposed and HIV-infected children
- Provide care for HIV-exposed infants
- Provide ARV prophylaxis for HIV-exposed newborns.
- Support adherence to ARV prophylaxis for the newborn.
- Identify HIV-infected infants early
- Offer HIV-testing and interpret test results in young infants
- Initiate and monitor Cotrimoxazole prophylaxis for HIV-exposed infants
- Describe the guiding principles for safer infant feeding options

Competencies

- Communication/Counseling
- DBS collection and storage
- Demonstration of NVP dosing
- BF positioning, attachment and suckling
- Labeling and interpretation of weight, height and head circumference using growth chart
- Assess developmental

Session Outline

Content	Methods	Duration
Interventions to reduce the risk of MTCT in newborns	Discussion, reading	20 minutes
Routine newborn visits	Discussion, reading	15minutes
Provide care for HIV- exposed infants	Volunteer reading, discussion	15minutes
Provide counseling and support for safer infant feeding option	Case studies, demonstration	15minutes
Recommend testing for HIV-exposed infants	Discussion, review	15 minutes

Provide special care for the TB-exposed infant	Volunteer reading, discussion	10 minutes
Provide Cotrimoxazole prophylaxis for the HIV- exposed infant	Volunteer reading, discussion	10 minutes
Review postnatal and immediate newborn	Case studies, Q & A	20 minutes

3.1. Routine newborn care

Routine follow-up care for all newborns is recommended within the first 7 days, preferably 2-3 days, and at6 weeks of age.

Provide care:

- Check maternal and newborn record or ask the mother:
  - How old is the baby?
  - Preterm (less than 37weeks)?
  - Breech birth? Difficult birth?
  - Resuscitated at birth? Has baby had convulsions?
- Ask the mother: Do you have concerns? How is the baby feeding?
- Assess feeding(for position of the mother, position the baby, breast attachment and effective suckling)
- Weigh the baby (exercise on weight)
- Check the umbilical cord for bleeding or signs of infection
- Document the HIV status of the mother and the HIV exposure status of the baby, if known
- Immunize if due, according to national guidelines. The immunization of asymptomatic HIV-infected infants is the same as with non-HIV infected infants.
- Assess and respond immediately to manage any common problems.
- Always check ALL young infants for signs of very severe disease and local infection. A young infant can become sick and die very quickly from serious bacterial infections such as pneumonia, sepsis, and meningitis.
- Encourage the mother to seek care immediately if the infant become sill, has difficulty feeding, or if she suspects any problem.

Read the following cases: Abrehet and Betty we will discuss them later.

	Abrehet returned to the postnatal clinic today at 6weeks after childbirth. She is still taking ART, and her baby has completed 6 weeks of NVP. She is exclusively breastfeeding. Abrehet is worried that her baby might be HIV-infected. *What do you recommend for the baby today? How would you address* Abrehet *'concerns?* The nurse assessed both of them. The clinical review shows that both are healthy. The nurse recommended DNA PCR for the baby. She explained about the benefit of HIV testing for the baby, the services that are available if the baby tests positive, and the testing procedures. The nurse also explained that the HIV test result wills be ready next week. The nurse recommended co-trimoxazole prophylaxis for the baby, and explained that co-trimoxazole prophylaxis will protect the baby from different infections, some of them very serious if the baby is HIV-infected. The baby should also continue routine immunization.

	Today Betty returned to the clinic with her baby. She requests her baby (Samy) to be tested for HIV. Samy is 6 weeks old. He is exclusively breast feeding, and he completed 6weeks of NVP. Betty is taking ART. Both, mother and baby are doing well. Their clinical review is normal. *What would you recommend today?*

	The nurse recommended HIV testing for Samy. She prepared the DBS sample to be sent to the hospital. She informed Betty that the test result will be ready next week. The nurse dispensed co-trimoxazole prophylaxis for Samy. She advised to continue her ART. Samy should also continue receiving routine immunization. *How would you explain to Betty about Samy's HIV-status?*

3.2. PROVIDE CARE FOR HIV-EXPOSEDINFANTS

There are important interventions for the newborn to reduce the risks of MTCT of HIV:

- **Prevention of HIV infection in breast feeding women**(primary prevention among women who tested negative during pregnancy, labour and postnatal period)
- **Safer infant feeding practices,** either exclusive breastfeeding for the first 6 months or exclusive replacement feeding for the first 6 months. Avoid mixed feeding. Introduce appropriate complementary food after6 months, and continue breastfeeding for12 months.
- **ARV prophylaxis to infants** born to HIV-positive women (HIV-exposed infants)

Note: *Care for children born to HIV-positive women includes routine newborn care, the same as for non-HIV-exposed infants, and additional care specific for HIV- exposed infants.*

Infants born to HIV-positive women are called HIV-exposed infants, because they are exposed to HIV during pregnancy, labour and delivery, or breast feeding HIV- exposed infants may or may not be HIV-infected.

HIV-exposed infants are at increased risk of illness and failure to thrive, even if they have received antiretroviral prophylaxis or their mother was on ART. Regular assessment (routine and preventive child health care), early HIV diagnosis and provision of care and treatment are key to ensuring optimal growth and development−especially during the first 2 years of life.

An HIV-exposed infant is at high risk and needs regular follow-up visits to:

- Assure adherence to NVP prophylaxis.
- Provide HIV testing as early as possible.
- Initiate co-trimoxazole prophylaxis at 6 weeks of age.
- Provide continued HIV care to the mother and the baby.
- Address any feeding problems.

It is important to coordinate follow-up visits for the mother and the baby in order to ensure continued care for both.

Table 22: NVP prophylaxis

Newborn: Give ARV prophylaxis as soon after birth as possible for 6 -12 weeks.			
Scenarios		**New born ARV prophylaxis regimen**	
	Mother	**Breastfeeding**	**Non-breastfeeding**
HIV positive mothers on ART during pregnancy and labor	Continue ART	NVP daily until 6weeks	NVP daily until 6 weeks
HIV positive mother not on treatment in postnatal period	Initiate ART	NVP daily for 12 weeks	Initiate NVP daily if baby is less than 72 hours of age
Women on ART during pregnancy for less than four weeks or Start ART during labor	Continue ART	NVP daily for 12 weeks	NVP until 6 weeks
HIV positive mother interrupts ART while breastfeeding (after infant is 6 weeks of age)	Assess the mother for related issues and manage accordingly	Re-initiate the exposed infant with NVP and continue until 6 weeks after maternal ART is re-initiated. OR	
		Until one week after breastfeeding has	

The mother, father, and family members (based on the choice of the mother) will need careful information and assistance to ensure that the newborn receives the complete prescribed course of prophylaxis. Some mothers may not want to give ARV openly. Some

may decide to stop the ARVs if the baby is having side-effects. Some may decide that the ARVs are not necessary because the baby does not have any apparent problems. When working with mothers and families provide the following information to ensure adherence to new born ARV regimen:

- Reasons forgiving ARVs to the newborn: The ARV drugs will reduce risks of transmission of HIV, and completing the entire course of ARVs regimen is important.
- Explain how to give the syrup. Observe them giving the ARV syrup before discharge from the maternity facility.
- Respond to any questions and concerns the mother might have about the newborn ARV regimen.
- Recognize and manage any side-effects.
- Carefully explain the difference between an HIV-exposed infant and an HIV- infected infant and the importance of regular follow-up visits, age-appropriate HIV testing, and co-trimoxazole prophylaxis.
- **For babies delivered at home:**
    - If a mother is known to be HIV-positive, ARV prophylaxis should be administered to the newborn even if the mother did not receive ARVs during pregnancy or labor.
    - Start baby on NVP even if mother presents 72 hours or later after giving birth. ARV prophylaxis for the infant can be started at any time during breastfeeding.
    - If the mother's HIV status is unknown, offer HIV testing and counseling and, if the mother tests positive, give the baby NVP once daily; assess the mother, initiate ART and provide appropriate care.

Table 23: NVP daily dose for HEIs

Infant age		NVP daily dosing	Dose in ml
Birth to 6 weeks	Birth weight 2000 g - 2499 g	10mg once daily	1ml
	Birth weight ≥2500	15 mg once daily	1.5ml
Age 6 weeks to 6 months		20 mg once daily	2ml
Age 6 months to 9 months		30 mg once daily	3ml
Age > 9 months		40 mg once daily	4ml

- *Low birth weight infants (<2000mg) should receive mg/kg dosing, suggested dose is 2 mg/kg once daily.*
- *Follow the manufacturer's instruction for the duration of use following opening. The bottle should be labeled with the date on which it was 1st opened.*
- *NVP infant dose: The oral syringe should not be placed directly in to the bottle. Infant dose should be measured by pouring a small amount of NVP syrup into a cup, and then draw the actual dose with oral syringe. Discard the leftover suspension in the cup.*
- *Dosing beyond 6 weeks of age in special situations in which prolonged dosing of up to 12 weeks should be considered (such as the mother having had limited ART and not being likely to be virally suppressed; the infant is identified as HIV exposed after birth and is breastfeeding)*

Ensure follow-up care of HIV-exposed infants

ARV prophylaxis and other PMTCT interventions reduce the risk of MTCT of HIV, but do not eliminate it entirely. Thus, staff of maternal and child care services should identify or develop services that provide follow-up care and early HIV diagnostic services for HIV-exposed infants. Arrange for regular follow-up sin the appropriate settings i.e. ANC &PNC for all HIV-exposed infants.

Follow-up schedule: In7 days, 6 weeks, then monthly for 6months, then every 3 months until HIV infection is excluded. But also advise the mother to bring the infant at any time, if there are new signs and symptoms. HIV-exposed infants with health problems may need

more frequent follow-up visits than other infants.

Actions during follow-ups include the following:

For the mother:

- Do clinical assessments at each visit and reclassify the mother's clinical stage if appropriate.
- Counsel about safer infant feeding practices.
- Counsel the mother about her own health (including screening breast for lump and cervical cancer) and arrange for her continued HIV care and treatment.

Provide routine infant care:

- This includes (1) **monitoring growth** and development ;(2) following the national **immunization** schedule but avoid live vaccines, e.g., BCG, for symptomatic HIV-infected children; and (3) providing **vitamin supplements** every 6 months beginning at 6 months of age.

Provide prophylaxis:

- Offer co-trimoxazole prophylaxis at 6 weeks of age; monitor and support adherence.
- Start co-trimoxazole at 6 weeks of age, or when the HIV-exposed infant is first seen, if presents later.
- Continue co-trimoxazole prophylaxis if the infant is HIV-infected.
- Discontinue co-trimoxazole prophylaxis if HIV-infection is excluded and child is no longer breastfeeding.

Table 24: Describe co-trimoxazole prophylaxis dosage based on age

Age	5 ml syrup 40mg/200mg once daily	Single strength pediatric tablet 20mg/100mg Once daily	Single strength adult Tablet 80mg/400 mg once daily
6 weeks - 6 months	2.5 ml	1 tablet	-
6 months - 5 years	5 ml	2 tablets	½ tablet

Exercise 3: Your facilitator will lead to drill on Cotrimoxazole dosing

Provide special care for TB-exposed newborns

- Persons with HIV are at increased risk of having TB disease, due to the immune-suppression caused by HIV. An HIV-positive woman should be assessed for TB during each visit to the health facility.
- If the mother is diagnosed pulmonary tuberculosis and started treatment less than 2 months before delivery or diagnosed after birth:
- Give the baby 5 mg/kg isoniazid (INH) orally once a day for 6 months to the baby.
- Do not give BCG vaccine at birth. Delay BCG vaccination until INH prophylaxis is completed, or repeat BCG after complete course of Isoniazid Preventive Therapy (IPT).
- Reassure the mother that it is safe to breastfeed the baby.
- Follow up the baby every 2 weeks, or according to national guidelines, to monitor growth e.g. weight gain.

Growth monitoring & developmental assessment

HIV exposed and HIV infected children need frequent monitoring of growth and development in order to detect growth faltering and developmental abnormalities early enough before severe manifestations occur. The occurrence of growth and developmental abnormality may be an indication of HIV infection in HIV exposed infants or disease progression in those who are HIV infected and possibly treatment failure in those who are on HAART.

Components of growth monitoring

- Measuring
- Weight
- Height/length
- Head circumference
- Plotting the measurement on gender appropriate growth curves interpreting the finding on the growth chart

To enhance accuracy of weight measurement:

- Use same scale at each visit
- Scales should be zeroed daily and calibrated weekly
- Infant scales should be used for children <20kg
- Remove all clothing including diaper
- Weigh infants supine and older infants sitting
- Record weight to the nearest 0.1kg
- Record measurement immediately

Measuring length/height

- For children 0-2 years of age measure length:
  - Remove shoes when you measure length/height and use two people
  - Keep the knees straight and ankles in neutral position when you measure length
- For children ≥ 2 years of age measure height
  - When you measure length, make sure the legs are close to each other and the heels, the buttock and the back of the head touches the wall or are in straight line. The child should look straight parallel to the floor.
  - Place a ruler or a hard paper on top of the head to perpendicular to the wall to take the measurement. If there is large hair press gently
  - Record measurement of length/height to the nearest 0.5 cm
  - Record measurement immediately

Measuring head circumference

Measuring head circumference is an indirect way of measuring brain growth.

HIV affects brain growth directly and is an important cause of acquired microcephaly in children.

How to measure head circumference

- Use a non-stretchable plasticized tape
- Place tape at the mid forehead and extend circumferentially to include most

prominent portion of occiput to obtain the greatest volume

- Record measurement to the nearest 0.5 cm
- Record measurement immediately

A growth chart or curve is a graph that records changes in the child's growth over time compared to normative growth rates. It is a normative data on weight, height and head circumference disaggregated by age and sex. Growth chart is an easy and systematic way to follow CHANGES IN GROWTH OVER TIME for an individual child.

There are a number of growth charts that are used to follow growth of children. WHO children Growth Charts and CDC Growth Curves are commonly used in our country. These charts are disaggregated by age and sex and include the following growth curves

Plotting Anthropometric measurements on growth charts

- Measure and weigh child using same methodology at each visit
- Using age and sex appropriate charts, plot measurement on the vertical axis against age on the horizontal axis.
- Compare growth point with previous points

Interpretation of plotting on Growth curves

What are Z-scores?

Z-score speak to the general population and address the question - what percentages of the population are of the same weight and height?

- If a child is on the 0 Z-score for weight for age, it means that 50% of children of the same age are heavier than this child and 50% weigh less than the child.
- If a child is on the -2 Z-score, the growth chart tells you that the child is small relative to other children of the same age - 95% of children of the same age are heavier
- If someone is on the +2-Z-score, they are generally a little bit fat. They weigh more than 95% of children their age.

  Annex growth chart weight for age

Assessment of development

Development: pertains to acquisition of various functions and skills with a gradual change from simple to complex. These spheres of development include language, psychosocial, Fine and gross motor skills and cognition.

Delayed development or loss of milestones may be the first sign of HIV infection in an infant or young child

- While other causes are possible, abnormal development should raise concerns of HIV infection
- Infants are at high risk for HIV encephalopathy and severe neurologic disease
- The assessment should include Cognitive, Motor, Language, and Social skills

How do you assess development?

- Ask
  - Parental report on milestones achieved
- Observation
  - 12 month old walks into the examining room, 6 month old sitting upright in mothers arms
- Examination
  - Neurologic exam, hearing and vision screen
- Look for Warning signs/red Flags
  - early warning signs developmental milestones and interpretation)

Table 25: Abnormal development that show delayed acquisition of milestones

AGE	**WARNING SIGNS/Red flags**
1 month	Does not regard face, no eye contact, , poor suck, floppy
2 months	Does not look at you with both eyes at least for a few moments, and does not follow with eyes ifyou move your face slowly from side to side
3 months	Does not respond to sound by quieting, no smile
4 months	Does not hold head steady for a few moments when you sit him up,
5 months	Does not raise head and support weight on arms when in prone position

6 months	Cannot reach for objects with both hands, Floppy, no response to sound, Poor social response to people
9 months	Unable to sit unsupported ,
12 months	Unable to bear weight on legs
15 months	Does not walk alone, is not using at least one word meaningfully
18 months	Does not use at least 3 words, and does not point to what he wants

Individual Exercise 4:

Measuring & labeling weight and height on growth chart

Your facilitator will introduce you to the growth chart of both boys and girls and demonstrate how to label the weight on to the chart corresponding to the age of the child. You also learn how to interpret the labeled chart and advise mother/caretaker in line with the weight chart.

Weighing infant:

1. What is the initial step when weighing an infant?
2. What is the second step when weighing an infant?
3. Suppose the available weighing scale is adult type only, what do you do to know the weight of the infant

3.3. Provide counseling and support on safer infant feeding

All HIV-positive women should receive counseling on infant feeding options as part of antenatal and postnatal care.

Breast feeding mothers need to know:

- **<u>Which breast feeding practices and for how long</u>**
    - **Mothers known to be HIV-infected** (HIV exposed infant) should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding for the first12 months of life.

- They should take appropriate ARV therapy for themselves and their infants.
- Breastfeeding should then only stop once a nutritionally adequate and safe diet without breast-milk can be provided.
- **Mothers who are HIV-negative or of unknown status** should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding for 2 years or beyond.

- **<u>What to do when a mother decides to stop breastfeeding</u>**
  - Mothers known to be HIV-positive who decide to stop breast feeding at anytime should stop gradually within one month.
  - Stopping breastfeeding abruptly is not advisable.
  - When an HIV-positive mother decides to stop breastfeeding at anytime, provide infants with safe, adequate replacement feeds to enable normal growth and development. All children need complementaryfoodsfrom6 months of age.

Alternatives to breastfeeding include:

- **<u>For infants less than 6 months of age</u>:**
  - Commercial infant formula milk if home conditions as outlined below.
  - Expressed heat-treated breast-milk.
  - Home-modified animal milk is **not recommended** as replacement food in the first 6 months.

<u>For children over6 months of age</u>:

- Commercial infant formula milk if home conditions as outlined below.
- Animal milk as part of diet providing adequate micronutrient intake – boil for infants less than12 months.
- Meals, including milk-only, other foods and combination of milk and other foods, should be provided 4or5 times per day.

Key Messages on Optimal Breastfeeding Practices

1. Initiate breastfeeding within the first hour after birth
2. Give colostrums—the first "natural immunization" for the baby
3. Breastfeed on demand, day and night;
4. Exclusively breast fed until the baby is six months old (exclusive breastfeeding—not even water—except medications, vitamins and oral rehydration salts (ORS)).Never offer water, liquids, milk, or foods in breast milk in the first six months as it irritates the gut and may lead to an increased risk of virus transmission.
5. Start complementary feeding at six months**
6. Practice proper positioning and attachment
7. Seek medical attention if there is a breast problem
8. Mother needs to take two additional meals from locally available food types.
9. Mother needs to take iron and iodized salt.
10. HIV-infected mother needs regular follow-up.

**Complementary feeding should be initiated at six months, and breastfeeding can be continuing until 12-24 months.

3.4. Support mothers to practice proper positioning and attachment

(Demonstration and role play)

Proper positioning and attachment are critical for safer breastfeeding practices in HIV-infected infants. Incorrect positioning and attachment can result in nipple cracks and mastitis, which are associated with increased viral load in the breast milk which in turn will increase the chance of HIV transmission to the baby.

Key Points for Proper Positioning in Breastfeeding

The Mother:

1. Sitting straight with her back supported
2. Relaxed and comfortable position
3. Supported using pillows under the arm or stool for the legs
4. Breast well-supported with her fingers away from the nipple
5. Her fingers against her chest wall below the breast
    - Fingers supporting the breast
    - Thumb above the breast
    - Fingers not too near the nipple

Positioning:

1. Head and body in line
2. Held close to the mother's body
3. Whole body supported
4. Facing the mother's breast

Key Points for Proper Attachment in Breastfeeding

1. More areola should be seen above the baby's top lip.
2. Mouth should open wide.
3. Lower lips should be turned outwards.
4. Baby should approach breast, nose to nipple with the chin touching the breast.

Results of poor attachment

- Painful nipples
- Damaged nipples
- Engorgement
- Baby unsatisfied and cries a lot
- Baby feeds frequently and for a long time
- Decreased milk production
- Baby fails to gain weight

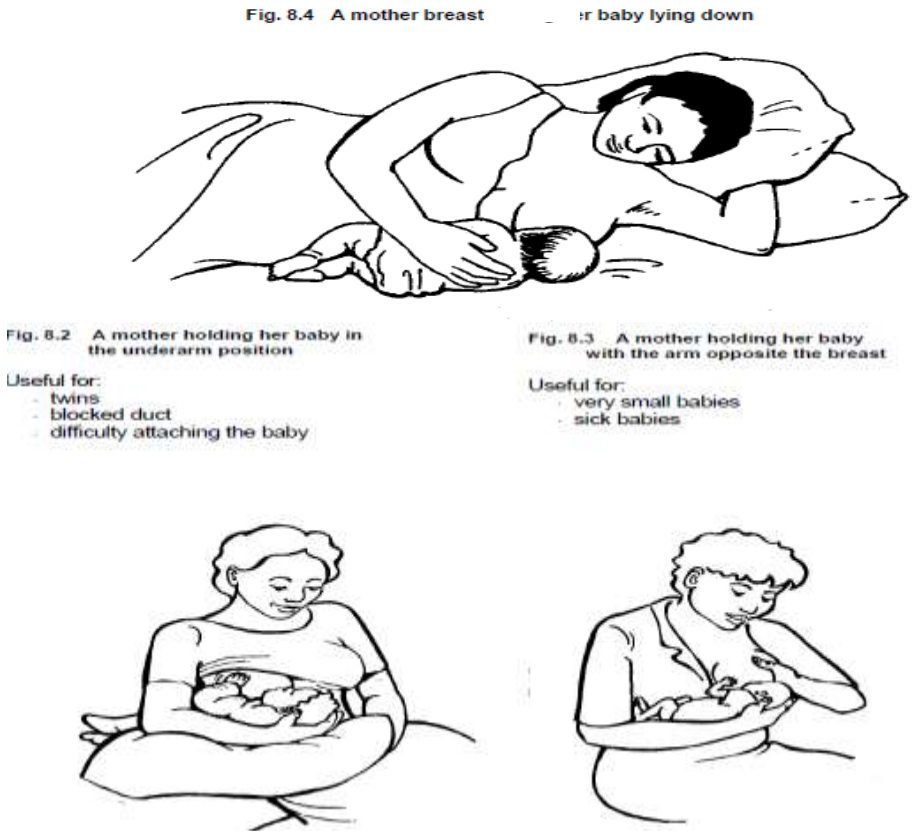


Figure 16: Breast feeding Positions

- Sitting position—mother should be relaxed, with her back supported and bringing the baby to her breast, not the breast to the baby.
- Lying position—this is useful for nighttime feeding and when the mother is sick (post-op).

Photograph exercise and Role play:

Role play on support for breastfeeding

Case 1: Support positioning the mother delivering in C/S for BF

Case 2: Support counseling on complementary feeding

1. Case 3. Counseling the mother on the 1st 1000 days for the purpose of prevention of stunting of the babies

3.5. Testing for HIV-exposed infant

Recommend and agree on HIV testing for the HIV-exposed newborn. Early diagnosis of HIV infection allows timely initiation of ART. Therefore, recommend and encourage parents/guardians to have their babies tested for HIV at 6 weeks of age or at first health care contact thereafter for:

- All children born to anchovy-positive woman
- All children who are breastfeeding from an HIV-positive woman
- All sick children in generalized epidemics where the mother's HIV status is not known or the mother is HIV-positive.

There are different kinds of HIV tests, and it is important to understand and be able to explain to the mother what the different test results mean. Refer to your national guidelines for infant testing options. Where ever available, dry blood spot (DBS) allows early testing including those residing in the peripheral locations.

HIV virological tests

HIV virological tests such as DNA or RNA PCR **detect the virus itself**. The virological test is done from the age of 6 weeks. It is also used as a confirmatory test for HIV for children below 18months.

Virological HIV testing is not routinely recommended immediately after birth, as it can only diagnose HIV infection acquired during pregnancy. It is important, however, to inform the mother early on that infant HIV testing services are available and when the infant should be tested. Because HIV progresses rapidly in infants and children, early diagnosis of HIV infection is crucial and. Timely interventions in infants are life- saving.

Refer to annex 3.2: Use of Dried Blood Spots (DBS) for DNA PCR.

HIV antibody (serological) tests

Serological HIV antibody tests including rapid tests detect antibodies, not the virus itself.

Babies of infected mothers are born with antibodies in their blood that have passed from the mother during pregnancy. During the first months of life, maternal HIV antibodies cannot be distinguished from those that the infant may have produced. Maternal antibodies

can persist in the child until the age of18 months. This means that serological test in children under the age of18 months is not a reliable way to check for infection of the child.

The older the child is, the more likely that the positive antibody test indicates the child's own infection and not that of the mother. For children > 18 months, a positive HIV antibody test result is interpreted to indicate that the child is HIV-infected.

Testing children under18 months of age

A virological test (PCR) is the only reliable method to determine the child's HIV status below 18 months of age. It detects the actual virus in the child's blood.

- **If PCR** or other **virological test is available**, test from 6 weeks of age
  - A **POSITIVE** result means that the child is **infected**, as it detects the actual presence of HIV in the child
  - A **NEGATIVE** result means that child is **not infected**, but could become infected if they are still breastfeeding.
- **If PCR or other virological test is NOT available, use a serological test**

Serological tests do not determine HIV status in this age group. This is because the test may detect antibodies that might have passed from them other through the placenta. Therefore a positive serological test may only tell you that the child has been exposed to HIV, rather than that the child is HIV-infected.

- A **POSITIVE** result means that the child has been **exposed to HIV**, but does not tell us if the child is definitely infected. Repeat test at 18monthsor once breastfeeding has been discontinued for more than 6 weeks.
- A **NEGATIVE** result usually means the child is **not infected**, but could become infected if they are still breastfeeding. A negative testis also useful because it usually excludes HIV infection from the mother, as long as the child has not breastfed for more than 6 weeks. Repeat test at18 months or once breastfeeding has been discontinued for more than 6 weeks.

Testing children 18months or older and their mothers

Use a **serological test**.

- A **POSITIVE** result means that the child or mother is **infected**.
- A **NEGATIVE** result usually means the child or mother is **not infected**.
- **In a high HIV setting, every child who is sick should be tested for HIV**.

Interpreting HIV antibody test results in a child < 18months of age		
HIV test result	**Breastfeeding status**	
	Not breast feeding or not breastfeeding the last 6weeks	Breastfeeding
Positive	Child is **HIV-exposed** Does not mean the child is HIV-infected Do virological test DNA-PCR, starting from 6 weeks of age. If PCR is not available, repeat antibody test at 18months.	Child i**s HIV-exposed** Does not mean the child is HIV-infected Do virological test DNA- PCR, starting from 6weeks of age. If PCR is not available, repeat antibody testat18 months.
Negative	**HIV-negative** Child is not HIV-infected	**HIV-negative** Child can still be infected by breastfeeding. Repeat test once breastfeeding has been discontinued for more than 6weeks.

Refer to annex 3.3: Algorithm for testing HIV exposed infants

[3]The older the child is, the more likely the positive HIV antibody result is due to the child's own infection and is not maternal HIV antibody.

Key points on HIV Test and follow up:

- Conduct virological testing (DNA-PCR) for HIV-exposed infants as early as 6 weeks of

age or at the first health care contact thereafter through 18 months of age, when an antibody test can be used.

- Refer for HIV care and ART initiation if an infant is HIV-positive on HIV virological test; or suspected of having presumptive severe HIV infection (positive antibody test under the age of 18 months and two of the following: oral thrush, severe pneumonia, unexplained severe malnutrition, severe sepsis).
- Also refer children above 18 months of age if HIV antibody test is positive
- Continue follow-up care for breastfeeding HIV-exposed infants with negative HIV virological or antibody test.

Exercise 5: PMTCT interventions for HIV positive women and HEI

Exercise on Postnatal Care of HIV positive mothers

Case 1

A mother has been on ART (TDF-3TC-EFV) starting from 36 weeks of gestation. In addition, she is taking co-trimoxazole prophylaxis. She gave birth to a 2 kg girl after a short labor, at38 weeks of pregnancy. She is here today for her postnatal visitat1 week. She had chosen to use breast-milk substitute but, upon returning home, she decided to begin breastfeeding after “a lot of pressure" put on her by her mother and mother-in-law, who do not know that she is HIV-positive. She sometimes provides her baby with breast milk substitute when she thinks the baby is not being "satisfied" by her milk. She is complaining today of some nipples soreness in her right breast. Her temperature is 37.6 ºC.

She had a negative RPR in her first and third trimesters of pregnancy. Her last hemoglobin, taken at 36 weeks gestation, was 10 g/dl. She is taking iron folate tablet daily. She and her husband always use condom.

1. What laboratory tests will you recommend today?

2. How would you counsel this woman about her infant feeding practice?

3. What advice will you give this mother about her nipple soreness?

4. What preventive care will you provide forth smother today?

5. What would you counsel about family planning?

Case 2

A woman comes to your clinic for a postnatal visit6 weeks after childbirth. She gave birth at your facility but had not received any antenatal care. She declined HIV testing during labour but then agreed to be tested after childbirth.

She is HIV-positive but did not take any ARVs. Her husband does not know his HIV status. He has come to the clinic with her today at her request, but you do not know if she has disclosed her HIV status to her husband. She has been exclusively breast feeding, but she plans to go to work again and does not know if she can continue to exclusively breastfeed. She has not yet resumed sexual relations since childbirth.

1. How will you manage talking about this woman's HIV status when you are not sure if she has disclosed to her husband?

2. What advice would you give this woman about feeding her infant?

3. What advice will you give this woman about family planning?

4. How will you **manage her HIV status?**

Case 3

A woman was told to be HIV-positive during her one ANC visit before giving birth at home 3 weeks ago. Neither she nor her baby received ARV drugs, and she wonders now if her baby should get the ARV drugs. She is exclusively breastfeeding and came to the clinic today complaining that part of her left breast is painful, swollen, and red and she does not feel well. You take her temperature and itis38.5 ºC.

1. What is the risk for MTCT of HIV to this baby?

2. What advice would you give the mother about her baby's ARV drugs? What else do you discuss with this woman with regard HIV care?

3. How would you manage her breast problem today

Exercise 6: HEI follow up and Care

Case 1:

A mother has brought her baby girl for consultation at 1 week of age. Her birth weight was 2 kg. The mother tells you that the baby was started on NVP 2 mg/kg at birth and she was told to continue giving it to the baby for 6 weeks. She wants to stop the NVP because she thinks it is making her baby sick. The mother was breastfeeding and providing a breast-milk substitute, but today she opts for replacement feeding. Her baby weighs 1.9 kg today and looks well. The baby has received OPV-0 and BCG at birth.

1. What vaccinations will you give the baby today?

2. How would you advise the mother about administering the NVP to her baby?

3. Does the baby need co-trimoxazole prophylaxis today?

4. What would you advise the mother about the baby's weightless?

5. When should this mother bring her baby for HIV-testing?

6. When should the mother bring her baby back for routine follow-up visit?

Case 2:

A mother brought her baby boy for his 6-week visit. His birth weight was 2.4 kg. Both parents are HIV positive but neither is taking any ARV drugs. They plan to use condoms during every sexual act. Her baby is not taking NVP. The mother plans to go to work again but would like to continue exclusive breast feeding. The baby weighs 3.2 kg today. You notice that the baby has oral thrush but otherwise looks well. You cannot find the baby's vaccination record and cannot see any indication of BCG scar.

1. How would you treat the baby for his HIV exposure?

2. What advice would you give the mother about her baby's oral thrush?

3. What advice would you give the mother about co-trimoxazole prophylaxis?

4. What vaccinations would you offer today?

5. What can you advise the mother about the baby's weight gain?

6. What would you counsel the mother about breastfeeding?

7. When would you advise the mother to bring her baby for HIV- testing?

8. When should the mother bring her baby back for routine follow-up visit?

Case 3:

A woman gave birth 4 days ago to a 3.2 kg girl. The mother took ART for the last 8 weeks of pregnancy and during labour. The baby is still receivingNVP4 ml per day. The mother has come to the clinic with complaints of sore breasts. She is exclusively breastfeeding, but has breast engorgement and was treated byte health care worker. The baby weighs 2.5 kg today. The baby has received OPV-0 and BCG at birth.

1. Is the dose of the AR drugs correct for the baby?

2. How long should the baby continue to take NVP?

3. What vaccinations will you recommend today

4. What would you advise the mother about the baby's weight loss? Discuss likely reason for the baby's weight loss?

5. What signs might tell you that the baby's weight loss might be associated to feeding difficulties?

6. When would you advise the mother to bring her baby for HIV- testing?

7. When should the mother bring her baby back for a follow-up visit?

SESSION 4: FAMILY PLANNING COUNSELING AND SERVICES FOR HIV POSITIVE WOMEN

Learning objectives:

By the end of this section you will be able to:

- Explain the rights of client for choice of family planning
- Demonstrate the application of various methods of FP
- Describe the side-effects family planning methods
- Describe drug-drug interactions of family planning with ARV
- Counsel best options for HIV positives women

Competencies

- Communication/Counseling on FP
- Demonstration and practice of different FP methods used for HIV positive women

Session Outline

Content	Methods	Duration
Providing family planning counseling	Reading and discussion	20 minutes
Short term and long term FP methods, effectiveness and consideration in HIV+ women	Reading table and discussion	20 minutes
FP methods consideration in HIV Positive women including Drug-drug interactions	Discussion, drill and Exercise (True or false/case studies)	20 minutes
Application of long term FP	Video clip	10 minutes
Condom application (Optional) if not done in module 1, ANC and counseling on methods of FP for HIV positive women	Demonstration and practice and Skill station on counseling on FP methods	20-minutes

In providing family planning counseling, providers should:

- Respect the right of all women, regardless of HIV status, to decide the number and timing of children
- Encourage dual protection (using two forms of contraception where one should be a condom).
- Provide condoms wherever possible and refer clients to a convenient affordable source
- Provide integrated FP/HIV and STI services at all levels of care
- Offer information about prevention and HIV counselling and testing
- Counsel men and women who know they are positive, assisting them to make well-informed decisions

The following tables describe available contraceptive methods.

Table 26: Short-term family planning methods available at the health center level

Method	**How to use**	**Effectiveness (pregnanciesper100 women)**	**Common side-effects**	**Considerations if HIV-positive**
Male condom	Use every time you have sex	Highly effective when used correctly each time(2pregnancies/ year) Less effective as commonly used (15pregnancies/year)	None	Condoms are the only contraceptive method that protects against STIs and HIV
Female condom	Use every time you have sex	Effective when used correctly each time (5pregnancies/year) Less effective as Commonly used (21pregnancies/year)	None	Condoms are the only contraceptive method that protects against STIs and HIV

Oral contraceptive pills	Take pill everyday	Highly effective when used correctly (<1pregnancy/year) Less effective as Commonly used (8pregnancies/year)	Menstrual changes, spotting, headaches, nausea	HIV-positive women and women on ART should use pills in combination with condoms (dual protection)
Injectable	Get an injection every1,2, or3months	Highly effective when used correctly (<1pregnancy/year) Less effective as Commonly used (3pregnancies/year)	Spotting initially, then no bleeding	HIV-positive women and women on ART should use injectables in combination with condoms(dual protection)
Emergency contraceptive pills	Take within 5daysafter condom breakage/ other unprotected sex	Reduceschancesofpregnancyfromthatoneactofunprotectedsexto1/4or1/8of chances if not used	Nausea	Not as effective as other methods for regular use

Table 27: Long-term family planning methods available in health centers or referral Implant, IUD, vasectomy, female sterilization

Long-term family planning methods	
Implant, IUD, vasectomy, female sterilization	Provide long term, highly effective contraception (<1pregnancyper 100 women per year) and can be used by women with HIV. Vasectomy and female sterilization are permanent methods for couples or women who know they will not want more children. Use in combination with condoms for dual protection. These methods require a procedure performed by healthcare provider.

[1]*Medical eligibility criteria for contraceptive use*, WHO, 20

CONSIDERATIONS ABOUT USE OF FAMILY PLANNING METHODS BY WOMEN LIVING WITH HIV

Women living with HIV **can use most methods of family planning**. This includes hormonal methods, such as the pill and injections.

All family planning methods can be used except:

Spermicides or diaphragms or caps with spermicide should not be used by women living with HIV/AIDS.

An **IUD** should not be *inserted* in a woman with gonorrhea or chlamydia, or if a woman is at high individual risk of these infections. Women with HIV or successfully treated AIDS can have an IUD inserted. If woman who has an IUD develops HIV infection or an STI, the IUD can stay in place. It does not have to be removed while the infection is being treated.

Women taking ARV or TB medications can use hormonal contraceptives (pills or injections) EXCEPT:

- Certain medications can reduce the effectiveness of the pill and other hormonal contraceptives. If a woman is taking **rifampicin or rifabutin**, or an **ARV with ritonavir**, she should not use pills. She can, however, **use 3-month or2-month injectable** (i.e.Depo-Provera or NET-EN) if taking these medications. If she does not want to use a different contraceptive method, she should be encouraged to use condoms along with pills for extra protection against pregnancy. (refer to annex 3.4)

Drill exercise 7: (drug-drug interactions, advantage and disadvantage of some FP supplies in the context of HIV)

Exercise 8: True or false and case studies

State true or false for the following statements

1. _____HIV-positive postnatal women do not need to use condoms if they are exclusively breast feeding, because they are protected from conception by Lactational amenorrhea method (LAM).
2. _____An HIV-positive woman will need to use condoms, in addition to another chosen family planning method, to protect herself and her partner against STIs.

3. _____Women with HIV or successfully treated AID Scan have an IUD inserted.
4. _____All HIV-positive women should use spermicides to increase the effectiveness of family planning method they are using.
5. _____If a woman is on ARVs, she can use the pill, unless her ARV contains ritonavir, which can reduce the effectiveness of the pill

Case studies: Write short answers in the space below each question

1. An HIV-positive woman comes to your clinic for postnatal visit2 weeks after childbirth. She is not breastfeeding and is wondering if she could start a family planning method today. Which family planning methods are safe for this woman?
2. An HIV-positive woman comes to your clinic,6 weeks after child birth, for a postnatal visit. She is exclusively breast feeding, has not yet had her menstrual period. Her baby is sucking normally, both day and night. She wants to begin having sex and does not want to become pregnant. What will you advise her about family planning options?
3. An HIV-positive woman comes in forher1weekpostnatal visit. She has TB and is taking rifampicin. She is not breastfeeding. After much discussion, she and her husband have decided that they do not want any more children foratleast3 years. Your
4. Patient likes the progestin-only pills, which she used after her last pregnancy. She is wondering if she could begin using this method again today. How will you respond?

Skill station:

Practice on condom application (if not done in module 1)

Conduct role play on family planning counseling in the context of HIV infection

MODULE FOUR

MONITORING AND EVALUATION IN PMTCT

MODULE IV: MONITORING AND EVALUATION (M & E) in PMTCT

Outline

Section 1: Introduction

1.1 Goals

1.2 Learning objectives

1.3 Target Audience

1.4 Core competencies

Section 2: Introduction to Monitoring and Evaluation, Health Management Information System, Indicators

2.1. Learning objectives

2.2. Training methods

2.3. Core competencies

2.4. Definitions

Section 3: Recording data

3.1. Learning objectives

3.2. Training methods

3.3. Core competencies

3.4. Recording data in cards, registers and report forms

Section 4: Reporting Process

4.1 Learning Objectives

4.2 Training methods

4.3 Core competencies

4.4 Reporting by type and period, and reporting channel

Section 5: Data Quality

5.1 Learning objectives

5.2 Training methods

5.3 Core competencies

SECTION 6: Performance Evaluation: Using Data for Decision- making and Program Planning

6.1 Learning Objectives

6.2 Training methods

6.3 Core Competencies

6.4 Putting it all together

SECTION 7: CONTINIOUS QUALITY IMPROVEMENT (CQI)

7.1. Learning Objectives

7.2. Training methods

7.3. Core Competencies

Session 1: Introduction

Maternal new born and child health (MNCH), including prevention of mother to child transmission (PMTCT) being one of the most important health sector programmes, needs to have an effective M&E system. Data collected from the health management information system (HMIS) should be used not only for the sake of reporting to a higher level, but also for informed decision-making at various levels to support continuous service quality improvement. To this effect, service providers and programme managers actively involved in PMTCT/MNCH programme should be equipped with knowledge and skills in M&E.

This module is designed to enable participants to recognize the role of health care service providers in monitoring and evaluation of PMTCT/MNCH programs and to familiarize them with the PMTCT/MNCH-related reporting and registration formats used at the health facility level.

1.1 Goals

This M & E training module will teach PMTCT/MNCH health care providers about their critical role in monitoring and evaluating PMTCT/MNCH programs. Trainees will learn about the PMTCT/MNCH cards, registers, and forms, how to complete these forms/ registers and how to use the PMTCT/MNCH data to maintain continuous quality improvement, to evaluate and improve performance, and how to use their facility data to aid program planning.

1.2 Learning Objectives:

Participants will learn to:

- Define monitoring, evaluation, indicator
- Describe the importance M&E in providing effective public health programs
- Describe the PMTCT program cycle
- Identify the national MNCH/FP/PMTCT indicators
- Discuss the purpose of global, national and facility level indicators
- Describe the HMIS registers and cards used for MNCH/PMTCT program
- Describe the role of the health care provider and HMIS person(s), facility heads/ medical director and facility performance team, PMTCT coordinator at woreda, regional health bureau and FMOH in monitoring an MNCH/PMTCT program at respective level
- Identify gaps in PMTCT care and learn how to take corrective action and use data for future planning

1.3 Target Audience:

PMTCT service providers, PMTCT focal person, facility director and facility Performance Team members, Woreda health office, RHBs, FMOH,

1.4 Core competencies

Participants will:

- Describe the meaning, function, and main components of M&E
- Demonstrate competency in completing PMTCT registers, cards and forms.
- Identify commonly practiced gaps in the registers and describing appropriate corrective action.
- Demonstrate how to complete summary reporting forms correctly.

Describe how to assure continued linkages to care for the mother baby cohort in the PMTCT cascade

Session 2: Introduction to Monitoring and Evaluation

PMTCT service is integrated within the maternal, new born and child health (MNCH) programme. Integration in this case entails bringing together MNCH and PMTCT service delivery to ensure that critical interventions to prevent, detect, and treat HIV infection are incorporated within the package of MNCH services for pregnant/ laboring lactating women, their infants, children, and their families. Traditionally, PMTCT service is delivered in ANC sites and ART is delivered at ART sites using separate M&E systems and tools that typically do not link women across service delivery areas effectively. Given that Option B+ requires ART service integration into the MNCH platform, and the M&E systems for ART care, MNCH and PMTCT service are now integrated for care, follow up and accurate reporting.

Thus this training package aims to introduce the HMIS/M&E reporting procedures and tools used for the MNCH/PMTCT and ART programmes and provide detailed step by step instructions on how to complete these tools, ensure data quality and use routine data to improve performance management, ensure evidence based decision making and support efforts in continuous quality improvement (CQI).

2.1. Learning objectives:

Participants will describe:

- The definitions of monitoring, evaluation, Health Management Information System(HMIS), indicators
- The basic components of monitoring and evaluation
- Why M&E is a critically important tool for identifying gaps, improving health care quality, assuring continuous quality improvement, and facilitating evidence based decision making and program planning in PMTCT program
- Why it is important for everyone in the PMTCT team to have a role in M&E; the M&E roles of each member of the PMTCT team at each level (health facility, woreda, RHB, and Federal Ministry of Health).
- Use dashboard to monitor PMTCT performances

Session Outline

Activity	Topic	Time	Methodology
A	Introduction to M&E	10 minutes	Discussion
B	Definitions of Monitoring, Evaluation, indicators	45minutes	Reading, Q&A, Discussion
C	Introduction to HMIS	45 minutes	Reading, Discussion and Illustrated presentation
D	HMIS Indicators for PMTCT	40 minutes	Discussion and Q&A
E	Summary	10 minutes	Wrap-up

Definitions

Monitoring is the regular collection, tracking, and reporting of key program data.

Monitoring

- Involves regular tracking of data of the program,
- Allows the prompt detection and correction of performance problems and thereby improves the quality of health services,
- Assures data quality and accuracy and provides a basis for program evaluation,
- Supports efficient and effective use of programme resources.
- Requires standardized variable definitions, case definitions, and cards, registers and forms
- Standardize data recording and reporting
- Should be conducted continuously and systematically

Evaluation: an analysis of program/project data to which measures results and assesses program impact

Evaluation:

- Measures trends over time,
- Compares observed outcomes to previously established targets
- Identifies program areas that need improvement or changes
- Measures program outcome and impact (program & client)
- Informs decisions about future resource allocation
- Looks at the "big picture "
- Should be conducted systematically and periodically

Health Management Information System (HMIS)

Health Management Information System (HMIS) is a system for collection, compilation and analysis of routine health service data. It is an important tool in conducting monitoring and evaluation of health programs such as PMTCT. Regular systematic review of data collected by HMIS can assist health workers, facility medical directors and Performance Teams, program managers, planners, policy makers and other PMTCT stakeholders in evidence-based program planning and continuous quality improvement...

Health Information System (HIS) is "a system that provides specific information support to the decision-making process at each level of an organization." (Hurtubise, 1984)

The purpose of HMIS is to routinely generate quality health information and use that information for management decisions to improve the performance of health services delivery.

Indicator is **a** variable that evaluates status and permit measurement of changes over time.

Indicators:

- Are variables which reveal the health status of a population
- Signal the status or progress towards programme implementation
- Signal success or failure in achieving a set objective or goals
- Provide a valid and reliable way to measure achievement, assess performance, and reflect changes in health status due to an intervention.
- Measure key aspects of program and must therefore be narrowly defined to measure specific aspects as precisely as possible.
- Demonstrate whether outcomes such as Mother-to-child transmission rate and ART coverage have changed
- Show whether the program is meeting targets such as the number of pregnant women counseled and tested for HIV.
- Flag the need for corrective management action
- Evaluate the effectiveness of various interventions or aspects of a program.
- Should be established for each significant program element
- Can be established at the global, national, regional, woreda and facility level.

Global or worldwide indicators are estimated from *national* indicators reported by individual countries to the WHO and other entities. They reflect the current *worldwide* situation specific to a given health problem.

- **National indicators**: address key steps of a cascade in a national public health program. National indicators assess the effectiveness of a public health program in a nation. Regional Health Bureaus produce national indicator data.
- **Regional indicators**: address the key steps of a cascade in a regional public health program. Regional indicators assess the effectiveness of a public health program in a region. The data for regional indicators are provided by woreda, zonal health departments, and by regional hospitals.

- **Woreda or zonal regional indicators**: address the key steps of a cascade in the woreda or zonal public health program. Regional indicators assess the effectiveness of a public health program in a woreda or zone. The data for woreda or zonal indicators are provided by health facilities.
- **Health facility indicators:** address the key steps of a cascade in the facility's public health program. Health facility indicators assess the effectiveness of a public health program in the health facility. The data for the health facility indicators are provided by individual health care units which are part of the aggregate national data element through the HMIS reporting tool.

Note: Of 122 selected HMIS indicators to monitor and evaluate the health programmes of Ethiopia, 36 indicators are related to MNCH/PMTCT: 13 maternal health, eight PMTCT and 15 child health indicators (Indicator definitions, descriptions of these indicators and details of how they are calculated are available in the revised Health Management Information System Indicator Definition 2014, FMoH.)

The data reported by individual health providers are essential for determining accurate indicators at the woreda, zonal, regional, national and ultimately global level.

- It is important to document data correctly, promptly, and legibly.
- Indicator data provided by the facility and the health providers are the backbone and essential core of any woreda, zonal, regional, national, or global indicators.

List of National PMTCT indicators:

1. Percentage of pregnant and lactating women tested for HIV and who know their results
2. Number of HIV Positive pregnant and lactating women who received ART at ANC+L&D+PNC for the first time based on option B+
3. Number of HIV-positive pregnant women who were on ART and linked to ANC
4. Percentage of HIV infected women on HIV care & using a modern FP method
5. Percentage of infants born to HIV infected women receiving a virological test for HIV within 12 months of birth
6. Percentage of Infants born to HIV-infected women started on co-trimoxazole prophylaxis within 12 months of birth
7. Percentage of infants born to HIV-infected women receiving antiretroviral (ARV) prophylaxis for prevention of mother-to-child transmission (PMTCT)
8. Percentage of HIV exposed infants receiving HIV confirmatory (Ab) test by 18 months

List of indicators

1. Percentage of pregnant, laboring and lactating women tested for HIV and who know their results in the facility, this can be calculated per unit or can be calculated for the facility or at different level.
    - Denominator: Total # of estimated pregnant (Eligible) during the reporting period
2. Number of HIV positive pregnant, laboring & lactating women identified in the reporting period (new & known)(Data Element, not indicator)
3. Number of HIV Positive pregnant, laboring and lactating women who received ART at ANC+L&D+PNC for the first time based on option B+ in the reporting period
4. Number of HIV-positive pregnant women who were already on ART when linked to ANC in the reporting period
    - Denominator: Total # of estimated HIV positive of pregnant (Eligible) during the reporting period
5. Percentage of HIV infected women on HIV care & using a modern FP method
    - Denominator: # of HIV+ women eligible for modern FP = # of HIV+ women identified (those on FP options from in ANC/PMTCT, pre ART, on ART over the total HIV positive women cumulative)
6. Percentage of infants born to HIV infected women receiving a virological test for HIV within 12 months of birth
    - Denominator: Estimated HIV exposed infant's (eligible) within 12 months of birth during the reporting period
7. Percentage of Infants born to HIV-infected women started on co-trimoxazole prophylaxis within 12 months of birth
    - Denominator: Estimated HIV exposed infant's (eligible) within 12 months of birth during the reporting period

8. Percentage of infants born to HIV-infected women receiving antiretroviral (ARV) prophylaxis for prevention of mother-to-child transmission (PMTCT)
    - Denominator: Total # live births (HEIs) from estimated HIV+ pregnant women during the reporting period
9. Percentage of HIV exposed infants receiving HIV confirmatory (Ab) test by 18 months
    - Denominator: Total # live births (HEIs) from estimated(eligible) HIV+ pregnant women during the reporting period
10. Percentage of HIV infected infants identified with positive virological test within 12 months of birth

    Denominator: Total # live births (HEIs) from estimated HIV+ women during the reporting period. NB: Currently not indicator of PMTCT and not reportable. Efforts will be made to include in the future
11. Percentage of pregnant & lactating women for whom partner HIV testing performed

    Denominator: Total # of pregnant women estimated (eligible) during the reporting period

    NB: Currently not indicator of PMTCT and not reportable. Efforts will be made to include in the future

Session 3: Recording data

3.1. Learning objectives

Participants will learn to:

- Describe the PMTCT-related cards, registers and forms used in facilities
- Describe the purposes of the following documents and demonstrate how to complete them properly:
  - The Integrated MNCH card (ANC, L&D, NB and PNC)
  - Woman's card
  - The HIV Care formats: ART intake form & HIV care treatment follow up,
  - HIV exposed infant follow up card,
  - PMTCT register,
  - ANC Register
  - Delivery Register
- Describe where the cards, registers and report forms are located and who is responsible for completing them
- Describe where to find the data to complete these documents and how to record data properly and how to assure data quality in PMTCT register
- Describe the responsibilities of the health care workers, HMIS worker, facility manager/ medical director, and performance team in assuring data quality

3.2. Training methods

- Readings from Participant's manual, class room formats and registers description demonstration,
- Practical group exercises–on Cases,
- Facility attachment to learn how the MBPCF register is used

The facilitator will present several brief PMTCT patient scenarios/case reports, and ask participants to correctly identify where to document the PMTCT data provided in each case scenario, practice entering the data in the correct documents.

Participants submit the completed documents to the facilitator and the facilitator will shuffle and randomly distribute the documents back to participants to review, comment/ correct and discuss as a group. Participants will identify any data gaps, erroneous or incorrect data entries or non-standardized documentation and discuss strategies to obtain correct data entry. The use of standardized abbreviations/ codes and legible handwriting will be emphasized.

The facilitator will summarize report forms and registers and explain the correct way of completing major areas.

3.3. Core competencies

Participants will:

- Describe the various PMTCT cards, registers and forms and their uses
- Demonstrate mastery of appropriate legible data entry using a standardized coding in the correct document(s).
- Describe strategies to assure data quality
- Demonstrate mastery of identifying data gaps and clear data errors in cards, registers, and forms & describe appropriate interventions to fill data gaps and correct illegible, erroneous, or incorrectly entered data
- Identify responsibilities for data entry and data quality control at the facility.
- Describe the flow of PMTCT data:
    a) Through the health facility (from the health care provider to the HMIS focal to the facility medical director and Performance Team); and
    b) From the health facility HMIS data entry clerk to the woreda/zone/regional health bureaus, and the Federal Ministry of Health (FMOH)
    c) Demonstrate how to complete the indicators in the summary dashboard report forms for managers and facility level indicators for performance monitoring,

Session Outline

Activity	Topic	Time	Methodology
A	Introduction	10 minutes	Discussion
B	Discuss on the different type of recording tools, formats & registers	60 minutes	Q&A Illustrated presentation
C	Exercise on filling the ANC, L&D and PNC registers	60 minutes	Discussion Group exercises
D	Discuss on PMTCT register and peculiar ART formats Exercise on filling the PMTCT register	1 hour &40 minutes	Reading and discussion
F	Summary	10 Minutes	Discussion

3.4. Recording data in cards, registers, and report forms

The quality of recording data is essential to conduct monitoring and evaluation. Health care providers should

- **Understand** the data to be collected in each card, register and report forms.
- **Record the data every time** on the appropriate form each time you perform a procedure- see HIV-positive mother, prescribe ART drugs, receive a test result, provide a referral, or engage in any other PMTCT/MNCH activity. This includes tally for repeat visits.
- **Record all the data** and the requested information on the M&E forms/ registers. When service is not provided, leave blank.
- **Record the data in the same way every time** using the same definition, the same rules, and the same tests for reporting the same piece of information over time. When the tests and definitions change because of new treatment guidelines and technologies and when it is not possible to record the data in the same way; make a note that describes the change.

Table 28: Summary of PMTCT cards, forms, registers

S.N.	Types	Where to get	Who completes it
	Cards and forms		
1	Integrated Antenatal, Labor, Delivery, Newborn, Postnatal care card	Facility card room	• Provider at ANC/ PMTCT, PNC unit, • Provider at L&D
2	HIV exposed infant follow up card	PMTCT room	• Initial at L&D, • Provider at ANC/ PMTCT, PNC
3	ART Intake form	ART or PMTCT room	Provider at ANC/ PMTCT, PNC unit
4	HIV/ART chronic care follow up form	ART or PMTCT room	Provider at ANC/PMTCT, PNC unit
5	Women's card	Facility card room	Provider at ANC/PMTCT, PNC unit
6	Transfer out form	ANC/PMTCT room	Provider at ANC/PMTCT unit
	Registers		
7	ANC Register	ANC room	Provider at ANC unit
8	L&D Register	L&D ward	Provider at L&D
9	PMTCT Register for Health Centers and Hospitals (mother baby pair cohort register)	ANC/PMTCT room	Provider at ANC/PMTCT, PNC unit, Provider at L&D unit*
10	Postnatal Register	PNC room	Provider at PNC unit,
11	Family Planning Register	FP room	Provider at FP unit,
12	DNA PCR specimen tracking logbook	ANC/ PMTCT room	Provider at ANC/ PMTCT
	Lab request forms		
	CD4 request forms	ART/ PMTCT room	Provider at ANC/PMTCT
	DNA PCR request forms	ANC/PMTCT room	Provider at ANC/PMTCT
	Reporting forms		
13	Monthly HMIS reporting forms	ANC/ PMTCT, PNC room,	Provider at ANC/ PMTCT, PNC unit,

		L&D room,	Provider at L&D unit,
14	Cohort reporting form**	ANC/ PMTCT room	Provider at ANC/ PMTCT unit,
15	PMTCT appointment & LTFU Tracking logbook***	ANC/ PMTCT room,	Provider at ANC/ PMTCT unit
16	PMTCT Dashboard ****	Office of the health facility Head	• Provider at ANC/PMTCT unit, • HMIS focal, • Performance Improvement team,
17	PMTCT facility performance indicators follow up form*****	ANC/ PMTCT unit,	Provider at ANC/ PMTCT unit,

Key:

**Providers at L&D unit are responsible for linking New HIV+ women identified at L&D and already known to the PMTCT unit and ensure the registration on the PMTCT register including registration of HEI data including NVP in the MBPCF register,*

***The Cohort reporting form is to be completed periodically by ANC/ PMTCT unit,*

****The PMTCT appointment and LTFU tracking logbook is to be prepared by the ANC/ PMTCT unit. HIV+ women missing their appointments or got LTFU will be identified and tracked using the logbook.*

*****The PMTCT Dashboard is used by managers to follow the PMTCT performance using selected priority indicators that change through time.*

******The PMTCT performance indicator is posted at ANC/ PMTCT unit depicting the monthly achievement against the expectation/ target.*

MNCH/ PMTCT related formats & cards:

Participants will be provided with copies of each card, form, & register to be well acquainted with them.

1. **Integrated Antenatal, Labor, Delivery, Newborn & Postnatal care card**

The Integrated ANC, L, D, NB & PNC card is a longitudinal client card used to document important information for a woman's current pregnancy and includes the ANC, delivery, and postpartum care data. This card documents the booking date, the woman's medical history, physical examination and laboratory results. In addition, the card contains data that the provider calculates or estimates like the estimated delivery date (EDD) & gestational age (GA). Data on HIV status, partner testing, TT status, delivery outcome with intervention are available in this card. Providers complete this integrated card at each focused clinical visit.

Data from this card will be transferred & registered on the ANC, PMTCT, L&D and PNC registers.

2. **Woman's card**

The Woman's card documents the previous obstetrics history and/or comprehensive abortion care services and physical examination for women who receive family planning services (usually post-partum) & Tetanus Toxoid vaccination status. Data from the Woman's card can also be transferred to the Family planning register, safe/post abortion register & TT immunization registers.

3. **ART intake form (2-page):**

The ART intake form, taken from the ART service, contains baseline information for each patient enrolled into HIV care (PMTCT/ART program). The ART intake form should be completed for all HIV+ women initially at time of enrollment in the ANC/PMTCT clinic. The ART Intake form captures socio-demographic information, the patient's past and present medical history, physical examination results, lab results, WHO staging, information on any counseling sessions and the case management plan. It also captures history of treatment – Anti-TB, CPT & IPT.

4. **HIV care/ART follow- up form:**

The HIV care/ ART follow-up form is a longitudinal follow up form taken from the ART service and is used to document HIV care progress. The provider should complete this form at every visit.

5. **HIV Exposed infant follow- up form**

The HEI Follow-up form contains basic information/ data on the infant born to an HIV+ mother (HIV exposed infant) and the care provided until the infant is either finally declared HIV free at 18 months of age or when breastfeeding stops, or when the infant is determined HIV infected and transferred to ART care & treatment. At every HEI follow up visit, the provider should document the following data in the HEI Follow-up Card: the ARV prophylaxis provided, infant feeding practiced, growth pattern, developmental milestones, administration of co-

trimoxazole, and HIV status (DNA PCR &/or antibody testing) and any clinical conditions &/or treatment given.

MNCH/PMTCT related Registers:

1. Antenatal Care (ANC) Register

The ANC register is a longitudinal register that lists all women enrolled in ANC at a health facility and documents the dates and results of the recommended four ANC visits. The service provider enters data at the time of each ANC clinic visit. For clients with more than four visits, register the specific information relevant to the recommended period/ gestational age on the specified space of the register. Data for this register can be abstracted from the integrated MNCH card.

Note: Record the first ANC visit of the current pregnancy in the raw where her GA applies at the time of her visit.

Subsequent repeat visits should be recorded on the respective rows of her initial registration. Provider should tally repeat (2^{nd} to 4^{th}) ANC visits on respective places of daily tally sheet.

The data that can be extracted from this ANC Register are numbers of First ANC Visit, Fourth ANC visits, women screened for syphilis, women who received HIV test results and HIV positive women.

The ANC tally sheet is used to summarize data collected from four ANC visits and including syphilis screening.

2. Delivery Register

The Delivery Register is a case registry found in the delivery room that lists and summarizes data for all women who gave birth at the facility. The Delivery Register includes summary information for calculating delivery indicators. The provider should complete the Integrated MNCH card at the time of service provision, and transfer data to Delivery Register. Documenting **date** & **time** of delivery both at the MNCH & Delivery register is very important.

The delivery register provides information on numbers of deliveries attended, deliveries by type, women who received an HIV test, HIV+ women & outcome of babies & mothers.

3. Postnatal care (PNC) Register

The PNC Register lists all clients receiving postnatal services at the health facility. The main row has three sub rows. Each sub row should contain data from a single PNC visit. The service provider completes the PNC Register at the time of service. The service provider can complete the PNC register by abstracting data from the Integrated MNCH card. Note: The PNC Register includes data for women who received postnatal care at least once in the first 42 days after delivery. However, the first PNC visit should occur within the first seven days after delivery. The first seven days of PNC care should be disaggregated as PNC within 48 hours, PNC from two to three days (48 hours to 72 hours), and PNC from three to seven days after delivery.

The PNC register contains data like numbers of first visit (in the first seven days after delivery, disaggregated as: within 48hrs, 2-3 days and 3-7 days after delivery), Newborn death in the first week of life, HIV tests performed & HIV+ women.

4. Family Planning Register

The Family Planning Register is a longitudinal register that provides a one-year follow up data for a single client. After the year is completed, the client is registered again in the same registration book as new. Service providers should complete the register at the time of the FP service visit.

HIV+ women shall be linked/ provided with FP service at postpartum preferably at 6 week by MNCH /FP or ANC/PMTCT service providers

5. PMTCT register

The main rationale for preparing PMTCT register is to follow the mother & infant born to HIV+ women during pregnancy, labor & breast feeding providing continuum of HIV care & treatment for the mothers and baby (HEI) in the MNCH platform until the baby is declared HIV free.

The PMTCT register

- Is a longitudinal register used to document follow-up data on HIV positive pregnant and lactating women and their HIV exposed infants (HEIs), i.e., mother- baby in pair.
- Enabling providers to follow HEIs until discharged HIV free by 18 month of age.
- Helps providers to identify mother-baby cohorts that have been lost-to- follow up and act/ intervene- trace.
- Replaces the ART & Pre-ART registers and the HEI follow up register of the ART clinic.

Providers shall extract data/ information from the following formats and register on the PMTCT register: Integrated Antenatal, L&D, Newborn & PNC card, ART intake form, HIV care follow up form, Women's card and HIV exposed infant follow up form. These sources of information are listed below.

5.1. Integrated Antenatal, Labor, Delivery, Newborn & postnatal card is themain carriage of information for PMTCT as it is used in the three service areas, namely ANC, L&D and PNC services. It includes the following information:

- Client ID: MRN number, name, address
- Booking date
- Age, gravidity, parity, LMP, EDD, GA
- HIV status- known, new
- ANC data- TT status, Fe SO4, danger signs, VDRL result
- Partner test at ANC, L&D
- Date ART started for mother, gestational age at ART initiation, ART regimen
- Date of delivery, delivery outcome, ART provision at L&D
- Status of the baby & provision of ARV prophylaxis for NB
- Infant feeding option implemented
- Family planning counseled and provided

5.2. **Women's Card** contains the following data:

- TT status
- Obstetrical history, Abortion care
- FP counseling administered
- FP method selected &/ or method provided

5.3. **ART Intake form (2 pages)** contains the following data:

- Patient's address, emergency contact person's address
- HIV positive status: new, known
- Initial WHO staging
- History of TB, screening and treatment- INH prophylaxis, TB treatment, CPT
- Socio economic conditions
- Adherence concerns
- Date ART started and the ART regimen prescribed

5.4. **HIV Care/ ART Follow-up form** contains the following information:

- Mother's unique ART number (UAN)
- Date ART started
- Type of maternal ART regimen, dose,
- Six monthly CD4 results
- Adherence status to ARVs
- Screening for TB, OIs,
- Maternal preventive therapies- CPT, INH, start date
- Retention to the program (PMTCT/ART)

5.5. **HIV Exposed Infant (HEI) Follow-up card** contains the following data:

- Identification of the HEI,
- Maternal ARV coverage, type & duration
- Infant ARV prophylaxis, type & duration
- Infant immunization status

- Age in weeks the HEI began CPT
- Age in months the EID (HIV DNA/ PCR) DBS specimen collected, result (DNA/ PCR test)
- Infant feeding practiced (breastfeeding or other)
- Clinical condition of the HEI- Growth, development, nutrition, OIs, medication,
- Date the HIV infected infant (HEI determined to be HIV infected with Positive DNA PCR result) referred to ART care,
- Retention in HEI care and follow up
- Rapid antibody test result/ Infant outcome at 18 months

Data elements for the PMTCT register

Number of pregnant women tested and who know their results during pregnancy: This number is basically collected from the ANC register during the specified period. It includes those mothers who already know their HIV+ status, and those mothers who were tested during this pregnancy and know their HIV status.

Number of pregnant women tested and who know their result during labour & delivery: Collect this number from the delivery register. Include pregnant women who were tested during L & D and were informed of their results during L&D plus those pregnant women who already knew their HIV+ status at delivery.

Number of women tested and who know their result during the postpartum period: Collect this number from the PNC register and include lactating/ postpartum women who were tested and who knew their HIV status after delivery including those with already known HIV+ status.

Number of women tested positive for HIV: Collect this number from three registers: ANC, L&D and PNC. This number is a summary of all patients identified at ANC, L&D and PNC, and all those with already known HIV+ status. Practically the PMTCT register should contain exact number of HIV+ women identified in all service outlets during the reporting period, bringing all HIV+ women into PMTCT follow up(mother baby pair cohort register is very essential. Registering them in the booking date and follow the mothers to start taking AR and the standard services in the given time through good counseling is expected from PMTCT service provider).

Number of HIV positive pregnant women who received ART to reduce the risk of mother to child transmission during ANC for the first time: Collect this number from the PMTCT register. Include HIV+ pregnant women who began ART after they enrolled in ANC and were referred for PMTCT. Do not include HIV+ pregnant women who were already receiving ART before pregnancy.

Number of HIV positive pregnant women who received ART to reduce the risk of mother to child transmission during L&D for the first time: This number is collected from the PMTCT register and includes those HIV+ pregnant women who first started ART during L&D for PMTCT. This number does not include those HIV+ pregnant women already on ART.

Number of HIV positive pregnant women who received ART to reduce the risk of mother to child transmission during PNC for the first time: This number is collected from the PMTCT register, and includes HIV+ lactating women who begin ART post-partum after they enroll in PNC/ PMTCT for their babies continue breast feeding. This does not include those HIV+ lactating women who were already on ART pre-pregnancy*****.

Number of HIV-positive women who got pregnant while on ART & were linked to ANC: This number is still collected from the PMTCT register. It includes those HIV+ women who started ART before pregnancy outside from ANC/ PMTCT setup. These mothers are linked to ANC/PMTCT through transfer out format written from ART unit. The ANC/PMTCT unit will transfer-in her in the integrated MNCH/PMTCT or MBPCF register and follow her and her HEI for a minimum of 18 months.

Note

If those known HIV+ enrolled into pre-ART care and get pregnant will be referred to ANC just using referral format, started ART in ANC unit.

The follow up at ANC includes reporting all those newly initiate ART (option B+) and linked to ANC through TO every month

Since the currently on ART indicator is reported by ART unit the report is collected from PMTCT site to reduce duplication of data the ART unit has to site the data source is PMTCT

Number of HIV exposed infants who received an HIV test within 2 months of birth, during the reporting period: Collect this number from the PMTCT register. It includes all infants born to HIV+ women (those newly initiated on ART at PMTCT clinic and those already on ART when become pregnant).

Number of HIV exposed infants who received an HIV test between 2 and 12 months, during the reporting period: Collect this number from the PMTCT register. It includes all infants born to HIV+ women.

Number of infants born to HIV positive women started on co-trimoxazole prophylaxis within two months of birth: Collect this number from the PMTCT register. It includes all infants born to HIV+ women.

Number of HIV exposed infants who received antiretroviral (ARV) prophylaxis: Collect this number from the PMTCT register. Register these services in ANC unit in the MBPCF register before discharging the mother in early post natal period or just after delivery. labor and delivery service providers or midwives are responsible to perform registering the data in MBPCF register. This register it includes all infants born to HIV+ women who received ARV prophylaxis at delivery and after.

Number of HIV infected infants identified early: Collect this number from the PMTCT register. It includes HIV exposed infants whose 6 week or anytime soon DNA PCR test result turns positive. Date linked for ART care should be documented in the remark portion of this register

Number of HIV infected infants receiving HIV confirmatory (antibody test positive) result by 18 months: Collect this number from the PMTCT register.

Unique ART number comprises of region code/ facility type/ facility code/ five digit serial number unique for the patient.
E.g.,*UAN- 14/08/001/00023 indicates the 23rd patient newly initiated on ART in Zewditu hospital, AA.*

Number of HIV exposed infants receiving HIV free confirmatory (antibody test Negative) result by 18 months: Collect this number from the PMTCT register. It includes all HIV exposed infants who were followed and discharged from the HEI follow up by 18 month of age.

Completing the PMTCT Register section by section:

Instruction to complete PMTCT register:

All HIV+ women identified at ANC, L&D & PNC units should be registered in the integrated MNCH PMTCT register(MBPCF register) the same day. Once an HIV positive pregnant/ lactating woman is identified, the provider should ensure respective services are provided for the HIV+ women & their babies (HEIs) and documented in the patient chart & PMTCT register.

For HIV+ women who start ART at ANC/ PMTCT clinic (option B+), the HIV/ ART care & treatment will be documented on this register. Providers should give five- digit consecutive/ serial numbers (Unique ART numbers) to those HIV+ women who newly start ART at the PMTCT site. The source of unique ART in a facility where PMTCT/ART is collocated it is from ART unit.

If a woman is already on HAART her existing unique ART number is registered on the PMTCT register and her pregnancy & her baby (HEI) together will be followed in the PMTCT clinic. Transfer out format should be used between ART and PMTCT unit. To reduce data entry in a duplicated manner.

The critical point to consider here is the care & follow-up of the HIV Exposed babies (HEIs) with their mothers until declared HIV free is the whole point of PMTCT follow up.

For PMTCT only sites, Regional Health Bureaus are responsible for providing facility codes and unique ART number for both public and private facilities, and overseeing the PMTCT services. Whereas, in the facility where PMTCT co-exist with ART service. The PMTCT unit should take/

reserve unique ART number from ART clinic so that HIV+ mother will be transferred to ART clinic after a 24 month follows up in the PMTCT clinic.

When compiling report, differentiate those mothers who start ART for PMTCT purpose at PMTCT clinic as option B+ and those who started ART before current pregnancy as already on ART. This will avoid double counting HIV+ women who have already been on ART when they come for PMTCT. But make sure that the HEIs are counted from both groups.

Registration section (Column 1-8): These columns record the demographic characteristics of the Mother at the time of PMTCT registration. It includes date of registration (DD/MM/YYYY EC format), medical record number (MRN), name, and dates of registration in the PMTCT program (booking date, ART initiated date).

ANC section (Column 9-14): These columns record the date of the last menstrual period (LMP), the estimated delivery date (EDD), the gestational age in weeks, receipt of ferrous sulphate/folic acid, syphilis screening results, and selection of infant feeding options. The provider should estimate the approximate time of EDD (DD/MM/YYYY, EC) from relevant available information if the woman does not know her LMP.

Delivery section (column 15-19): These columns record the delivery-related data including the delivery date (DD/MM/YYYY, EC format), the place of delivery, the delivery outcome, and whether the mother received ART during delivery and whether her newborn infant received nevarapine (NVP) post-natally.

Post-delivery care section (column 20-21): These columns document whether family planning counselling occurred post-partum, and the type of contraceptive provided, if any.

HIV care section (column 22-30): These columns document the partner's HIV test results. In addition, these columns document the results of the patient's TB screening. If INH prophylaxis was provided, record the dates that the patient started and completed INH prophylaxis. The provider should also record the patient's baseline CD4 count, WHO clinical stage, and the date that ART was started and the ART regimen used. ART regimens are coded as follows:

1c = AZT-3TC-NVP
1d = AZT-3TC-EFV
1e = TDF-3TC-EFV
1f =TDF-FTC-NVP
1g = AZT prophylaxis
1h =NVP prophylaxis
1I =others, specify

HEI follow-up section (column 31-38): These columns document dried blood specimen (DBS) test results, and whether CTX prophylaxis was administered to the newborn infant, and if the infant was breastfed.

Mother and infant follow up section (column 40-81): This section is the second page of the PMTCT register. These columns document data on the mother- baby pair up to 24 months post-partum.

The first raw is dedicated for ART follow up of the mother and the second raw is dedicated for the infant.

In the upper row, document the monthly ART regimen administered to the Mother. At months 6, 12, 18, and 24, document the Mother's ART regimen, CD4 counts/ viral load results, and MUAC.

In the lower row, document the medication administered to the infant during each visit. For example, the infant might be on NVP prophylaxis in the 1st month of life and CPT after one and half month of life.

Moreover, while documenting on the PMTCT register, consider the following:

- For mothers who start ART with no delay or if already on ART, start entering the regimen from column 40, i.e., start in the same booking month,
- If the mother had delay in starting ART, count the months delayed and start entering the regimen leaving equal spaces for months not covered on ART. E.g., if the mother starts ART 2 months after the booking date, start entering under column 42, leaving the missed two months blank. Note that this shows the missed opportunity even after the mother showed up to the facility.
- for the mother identified HIV positive during on coach testing or during labor and delivery and if again the mother is obtained newly during her PNC example during EPI and in both cases if both of them started ARVS the same date and month, for the mother: start registering her ART regimen and NVP prophylaxis for the baby under column 40 and continue registering her ART regimen and CPT throughout the follow up.
- For HEI who start HEI care & follow up late, start entering/ registering "NVP/ CPT" leaving the missed month(s) blank.
- After 18 month post-partum follow up, i.e., Baby discharged HIV free by 18 month, the Mother will be transferred out of the PMTCT Clinic to the ART clinic in the same facility or nearby with a standard transfer out (TO) form. However, the Mother can be referred for follow up of consultation to the ART Clinic anytime if she develops signs and symptoms of a stage 3 or 4 opportunistic infection, or serious ARV drug toxicity occurs, or treatment failure suspected, or her baby (the HEI) is suspected/ confirmed HIV infected. This needs close interaction between ANC/PMTCT and ART units for the advantage of the client.
- If the mother or the baby or both are lost to follow-up before the infant's final HIV status is determined (i.e., before 18 months of age or before the cessation of breast-feeding), write "LTF".

- If the mother and baby in pair are transferred to another facility, or if the infant tests positive for HIV and is linked to treatment & care in pediatric ART clinic (outside the PMTCT site), write “TO” for transferred out and register the name of the facility where the clients are transferred out or even for referral cases write the name of the health facility in the remark column .
- Write “D” if the Infant is dead.
- Write “DN” for Infant Discharged negative at 18 months of age.

Exercise 1

Dear participants please read the cases scenarios one by one and exercise completing the necessary formats and the PMTCT register in particular. The facilitator may assign as a group or individual exercise.

Case 1: Fill out the ANC register for Abebech Bisrat

Part A: Abebech's first visit, *Her ANC card number (MRN) is 200056.*

Abebech Bisrat, 27 years old, presented at the ANC clinic for her first antenatal visit on 10/03/2007. She didn’t remember her last menstrual period but she said it was 7 months ago, and it was her first pregnancy. She was tested & counseled for HIV at this visit and her test result is positive. The nurse subsequently counseled her on HIV services available, the benefits of PMTCT service to her and her baby’s health, and safe infant feeding. The facility does not have the capacity to run a CD_4 test. She reported no gain of weight, she has herpes zoster scar on her right shoulder. She didn’t have any signs or symptoms of TB or treated for TB. Her basic lab results were hemoglobin -8 g/dl, BG & Rh - A+, U/A - negative & VDRL - NR.

The nurse categorized Abebech under WHO clinical stage 2.

The nurse prescribed co-trimoxazole and ferrous sulphate for her. Explaining about ART, the nurse also provided Abebech with a 2 week supply of fixed dose combination ARV drug (TDF/3TC/EFV) to take daily. The nurse also counseled her on disclosure to partner, partner testing and about birth plan; Abebech agreed to deliver the baby at the facility. Abebech was provided with appointment to return after 2 week for follow-up. She is the 4th women to start ART in the ANC clinic.

Q1.List down data elements, and fill in client charts followed by the ANC register.

Part B: Abebech's second visit:

Abebech returns to the ANC clinic two week later. No significant weight gain. The nurse counseled Abebech on infant feeding and family planning options after delivery and reviewed her birth plan too. Abebech decided to breast feed her baby. The nurse reviewed Abebech's card to see how well she had been adhering to the ART regimen. Abebech had taken both the ARV and co-trimoxazole tablets as prescribed. At this visit Abebech was told to give blood sample for CD4 test. The nurse provided her additional adherence counseling and support, advised her to bring her husband for HIV test and gave her a bottle of ARV with appointment to return in 4 weeks.

Q2. Update the relevant sections of the patient chart & ANC register.

Q3. Fill the PMTCT register using information from the 2 visits.

Part C: Abebech's third visit:

Abebech returned in her 37th week of pregnancy. She had good weight gain. She reported noticing movement of the fetus. She finally disclosed her status to her husband, told him that she started taking ART for the baby and asked him for test. He refused the test but approved ART was good for the baby. The nurse assessed Abebech and found nothing abnormal except report of missing a dose of ARVs for someone passed away in her neighborhood &a Hgb of 8 g/dl. She had not missed a dose from co-trimoxazole. The nurse was concerned about her Hgb and put her stall at WHO clinical stage 2. The nurse counseled Abebech on signs for labor & danger signs to to come to health facility. She gave her a bottle of ARVs. Abebech told the nurse

that she would not able to come to facility if her husband went out of town. The nurse reinforced & encouraged her to give birth at health facility, continue taking her ART even in labor and provide ARV prophylaxis for the baby. The nurse promised to attend her delivery & to demonstrate her on how to give NVP for the infant. Abebech was given an appointment around her delivery time.

Q4: Complete the PMTCT register,

Part D: Postpartum

Abebech managed to give birth at the facility and returned back for PNC after six days. Even though it was difficult to breastfeed the baby initially, Abebech gave only breast milk to her baby. The nurse assured the baby had got NVP and gave vaccinations. Abebech's heamoglobin turned to 7gm/dl and the nurse gave iron tablet. After 6 weeks, Abebech returned and the nurse gave vaccination for the baby, and inserted inplant to Abebech's arm following counseling on modern FP. SHe collected DBS sample and started cotrimoxaxole for the baby.

Appointment was given for Abebech to come back after a month.

***Part E*: Postpartum cont....**

Unfortunately the DNA PCR result came Positive, and Abebech was informed at next visit. The Nurse counseled her and transferred the infant out to ART clinic. In fact, both the mother and infant were referred to ART clinic.

Q5: Update the relevant sections of the PMTCT Register

Case 2: Zelekash

Part A: Zelekash's first visit: *Her ANC card number (MNR) is 7059328.*

ZelekashNegassa came for her first ANC visit to your clinic on 13/02/2006. Her LMP was on 28/07/05. She is 30 weeks pregnant. She was tested HIV-positive at a hospital 8 months ago and has documentation of her test results on her chart. At that time she was not enrolled into HIV care for she was "only visiting temporarily". However, she has disclosed her status to her partner, who also tested HIV-positive.

By the time Zelekash came to your clinic, she had on & off intermittent diarrhoea for almost 2 months and had poor weight gain. The nurse put Zelekash in WHO clinical stage 3 and enrolled

her into PMTCT and prescribed fixed dose ARVs, co-trimoxazole and ferrous sulphate. She gave her adherence counselling and told to return in 1 week with a treatment supporter. Zelekash is the 5th women who start ART in the PMTCT clinic. Zelekash's lab result revealed a CD4 count of 300, haemoglobin- 9 g/dl and VDRL test was non-reactive for syphilis.

Q6: Fill in all client charts and complete the ANC and PMTCT only register for Zelekash.

Part B: Zelekash's second visit

Zelekash returned to the ANC clinic as advised by the nurse, she brought her mother on her second visit. She was cooperative, obedient and listening; she took her medications as advised. She had minor complaint of tiredness that she associated with the medication. The nurse gave her appointment after 1 month. She was provided with a bottle of ARVs, blisters of Cotrimpxazole and Fefol. Her urinalysis and stool examination were not revealing (negative).

Q7: Update the ANC and PMTCT register for Zelekash.

Part C: Zelekash's third visit

Zelekash returned to the clinic after a month as appointed. She took all her ARV drugs and the diarrhoea stopped shortly after she started the co-trimoxazole. She has no other complaints. She reported to the nurse that her partner had also started ART. She was counseled on infant feeding options and discussed her birth plan with the nurse. She took her second TT vaccination. She was given a follow-up appointment in 4 weeks.

Q8: Update the ANC and PMTCT register.

Part D: Zelekash's fourth visit

Zelekash returned to the clinic 4 days after her appointment. She came when she left with only one ARV, claiming that she took all her doses of ARVs as instructed. She decided to deliver in the facility. The nurse encouraged and counseled her on institutional delivery, Breast feeding her baby exclusively and using modern FP. The nurse reminded her to continue taking ARVs while on labor & on the ARV prophylaxis for the baby & blood test before 2 months of age. A bottle of

ARVs and blisters of Co-trimoxazole were provided with 4 week aappointment issued to collect her refill ARVs. She was expected to give birth in 2 weeks' time.

Q9: Update the PMTCT register.

Part E: Post partum

She delivered as expected in your facility. She was not stigmatized to inform the midwife about her taking ARVs. She gave birth to a 2.8kg baby boy. The midwife gave NVP syrup for the baby. Despite it was difficult and discouraging, Zelekash was committed breastfeeding her baby since birth. Zelakash brought her baby on the 5th day for his first vaccination and for refill. She returned on the 42nd day together with her baby for vaccination and her PNC. The nurse evaluated the baby & collected DBS specimen from his foot. The nurse stopped the NVP syrup and initiated him on co-trimoxaxole syrup. She also provided FP service for ZElekash, Depo injection on her demand. The nurse provided Zelekash with a bottle of ARVs, 3 strips of cotrimoxazole and 3 bottles of cotrimoxazolesyrops and appointed her after 1 month reminding her that the result would also be ready by then.

Zelekash came exactly on the appointment day, she heard the blood test result of her baby was negative, and the follow up and the cotrimoxazole syrup would continue until the baby became a year old. Zelakash was pleased and she chose to continue breast feeding until 6 month without adding additional food. She was careful in giving the syrup to the baby & to take ARVs for herself. The nurse assessed the baby and gave jabs for his age. The nurse refilled Zelekash with ARVs, co-trimoxazole tabs & syrup.

Zelekash attended her HIV care and the HEI care for her baby visiting the PMTCT nurse monthly until her baby became 6 month.

Q10: Update the PMTCT register, both the mother and baby sections.

Part F: Zelekash's visit for measles vaccination:

Zelekash came to the clinic 2 days earlier than her appointment. She came for measles vaccination for her baby. It was more than a month since she stopped breast feeding her baby.

She complained to stop giving cotrimox syrup for the baby for it was getting more difficult & time taking to administer the syrup in addition she no more breastfed him. Otherwise both the mother and baby were in good condition.
The nurse encouraged her to continue the syrup at least till his birthday when she could do another blood test to confirm free from HIV. She provided Zelekash with refill ARVs &cotrimox and appointed her to come back after 3 months.

The nurse noticed on the chart that Zelekash missed 3 cycles of Depot injections and asked her if she took elsewhere. Zelekash was afraid to answer the nurse's question. It was almost 2 weeks since Zelekash missed her period. She had never suspected the possibility. She did not take any injection after the initial one. The nurse reassured Zelekash and handed her a lab request paper for pregnancy test. Zelekash took the request paper halfhearted and went out from the clinic.

Q11: Update the PMTCT register,

Q12: What is wrong with Zelekash's follow up to the PMTCT service?

Discuss on the issues you identified.

Session4: REPORTING PROCESS

Introduction

Learning Objectives

Participants will:

- Understand the importance of timely, complete and accurate reporting
- Recognize reporting flow, frequency, and channels

Training methods:

- Handouts , flip charts, class room discussion
- Instructor demonstrations
- Practical exercises. Case scenarios.

Core competencies

- Timely report preparation and sending to the next level
- Use data timely for decision making
- Ensure report completeness

Session Outline

- Reporting flow by type and period, and reporting channel
- Report Timeliness and completeness
- Exercise

Reporting: Flow, by type and period, Channel

Reporting flow

The HMIS report includes data elements regarding the services facilities provide, the disease cases they treat and administrative data such as human resources, finances and logistics. The data flow from facilities to FMOH in each month is shown in the diagram below. At each step of reporting, health officials should review data and evaluate data quality. Regular monitoring will improve standardization, consistency and quality control.

The reporting channel of public and private health facilities and the reporting schedule is depicted in the tables below. The reporting period starts on the 21st of the previous month and ends at the 20th of the reporting month inclusive (Ethiopian calendar). Facilities shall submit their report to the next level within not more than 5 days, i.e, before the 26th of the reporting month.

For further information & explanation please refer the FMOH HMIS training material, March 2014.

Figure 17 Reporting flow by type, period and channel

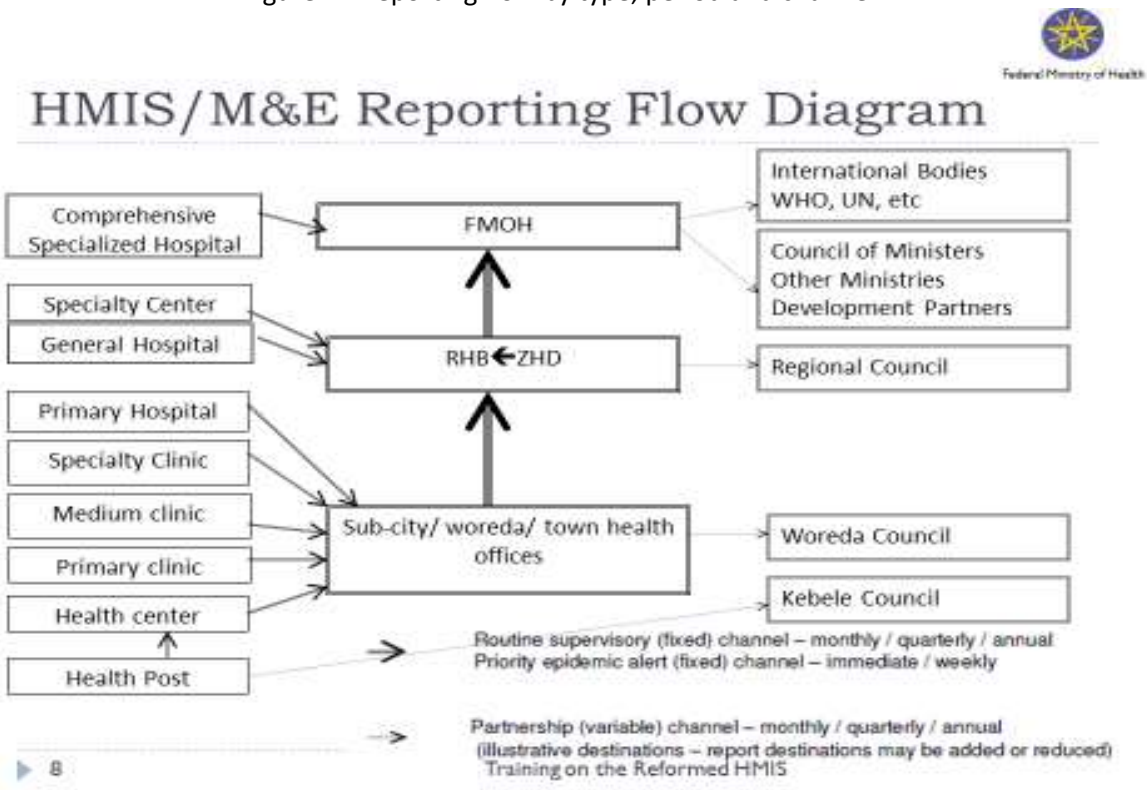


Table 29: Reporting level and reporting time for public and private health facilities providing MNCH services.

From	Reporting level	Report due date	Report type	Comment
Health Post	Health center	22nd of the month	Monthly, Quarterly & Annual	2 days for collection, compilation & reporting.
Health facilities (public and private)	Woreda/ Town Health Office	26th of the month	Monthly, Quarterly & Annual	5 days for collection, compilation & reporting
Woreda Health office	Zonal Health Department / RHB	2nd of the following month	Monthly, Quarterly & Annual	WoHOs compile facility reports, 6 days for data compilation
Zonal Health Department	RHB	7th of the following month	Monthly, Quarterly & Annual	5 days for report compilation
RHB	FMOH	15th of the following month	Monthly, Quarterly & Annual	8 days for report compilation

Health facilities (public and private) report their performance on the PMTCT program:

- Gather data from individual service delivery units,
- Compile/ Aggregate under standardized Indicator elements, and

- Transmit the collected data through the HMIS tool that assures standardization, consistency, and quality control,
- Submit their HMIS Report to the respective administrative & technical offices monthly, quarterly and annually.

Administrative health offices (Woreda/Town Health offices, Zonal health departments and Regional Health Bureaus):

- Aggregate and compile data reported from health facilities,
- Monitor facility & program performances using data elements from reports and
- Report aggregated data to the next higher level in the national health system.

Session5: DATA QUALITY

5.1. Learning objectives

Participants will:

- Describe the dimensions of data quality
- Define data quality assurance
- Describe why data quality assurance is important for PMTCT

5.2. Training methods

- Readings from Participant's manual,
- Class room discussion,
- Practical exercises. Case scenarios.

5.3. Core competencies

Participants will:

- Describe the dimensions of data quality
- Define data quality assurance steps

Session Outline

Activity	Topic	Time	Methodology
A	Introduction to data quality	10 minutes	Brain storming
B	Data quality	30 minutes	Discussion
C	Data quality assurance in PMTCT service	20 minutes	Discussion

Defining Data quality and data quality assurance

Quality PMTCT data are characterized by completeness at all forms, accuracy, validity, reliability and protection of confidentiality. In order to get quality PMTCT data, the PMTCT service shall respect good clinical practice and the primary collection, registration of patient data and review shall start at the health facility service delivery level.

Dimensions of data Quality

Accuracy: Also known as validity. Accurate PMTCT data are considered correct; the data measure what they are intended to measure. Accurate data minimize errors e.g., recording or interviewer bias, transcription error, sampling error to a point of being negligible.

Reliability: The data generated by a programme's information system are based on protocols and procedures that do not change according to who uses them and when or how often they are used. The data are reliable because they are measured and collected consistently in a standardized way.

Precision: This means that the data have sufficient detail. For example, an HCT indicator requires the number of individuals who received HIV counseling and testing and received their test results, by sex of the individual. An information system lacks precision if it is not designed to record the sex of the individual who received counseling and testing. Precision is not the same thing as accuracy. It is possible for reported results to be precise but not accurate.

Completeness: Completeness means that an information system from which the results are derived is appropriately inclusive: it represents the complete list of eligible persons or units and not just a fraction or sample of the total. A PMTCT indicator is complete when it includes the data from ANC, L&D & PNC.

Timeliness: Data are timely when they are documented and reported at the appointed time. Timeliness is affected by: (1) the rate at which the programme's information system is updated; (2) the rate of change of actual program activities; and (3) when the information is actually used or required.

Integrity: Data have integrity when the system used to generate them is protected from deliberate bias or manipulation for unacceptable reasons. The PMTCT data shall represent the truth; the actual practice so that remedial measures can be designed.

Confidentiality: Confidentiality means that clients are assured that their data are maintained according to national and/or international standards. This means that personal data are not disclosed inappropriately, and that data in hard copy and electronic format are treated with appropriate levels of security (e.g., PMTCT data are kept in locked cabinets and in password protected files).

Data Quality Assurance

PMTCT data quality is assured by periodic review of the recordings and reports generated through supportive supervision and data quality checks. Key questions to ask during supportive supervision include:

- Are providers able to record data on the registers and tally sheets appropriately? Do they record appropriate data on each column/row of registers and tallies?
- Are the data recorded on the registers match with the data reported?

Provide training & develop providers' skill to appropriately fill patients' records, registers and reports. Develop their skills in simple calculations of facility indicators for assessing their performance using the data that they record.

Provide regular feed-back to them on data quality as well as their performance based on the data they report. Provide positive feedback to providers verbally and/or through written communication or during meetings for their good work and for maintaining quality data generation.

Health care workers shall know who is accountable for the monitoring activities like

- Recording data reliably and accurately,
- Knowing how and when to report information and indicators.

Health care workers contribute to the overall monitoring process to make it as accurate and reliable as possible by providing feedback about:

- How the system is working,
- Useful methods for sharing information,
- Whether the monitoring tools are easy to complete accurately and reliably and are being used in a standard manner by everyone.

Session 6. PERFORMANCE EVALUATION

Using M&E Data for Decision-Making and Program Planning

Learning objectives

- Using the monthly collected data to assess the performance at all level and to improve the PMTCT service,
- Utilize data for decision-making and program planning.

Training methods

- Reading from participant's manual,
- Classroom exercises

Core Competencies

Participants will:

- Demonstrate understanding how the national HMIS indicators for PMTCT is calculated,
- Demonstrate mastery of using dashboard summary report to monitor priority areas with problem in the PMTCT program,
- Interpreting performances using indicators: Demonstrate how to follow service unit level performance and program performance using PMTCT indicators and PMTCT dashboard, respectively,
- Describe the appropriate interventions implemented when dashboard indicators fall in the yellow (caution: needs close monitoring), or red (alert: needs immediate intervention)

The performance of PMTCT service is checked/ shown with the routine M&E. A functional M&E system translates raw data into information that will be used at all levels giving clear accountability for service units & providers and for evidence-based informed decision to improve the programs.

At health facility level, M&E information shall be analyzed and used in line with the relevant facility indicators to

- to access the performance of service delivery units, facility and the program as a whole,
- to improve the performance and quality of health service and
- for program planning.

Facilities shall analyze their PMTCT data/ performance regularly and conduct self-assessments for selected indicators (monthly, quarterly and annually).

Session Outline

Activity	Topic	Time	Methodology
A	**Key PMTCT indicator**	30 minutes	Discussion
B	Exercise	30 minutes	Group exercise
D	Summary	10 minutes	Discussion

Drill exercise on performance monitoring

The Executive Director reports that the MOH has discovered that only 65 % of HIV-positive pregnant women nationwide received ART in 2015. He writes 65% on the flipchart, just to emphasize his point. The Executive Director continues by saying that your health facility is among the lowest, with just 18% of HIV-positive pregnant women are taking ART, and writes 18% on the flipchart. He explains to the group that he called the meeting to find out from the PMTCT/MNCH/ART service providers and coordinators. According to the national plan your health facility is expected to reach to 90%. Why the numbers are so low. He waits for a response.

Discuss the following topics in your small group.

What is your interpretation of the monitoring data, i.e., why do you think so few women accept ART)?

Identify any additional information needed to understand why the performance is so low?

Determine a set of recommendations for your facility to respond to the gap between guidelines and practice.

One member of the group will record the answers on flipchart paper for presentation to the larger group.

Key PMTCT indicator elements to be monitored at facility level:

Key indicator elements for PMTCT service are important to regularly follow/ monitor the PMTCT service at health facility level. Providers & focal persons monitor their performance, identify their gaps that need urgent interventions or close follow up, address root causes and plan for improvement. At facility/ service delivery point level, PMTCT performance is measured using the following facility indicators:

Table 30: Key PMTCT indicator elements for health facilities (Draft)

S. No	HMIS No.	Variable Description, for the reporting period	Number	Percentage	Score Color
1	**C1.1.2.1**	Total # of HIV+ pregnant or lactating women that were			N/A

		enrolled in care in the facility (can be unit specific-ANC, L&D, PNC) (ANC + Labor & Delivery + PNC) = PMTCT register			
2		**# HIV+ pregnant & lactating women identified,**			
3		**# HIV+ women already on ART when coming to ANC/ L&D/ PNC,**			
4	**C1.1.2.2**	Of these, the # and % of HIV+ pregnant/ lactating women receiving ART (New Option B+ and Already on ART linked with ANC)			RED if <95%
5		**Proportion of HIV+ women newly initiated on ART,**			
6	**C1.1.2.4**	Total # and % of HIV+ pregnant/ lactating women receiving co-trimoxazole (CTX) according to national guidelines			
7		% of HIV+ pregnant/ lactating women with CD4 count determined 6 monthly			
8		Total # and % of HIV+ pregnant/ lactating women nutritional assessment done with MUAC			
9		# and % of Malnourished HIV+ pregnant/ lactating women linked/ provided with nutritional care			
10	**C1.1.2.5**	Total # and % of HIV+ lactating women received FP counselling			
11		# of HIV+ women using modern FP methods			
12	**C1.1.2.6**	# and % of pregnant or lactating HIV+ women who are labeled LTFU (missed appointment for more than 31 days)			
13		# of HIV exposed infants (HEIs) enrolled in care in the facility			

14		# and % of HEIs enrolled in care receiving NVP prophylaxis			
15		# and % of HEIs who had virologic testing for HIV (DNA PCR using DBS) at 6 to 8 weeks of age			
16		# and % of HEIs who had virologic testing for HIV (DNA by PCR using DBS) from 2-12 months of age			
17		# and % of HEIs Antibody testing done for HIV at 12 to 24 months of age to confirm HIV outcome			
18		# and % of HEIs receiving Co-trimoxazole (CPT)			
19		# and % of HEIs with a positive virologic test result			
20		Of these, the # and % HEIs with positive virologic test result linked to HIV care (initiated ART)			
21		# and % of male Partners tested & know their HIV status during the reporting period (ANC/ L&D/ PNC)			

For facility managers and program managers at Woreda, THO, RHB or FMOH levels, selected indicators will be taken as PMTCT dash board monitoring for managers at different level and at facility levels.

Dash board is a tool that shows managers the progress of program performance via selected key indicators. The indicators stated on the dashboard can be modified, expanded or replaced overtime depending on the priority and degree of improvement.

See Sample Dashboard at Annex

Session 7: CONTINUOUS QUALITY IMPROVEMENT (CQI)

Purpose: to improve quality of MNCH/PMTCT services through institutionalizing continuous quality improvement tool in health facilities.

Section objective:

- Address how health facility staff and health management approach and use quality improvement methods to focus on the system of care in which they practice.

Core competencies:

Participants will:

- Be able to describe the principles of CQI in the context of MNCH/PMTCT,
- List the process of CQI process in MNCH/PMTCT program,
- Be able to identify major service gaps, analyze their root causes and propose appropriate interventions using different quality improvement approaches,
- Able to implement CQI tool in PMTCT facilities at provider, unit/team and facility level.

Quality Improvement (QI) is an approach to improve the service through the routine use of health and programme data to meet patient and program needs. M&E data provides valuable information that can be used as part of efforts in continuous quality improvement (CQI). CQI represents one form of using data generated by M&E system to improve the quality of services.

Session Outline

Activity	Topic	Time	Methodology
A	Introduction to CQI	30 minutes	Discussion
B	Principles of CQI	60 minutes	Discussion
C	Exercise on CQI tools	60 minutes	Group exercise
D	Summary	10 minutes	Discussion

Key Principles of CQI in the Context of MNCH/PMTCT

The CQI of Integrated PMTCT/MNCH care is expected to fulfill the following key principles:

- Address **Client satisfaction-** Focusing on the needs of HIV+ women to have HIV free baby,
- Follow **Scientific approach-** to implement new approached by implementing an improvement model- measuring →testing change →re-measuring → applying change.
- Apply **Team approach-** involving the leadership, knowledgeable staff from different units/work process (laboratory, pharmacy, ART, PMTCT/MNCH etc.). It is also a complement to involve the community in the team.

Quality improvement activities to improve the service shall be integrated into the routine flow of existing work. This avoids seeing CQI activity as a separate and additional to routine work. Once the service shows improvement, the system starts functioning more efficient and effective and the tasks become simplified & harmonized further.

How does CQI work for PMTCT?

In order to implement CQI in PMTCT program, quality improvement initiatives shall be tuned for the PMTCT service. First define quality PMTCT service and set priorities to identify specific areas for improvement. Second, set up a system to define & measure performance measurement methods for improvement and set baseline use existing data, or collect data that will be used to monitor successes. Third, establish a Team that identifies the gap between current and expected level of quality among front line providers and use appropriate method to close the gaps.

As the quality improvement is a team activity, the following are recommended steps a quality team can do to facilitate quality improvement initiatives in PMTCT service:

Step 1: Understand the process in the PMTCT service provided in the clinic clearly articulating the process, and stating their outputs and outcomes. By doing so, the QI team can list implementation steps, develop a flow chart and identify potential barriers. Figure 18 gives an overview of the general steps taken in a typical MNCH/ PMTCT services.

Figure 18: an overview of the general steps taken in a typical MNCH/ PMTCT services

Step 2: Measure quality standards through selected indicators (or performance measures) for the quality standard. Once these quality indicators are selected, the QI team will need to

collect, investigate and present the results of their analysis during Multi-Disciplinary Team (MDT) meetings.

The HMIS indicators for MNCH/PMTCT will be used for measuring performance of MNCH/PMTCT service delivery at various points. Performance measurement tells you what is really happening, as opposed to what you think is happening. It tells you what is being documented in the clinic records and is available to help with the decision-making of providers who see the patient. It tells you whether tasks that are supposed to be done are being done, and done well.

Step 3: Develop a problem statement: Once gaps/ opportunities for improvement are recognized, the QI team will work on prioritizing for intervention. To prioritize areas of intervention, consider feasibility, resource availability and the control QI team has in solving the problem.

For addressing each of the problems selected, a clear and concise statement that the QI team has discussed and agreed upon should be used to state the problem in reference. Stating a problem statement helps the QI team to have a shared vision of the opportunity at hand. Problem statement shall be blame free and not discussing solutions.

Instead of presenting the Statement of the Problem as “Women are not tested at ANC because ANC staff do not offer HIV test. This increases missed opportunities of HIV testing of ANC attendants.” It is better to rewrite as “Number of ANC attendants that get tested for HIV averages at 45% of ANC attendants in the months of April – June 2013. This has been stated as one of the missed opportunities in PMTCT.”

Step 4: Analyze the root causes of the problem stated, and brainstorming on improvement strategies to test. Root cause analysis can be done in either ways- Fishbone analysis, The Five Whys, or Key Driver Diagram.

“Fishbone Analysis” using Fishbone Diagram (“Cause & Effect Diagram”) is used to brainstorm and map out possible causes of a quality problem. Draw a central line next to the problem we

are working on (a spine), and draw diagonal lines that represent categories of possible causes that the QI team will brainstorm about. Take the five Ps (patients/clients, providers, policies, processes and procedures, and place/equipment) as standard branches (bones) as shown in the figure 19 below. However, it is possible to use different types of groupings applicable to your facility.

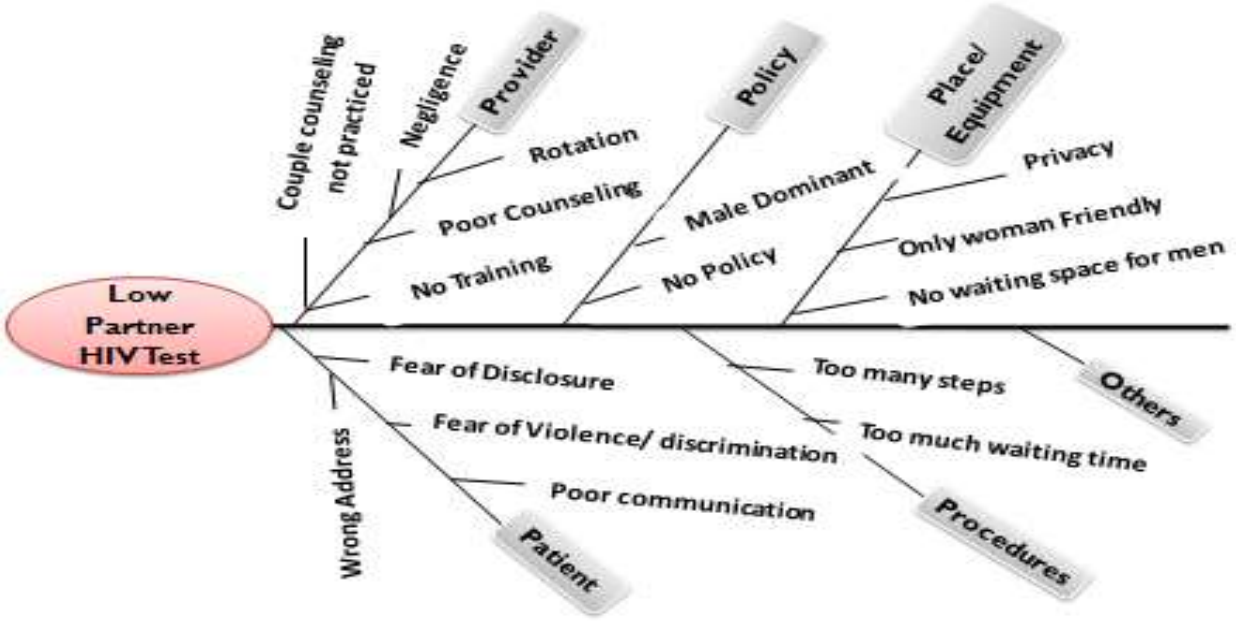
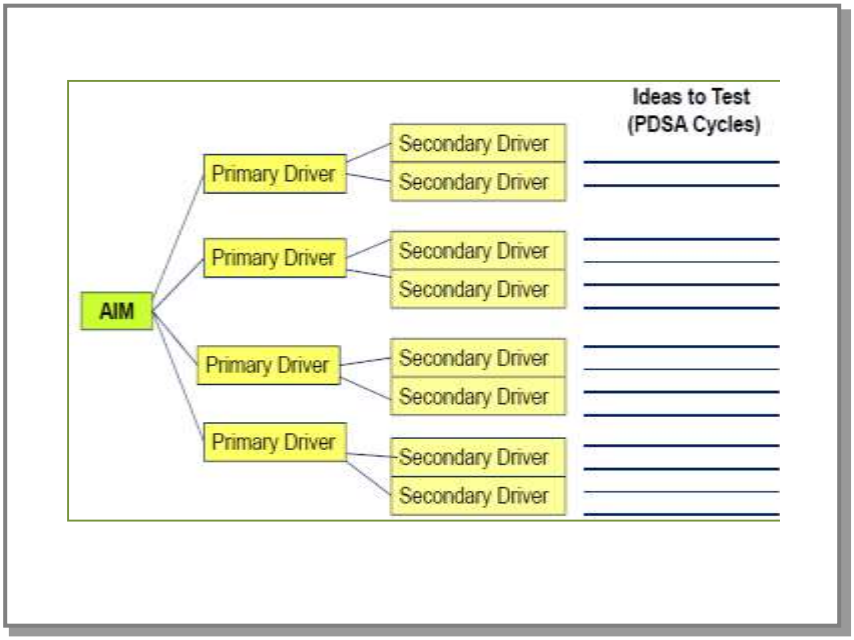


Figure 19 Fish bone analysis

"The Five Whys" method starts by stating the problem you are trying to work on first, and asking a series of whys related to the problem until you get insight on core causes. The Five Whys can be used along with Fishbone Diagrams to brainstorm on root causes of a problem. Why low partner testing? Why don't partners present? Why not allowed at L&D? Why policy? …
"Key Driver Diagram" helps to organize our test ideas in an improvement effort. It lays out the initial contributors (primary driver or root causes) of a given statement, and then additional contributories to the contributory itself (secondary drivers or immediate causes). A descriptive test idea can then be listed with the purpose of testing. The tree-like structure of the diagram assists in enhancing the development of a predictive thought process.

Once the tree is constructed, the QI team or



multidisciplinary team can decide to work on (1) one test idea towards one set aim, (2) multiple test ideas towards different respective aims, or (3) multiple test ideas working towards one aim. The driver diagram should be updated throughout an improvement effort and used to track progress in theory building. Figure 20 provides a template of key driver diagram.

Figure 20: Primary driver or root causes of a given statement

Step 5: Develop an aim statement. After declaring the problem and analyzing the root causes of the stated problem, develop an aim statement articulating the area for improvement, its current status, and its intended achievements. Aim statements should be Specific, Measurable, Actionable, Realistic, and Time bound (SMART) as follows.

"**By the end of** July 2013, the ANC unit **aims to increase** testing of new ANC clients **from** 60% to 95%.

Step 6: Test and implement the proposed intervention (a test-idea). The test(s) can be several small tests or one large test of all proposed solutions. The continuous PDSA (Plan-Do-Study-Act)

cycles are one of the tools used to test and implement newly proposed interventions. This is done by turning ideas into action and connecting actions taken to learning. Figure 21 and the descriptions below it spell out the details included in each phase of PDSA.

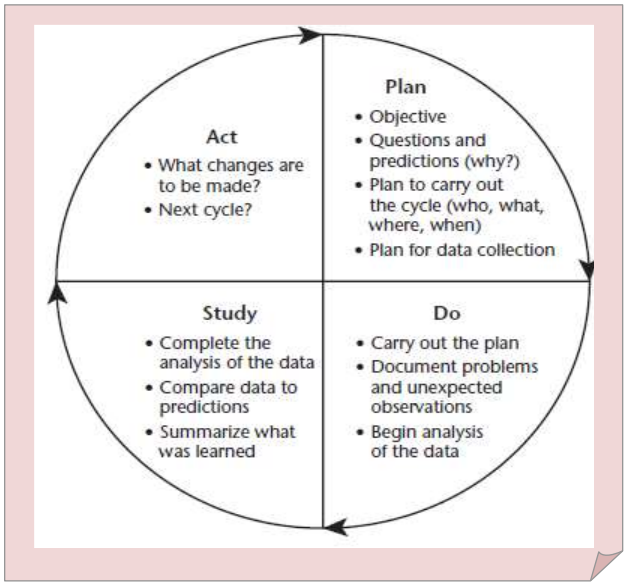


Figure 21: Items to consider when conducting a PDSA cycle (Source: Langley et al., 2009)

7.1. Implementing CQI at Health Facility Level

7.1.1. Implementing CQI as a provider:

All health workers are expected to adhere to the Standard Operating Procedures, standard protocols and professional ethics to treat patients respectfully and professionally. Providers trained on PMTCT shall practice what the standard protocol expects and make orientation & on-job training for co-workers so that the PMTCT service provision fulfills the standard.

The facility led quality assessment checklist (tool) helps each health care provider to check his/her own actions vis-à-vis the national standard. It summarizes the detail activities (without

which performance might be compromised) of individual service entry points to one key activity to be scored, which ultimately is captured in the national M&E indicator list.

At every entry point, the minimum quality function will be posted to remind health workers as they are providing services. It enables individual providers to self-check and score their performance observing their own progress. Sixteen key quality result statements are identified along with their corresponding sub-activities that are to be counted for scoring each key action. The total numerator is then added up and compared to denominators sum. The proportion described in percentage will indicate how much the minimum standards are met at the unit level or at facility level.

7.1.2. Implementing CQI as a team (Multi-Disciplinary Team (MDT):

As PMTCT service is a team work integrated to the MNCH service, implementing CQI in team will improve the quality of service, which contributes further to the increased uptake of MNCH/PMTCT services. The minimum quality performance can be assessed using the led assessment checklist (Annex 2a) and client satisfaction assessment (Annex 2b) to identify areas for improvement and initiation of CQI process by MDT who are knowledgeable on the respective service delivery area and scored accordingly. (Please note that this checklist is subject for modification according to the facility setting).

The use of available data helps identify current gaps that need to be addressed through:

- Asking staff and patients for ideas about what needs to be improved;
- Prioritizing key opportunities for improvement;
- Selecting one specific improvement at a time on which to focus your work.

7.1.3. Facility level

How to use the CQI tools/Facility led assessment checklist

This CQI tool enables facilities to check minimum service standards expected to be implemented at all service delivery points and can be used as a starting point to identify problems in the health care system. This tool is meant principally to identify the LTFU cases and

missed opportunities in the provision of PMTCT services particularly drop-outs from the PMTCT cascade services including HIV exposed infants.

This checklist should be used both by health workers at different PMTCT service points (ANC, L&D, PNC,) as individual providers and as a team/ MDT (CQI team) or even by external body (CQA team) to monitor the quality of PMTCT performance in the health facility.

For example, (1) an individual provider at ANC clinic can check her/ his performance comparing with the minimum standards of care expected in the unit and strive to improve her/his performance accordingly; (2) As a team, providers at L&D can use this tool to conduct a baseline assessment for the PMTCT service rendered at L&D against the standard expected, and agree to work for improvement, then monitor the changes/ improvements periodically every two weeks; this can be done by MDT as well. (3) The PMTCT team at Woreda level can also use this tool to get an external view of the quality of services in a health facility within respective catchment areas.

The tool has eighteen quality result statements with 50 corresponding check points/actions in questions for nine service delivery areas. These service areas are: Card Room or Reception, ANC unit, L&D, PNC, FP, EPI, HEI, pharmacy and laboratory.

Check all the boxes for the “Checking points”. Put a tick“✓” mark in the box if the performance complies with the standard and put “X” mark otherwise. You can decide to mark-up on the checking points/questions after Observation “O”, Interview “I”, or Review of Documents “RD”. You can follow the letters in parenthesis next to each checking point to assist you to identify which approach is better to use for answering the questions. For check points, reviewing relevant documents is important before deciding. If you find some important findings for the question, you can write them under the remark column of the table.

For scoring, there is a “Rank” column to put the score for each of the result statements. When scoring, count the boxes with tick mark only (“✓”) and plot the number of ticks as numerator and the total check points as denominator (“✓” and “X”). There is a column labeled as “M&E

(Quant.) indicators". This is meant for writing the corresponding performance indicators of the health facility/ unit. Once you finish scoring all the check points, go to the last two rows of the tool to do the aggregate score for the entry points; add all numerators and denominators separately then calculate the proportion by multiplying the result by 100 to get the percentage. This helps to compare performance over a period of time and for summarizing performance numerically.

Client Exit Interview Check list (Annex 2b) Optional:

This checklist is the center of MNCH/PMTCT quality improvement and assurance for the Accelerated PMTCT plan and beyond. It is intended to be used by the MDT/CQI team and the health managers at different levels to understand the quality of service at the health facilities from the clients/patients perspective. A minimum of four clients who used the health facility for MNCH/PMTCT services will be interviewed on their exit from the service. It is important to note that the more clients interviewed, the more reliable the results obtained will be.

Scoring: The response to the first and the last questions on reason for the visit and which service areas are not satisfactory are meant to specifically identify service areas that require immediate attention by the health facility. The responses to questions, as per annex 2b, numbered two through to six are to be scored out of 100. Answers to each of the five questions are given equal weight, which is 20%. An "Excellent" response will receive a 20 point score; a "Good" response carries a 15 point score; and a "Fair" response carries a 10 point score. This helps to position the health facility in respect to client satisfaction and lay the ground to provoke the staff to strengthen improvement activities.

7.2. Roles and responsibilities of MDT/CQI Team at facility level

General understanding: PMTCT service is a team activity that involves different service units. The MDT is expected to meet twice a month or as per the terms of the health facility. the MDT is preferably composed of the head of the facility, technical coordinator/ PMTCT focal, and staff from ANC, L&D, PNC, pharmacy, laboratory, ART programme units. The MDT or CQI team cannot be supervisors; rather they can play the role of supervisor and suggest remedial actions, assist in skill transfer to improve the clinical work and the health service system in general.

Specific Roles and responsibilities

In order to institute CQI in a PMTCT service set up, it is advisable to start with 2-3 providers well versed on MNCH/PMTCT service delivery as a sub-team. Orient the team members on the tool & how to measure clinical performance. The PMTCT focal who compiles the monthly HMIS report is vital member to participate in the team.

Dedicate time to conduct an internal periodic quality monitoring supportive supervision in all MNCH/PMTCT entry units and score quality performance, and stress the importance of complete documentation to help determine whether or not patients are getting the care they deserve; (use Annex 2)

Special emphasis is to be given to Lost to follow-up (LTFU) care during supervision and the tracing mechanism of HIV positive women (pregnant, lactating…). Conduct and review a client satisfaction survey monthly Reviewing the quantitative performance monitoring indicators (M&E) checks: Analyzing the results (from HMIS) vis-à-vis the quality performance checks

Conduct CQI process i.e. measure, testing changes, re-measure, apply the changes and continually move in a cycle of re-testing changes. All the reviews are undertaken to shape the service system to improvement.

In order to critically analyze (compare), the following summary checklist could possibly be used during each the MDT/CQI team meeting before starting.

	Process checklist		Remark
Measure CQI process performance →	☐	Is the CQI process of data gathering conducted using checklist or other means?	
Measure quantitative performance →	☐	Is the current performance monitoring indicators of MNCH/PMTCT available?	
Measure client satisfaction →	☐	Is the client satisfaction survey conducted currently?	
Analysis for the cause of variation and plan, do study and act on the next process →	☐	Is the baseline or previous information available?	
	☐	Is the baseline or previous information action plan available?	
	☐	Is the previous MTD report available?	

Discuss using the CQI process and develop a plan of action (Annex 2c Action planning framework) for self-use and for facility use.

Once the process of CQI is complete, documenting organised ideas using the action plan framework is important both for implementation and follow-up. The action plan framework consists of 10 columns. The first 5 columns are used to summarize the different steps gone through the assessment (study) process until prioritized test action is set. Columns 6 - 8 are for planning responsibility, setting time period and resource required. The last two columns are used to remind and link with the next run of the PDSA cycle. When completing the column's cells, keywords are preferred over long statements (phrases) in any applicable situations. However, it is advisable to be cautious against the wrong interpretation of some terms/words.

Equally important is record keeping. Making changes resulting in improvement is not a mechanical process. People are involved and their individual as well as team efforts should be clearly noted to be accountable for the changes made and for the feedback loops. Keeping all records safe and clean will enable use of the findings to guide future actions.

Report compilation and recording: The data generated from CQI process will primarily assist the facility to take its own action/s as well as serve as reference on the continuous progress monitoring during the subsequent checks until a comfortable state of actions are obtained. It could also serve for proposals writing to solicit funds from donors to fill the gaps. Another important value is the documentation of best practices that are identified during the implementation process.

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Refer Basic Emergency Obstetric & Newborn Care (BEMONC) Training Manual, Federal Democratic Republic of Ethiopia, Ministry of Health the newly updated one

Module Annexes

Module one annexes

ANNEX1.1 Clinical grading of drug toxicities

Item	Grade 1 Mild toxicity	Grade 2 Moderate toxicity	Grade 3 Severe toxicity*
Peripheral neuropathy	Transient or mild discomfort, no limitation of activity No medical intervention/treatment required	Moderate limitation of activity, some assistance might be needed Non-narcotic analgesia required	Marked limitation in activity, some assistance usually required, medical intervention/therapy required, hospitalization possible Severe discomfort and/or severe impairment (decrease or loss of sensation up to knees or wrists) narcotic analgesia required
Cutaneous/Rash/Dermatitis **	Erythema, pruritus	Diffuse, maculopapular rash or dry desquamation	Vesiculation or moist desquamation or ulceration*
Management	Continue ARV Provide careful clinical monitoring Consider change of a single drug if condition worsens	substitute responsible drug	Stop ARV and consult experienced physician

ANNEX 1.2. Laboratory Grading of Adverse Events in Adults and adolescents (ACTG)

Laboratory Test Abnormalities				
Item	**Grade 1 toxicity**	**Grade 2 toxicity**	**Grade 3 toxicity**	**Grade 4 toxicity**
Haemoglobin	8.0-9.4 g/dL	7.0-7.9 g/dL	6.5-6.9 g/dL	<6.5 g/dL
Absolute Neutrophil Count	1,000-1,500 mm3	750-990 mm3	500-749 mm3	<500 mm3
Platelets	-75,0000- 99,000	50,000-74,999	20,0000-49,999 mm3	<20,000
ALT	1.25-2.5 X upper normal limit	2.5-5 X upper normal limit	5.0-10 X upper normal limit	10 X upper normal limit
Bilirubin	1-1.5XULN	1.5-2.5 X ULN	2.5-5 x upper limits of normal	>5 x upper limits of normal
Amylase/lipase	1-1.5XULN	1.5-2 X ULN	2-5 x upper limits of normal	>5x upper limits of normal
Triglycerides *	200-399mg/dL	400-750 mg/dL	751-1200mg/dL	>1200mg/dL
Cholesterol *	1.0 –1.3 X Upper normal limit	1.3-1.6 X Upper normal limit	1.6-2.0 X Upper normal limit	2.0 X Upper normal limit
MANAGEMENT	Continue ARV Repeat test 2 weeks after initial test and reassess	substitute responsible drug	Stop ARV and consult experience physician	
	Lipid imbalances could be managed with diet, exercise and pharmacologically with the use of fibrates. ALWAYS SEEK EXPERT ADVICE IN CASE OF DOUBT			

Annex 1.3. Monitoring and Management of ARV drug toxicities

ARV drug	○ Major types of toxicity	○ Risk factors	Suggested management
ABC	○ Hypersensitivity reaction	○ Presence of HLA-B*5701 gene	○ Consult ART provider for regimen change
ATV/r	○ Electrocardiographic abnormalities (PR interval prolongation)	○ Pre-existing conduction disease ○ Concomitant use of other drugs that may prolong the PR interval	○ Consult ART provider for regimen change
	○ Indirect hyperbiliru-binaemia ○ (clinical jaundice)	○ Underlying hepatic disease ○ HBV and HCV coinfection ○ Concomitant use of hepatotoxic drugs	
	○ Nephrolithiasis and risk of premature delivery	○ Risk factors unknown crystalize	○ Taking more fluid
AZT	○ Anaemia, neutropaenia, myopathy, lipoatrophy or lipodystrophy	○ Baseline anemia or neutropenia ○ CD4 count ≤200 cells/mm3	○ Consult ART provider for regimen change
	○ Lactic acidosis or severe hepatomegaly with steatosis	○ BMI >25 (or body weight>75 kg) ○ Prolonged exposure to nucleoside analogues	
	○ Electrocardiographic	○ People with pre-existing	○ Consult ART

LPV/r	abnormalities (PR and QT interval prolongation, torsades de pointes)	conduction system disease ○ Concomitant use of other drugs that may prolong the PR interval	provider for regimen change
	○ QT interval	○ Congenital long QT syndrome prolongation ○ Hypokalemia ○ Concomitant use of drugs that may prolong the QT Interval	
	○ Hepatotoxicity	○ Underlying hepatic disease ○ HBV and HCV co-infection ○ Concomitant use of hepatotoxic drug	
	○ Pancreatitis	○ Advanced HIV disease	
	○ Risk of prematurity, lipoatrophy or metabolic syndrome, dyslipidemia or severe diarrhea	○ Risk factors unknown	
NVP	○ Hepatotoxicity	○ Underlying hepatic disease ○ HBV and HCV co -infection ○ Concomitant use of hepatotoxic drugs ○ Baseline CD4 >250 cells/mm3 in Women ○ Baseline CD4 >400 cells/mm3 for men ○ First month of therapy (if	○ Consult ART provider for regimen change

		lead-in dose is not used)	
	○ Severe skin rash and hypersensitivity reaction (Stevens-Johnson syndrome)	○ Risk factors unknown	○ Consult ART provider for regimen change
	○ Lactic acidosis or severe hepatomegaly with steatosis, acute pancreatitis	○ BMI >25 (or body weight >75 kg) ○ Prolonged exposure to nucleoside analogues	○ Consult ART provider for regimen change
EFV	○ Persistent central nervous system toxicity (such as abnormal dreams, depression or mental confusion)[1]	○ Depression or other mental disorder (previous or at baseline) Daytime dosing	○ Consult ART provider for regimen change
	○ Hepatotoxicity	○ Underlying hepatic disease ○ HBV and HCV co-infection ○ Concomitant use of hepatotoxic drug	
	○ Convulsions	○ History of seizure	
	○ Hypersensitivity reaction, Stevens-Johnson syndrome ○ Potential risk of neural tube birth defects (very low risk in humans) ○ Male gynaecomastia	○ Risk factors unknown	○ Consult ART provider for regimen change

TDF	○ TDF Tubular renal dysfunction, ○ Fanconi syndrome	○ Underlying renal disease ○ Older age ○ BMI <18.5 (or body weight <50 kg) ○ Untreated diabetes mellitus ○ Untreated hypertension ○ Concomitant use of nephrotoxic drugs or a boosted PI	○ Consult ART provider for regimen change
	○ Decreases in bone mineral density	○ History of osteomalacia and pathological fracture ○ Risk factors for osteoporosis or bone loss	
	○ Lactic acidosis or severe hepatomegaly with steatosis	○ Prolonged exposure to nucleoside analogues ○ Obesity	

Annex 1.4. Responding to Excuses for Not Using Condoms

1. **"I can't feel anything when I wear a condom."**

   Possible response: "I know there's a little less sensation, but there's not a *lot* less. Why don't we put a drop of water-based lubricant inside the condom? That'll make it feel more sensitive. Besides if we use a condom I'll feel a lot safer and more relaxed, and that will make sex more enjoyable for both of us." [*Note:* Lubricants should be water-based.]

2. **"I don't need to use a condom. I haven't had sex in three months, so I know I don't have any diseases."**

   Possible response: "That's good to know. As far as I know, I'm disease-free, too. But I'd still like to use a condom because either one of us could have an infection and not know it."

3. **"My HIV test was negative."**

   *Possible response: "*HIV is not the only infection I'm worried about; there are several STIs that may not have any visible symptoms even if you are infected. A condom will help protect us both from getting an STI."

4. **"If I have to stop and put it on, I won't be in the mood anymore."**

   Possible response: "I can help you put it on. That way, you'll continue to be in the mood, and we'll both be protected."

5. **"Condoms are messy, and they smell funny."**

   Possible response: "It's really not that bad. And sex can be a little messy sometimes. But this way, we'll be able to enjoy it and both be protected from HIV and other STIs and pregnancy."

6. **"Let's not use condoms just this once."**

   Possible response: "No. Once is all it takes to get pregnant or get an infection."

7. **"I don't have a condom with me."**

   Possible response: "That's okay. I do have."

8. **"You never asked me to use a condom before. Are you unfaithful?"**

   Possible response: "No. I just think we made a mistake by never using condoms before. One of us could have an infection and not know it. It's best to be safe."

9. **"If you really loved me, you wouldn't make me wear one."**

   Possible response: "Love isn't the issue, but getting an STI is. If you really loved *me*, you'd want to protect yourself—and me— from infections and pregnancy so we can be together and healthy for a long time."

10. **"Why are you asking me to wear a condom? Do you think I'm dirty or something?"**

    Possible response: "It's not about being dirty or clean. It's about avoiding the risk of infection and pregnancy."

11. **"Condoms don't fit me."**

    Possible response: "Condoms can stretch a lot—in fact, they can stretch to fit over a person's head! So we should be able to find one that fits you."

12. **"Why should we use condoms? They just break."**

    Possible response: "Actually, they told me that condoms are tested before they're sent out—so while they have been known to break, it happens rarely, especially if you know how to use one correctly, and I do."

13. **"What happens if it comes off? It can get lost inside you, and you'll get sick, or could even die. Do you want that?"**

    Possible response: "It's impossible for the condom to get lost inside me. If it came off, it'd be inside my vagina, and I could just reach in and pull it out."

14. **"If you don't want to get pregnant, why don't you just take the birth control pill?"**

    Possible response: "Because the birth control pill only protects against pregnancy. The condom protects against both pregnancy and infections" or "Because I discussed my options with a doctor, and we decided that condoms are the best method for me to use to prevent pregnancy."

15. **"My religion says that using condoms is wrong."**

Possible response: "It might help to talk with one of your religious leaders to find out their views and make sure that you aren't making any false assumptions."

16. **"Well, I'm not going to use a condom, and that's it. So let's have sex."**

    Possible response: "No. I'm not willing to have sex without a condom."

17. **"No one else uses them. Why should we be so different?"**

    Possible response: "Because a lot of people who didn't use them ended up with HIV."

18. **"You're a woman. How can you possibly ask me to use a condom? How can I respect you after this?"**

    Possible response: "You should respect me even more because I am acting responsibly. I'm suggesting this because I care about you and respect myself enough to protect myself. That's enough for me."

Annex 1.5. The Five 'A's Approach

Using the 5A' helps to, delivery of comprehensive MNCH/PMTCT/ART services and improving quality of training and services as well.

- **Assess**
- **Advise**
- **Agree**
- **Assist**
- **Arrange**

ASSESS

Assess the ANC client's plan for today's visit

"Is there anything special about HIV/AIDS or ART or PMTCT you would like to address in today's session?"

Assess understanding of ARV therapy (ART) for PMTCT

Assessing whether the patient, care givers understand PMTCT/ART/MNCH should include specific questions. Asking general questions like: "Do you understand everything concerning antiretroviral therapy/PMTCT?" is not very useful. Most of the patients/care givers will answer

"yes" to this question, even if they do not understand all of it. The best way is to ask questions that require more than a 'yes' or a 'no' from the patient/care giver.

Questions that make patients/care givers explain in their own words are good to assess their understanding. It is important to make patients/care givers feel comfortable, not as if they are taking a test! If a patient has misunderstood or forgotten some information, reassure the patient/care giver that this is normal and explain once more. Questions that can be asked to assess the patient's or partners understanding when they come as a couple:

"What do you know about MNCH/ HIV/AIDS / PMTCT/ ART services?"

If necessary, more specific questions can be used, because big questions such as "what do you know about HIV/AIDS and ART/PMTCT?" can sometimes overwhelm the patient. In that case, the patient might say "nothing", though they might know a lot when you ask smaller but specific questions:

Why do you come to this clinic today?

Do you know about PMTCT services?

What are the benefits of ART?

Does ART cure patients from HIV?

How long do you have to take ART?

Why is it important to come regularly to the health center when you are taking ART?

What do you know about side effects of ART?

Why is it important not to miss a dose when you take ART?

What happens if you do not take ART correctly?

Why is it not good to combine ART with other drugs without consulting the health provider?

Are you interested in receiving PMTCT and follow up services for you, your baby and the family members?

ADVICE

"I have some information about HIV/AIDS and ART/PMTCT.. Would you like to hear it?"

Give the patient/ couple advice on the following topics (use the flipchart when this is helpful):

- HIV illness and expected progression (locally adapted, using language your patient can understand).
- Asymptomatic period of some years after infection.
- Opportunistic infections that gradually becomes more serious, because HIV is attacking the body's defense.
- Explain that in children the progression of disease is often rapid.
- It is good to use drawings or a flipchart to explain these topics:

  You can use the story of Alemayehu & Aselef (in Chapter 2) to explain the natural course of the diseases. Give information about ARV therapy (ART):
- ARVs are: life-saving drugs and their life depend on taking the correct daily dose at the right time.
- Very strong medicines.
- The pills do not cure HIV—they just control it.
- The pills do not prevent transmission of HIV to others—you must still use condoms and practice safer sex. The therapy can never eradicate the virus from your body.
- If you forget to take your medicine and remember within four hours, it is OK to take it then.
- The next dose should be taken at the usual time.
- If you stop you will become ill again (not immediately(, it may take months or even years

  as your immunity drops again).
- Possibility of side effects and drug interactions.
- Importance of disclosure of HIV+ status.
- Importance of testing partner and children (see family matrix tool on annex 10).
- Drugs must not be shared with family or friends—patient must take the full dose.

Do not overwhelm the patient/ couples with too much information at once.

When you give advice, it is necessary to evaluate the patient's confidence and readiness to adopt the treatment. If you notice the patient/ care giver is not paying attention anymore, or

does not make eye-contact with you anymore, it is good to ask if there is a reason for this. If you have the impression you have lost the patient's/ care giver's attention, it might mean the patient/ is overwhelmed by the amount of information. Or it could mean the patient is starting to think that all of this is too difficult for her

AGREE

Before initiating ARV therapy, establish that the patient/ couples is willing and motivated and agrees to treatment or the care provided

When agreeing with patients to start ART, it is important to check whether the patient is willing and motivated. The patient is the one that must take the responsibility for taking the medication. Care worker's impression does not always correspond with the real situation concerning motivation and adherence.

That is why it is useful to check:

- ✓ Has the patient/ couples demonstrated ability to keep appointments and to adhere to other medications? Whether the patient comes on time on the appointments (check book and patient chart) and takes other treatments (for example co-trimoxazole prophylaxis) correctly (ask the patient to repeat how he takes it, count pills).
- ✓ Does the patient have a history of non-adherence, for example, a TB defaulter? This should not exclude this patient, but means that more work is required to prepare for adherence to ART, infant feeding options, family planning.....
- ✓ Has the patient disclosed his or her HIV status? If not, encourage the patient to do so.
- ✓ Disclosure to at least one person who can be the treatment supporter is important. Overall, supporting disclosure is important, ask a mentor mothers/ counselor in clinic to help
- ✓ Do the patients/ couple want treatment and understand what treatment is for?
- ✓ Willingness to come for the required clinic follow-up?
- ✓ Is the care giver willing to bring the pregnant, laboring and lactating HIV positive women/ the child to the clinic for the required follow-up?
- ✓ Is the care giver taking her/his treatment or does she/he need it?

ASSIST

- ✓ Explore what is needed to assist the patient/couple with PMTCT/ ART:
- ✓ What problems might arise when you follow this plan?"
- ✓ What questions do you have about this treatment or how to follow this plan?"
- ✓ Help the patient/ caregiver develop the resources/support/arrangements needed for adherence:
- ✓ Ability to come/bring the child/ for required schedule of follow-up. It is crucial to discuss this in detail. If the patient/care giver lives far away, it is necessary to ask how they will come. With a family member that has a car? Will the family member be available to come regularly to the consultation, or if there is an unexpected complication? With public transport? Will you have money available to pay for public transport?
- ✓ Home and work situation that permits taking medications regularly without stigma.
- ✓ Some people might be away from home for more than 12 hours a day, and be surrounded by people all the time. It is important to check whether the patient will be able to cope with this situation. This means the patient always needs to carry some pills with him (in a pocket), and might need to find a place to take the drugs without others watching. Perhaps a watch with a discrete alarm is needed to remind them when it's time to take medication.
- ✓ It is important to help the patient figure out routines to set up before starting ART that fit regular pill-taking with the rest of their life.
- ✓ Regular supply: It is important to guarantee a continuous supply of drugs. This is a substantial commitment. Taking drugs for a limited time or with interruptions will create resistance. For patients buying their own (other than ARV) drugs, it is important to assess the viability of their financial resources.
- ✓ Supportive family or friends. Stigma and discrimination in the family may be a barrier to adherence. A family that knows about the diagnosis and are willing to remind the patient to take the drugs or to support the patient in moments where adherence is

difficult can help support adherence. Mother mentors and ART adherence support groups are very essential. These can be very important to support adherence.

- ✓ Community based organizations may organize these groups or someone on your clinical team can help your patients set up such groups because treatment supporter—prepare this person: This is a very important person for treatment success. It is important that this person be prepared for their role, either in the clinic or by a

Community/Group Supporting PMTCT/ART

How to prepare (mother **support group**):

- ✓ Have a meeting with HIV positive mothers who pass through PMTCT services
- ✓ Discuss about the need for commitment, confidentiality, knowledge on PMTCT, HIV, ART and TB, malaria related needs and also emergency resource needs such as money, help with household, children, which can arise while on treatment).
- ✓ Educate on what "being confidential" means.
- ✓ Educate on how to remind the patient to take the medicine (and to work out with the patient how best to do so),
- ✓ Be present at the follow-up appointments,
- ✓ To accompany patient to support group meeting if possible.
- ✓ Educate to prevent his/her burn-out.
- ✓ Prepare to provide psychosocial support.
- ✓ Request his/her presence at the three preparatory visits prior ART initiation
- ✓ Hold treatment supporter meetings at facilities every two weeks to deal with issues facing
- ✓ Explain how the PMTCT/MNCH health workers / clinical team can be reached by phone or any other quick way of consultation if urgent problems with the patient arise.

ARRANGE

- ✓ When patient/couple / is ready for ARV therapy, discuss at clinical team meeting, then make a plan.

- ✓ Appointment at least one week or less for PMTCT purpose in a test and treat Option B+ recommendations

Reinforce key messages.

- ✓ Arrange an appointment.
- ✓ Record the information you gave during this visit on the back of the Treatment Card, so you can adapt the next consultation.
- ✓ Register the data on the mother baby pair cohort register

After completion of this counseling session health workers should be clear with:

- ✓ Who will be responsible for administration of the drugs ?Refill the drug
- ✓ What medication will be given?
- ✓ Timing and frequency of medication
- ✓ How to administer medication.
- ✓ How to measure adherence to care and treatment?

Skill Station /Practicum

Four cases have to be presented as a standard for each trainee (Health workers) so that each of them can have a comprehensive PMTCT knowledge and skills

Mother mentors will be trained as expert patient trainers prior their attachment for two days and the third day is for skill station

EPTs: Trainee Role Play #1 :

You are 20 years old and about 36 weeks pregnant. You came to the health facility for your first ANC visit. This is your first pregnancy; you don't remember the date of your LMP.

If asked:

- You have very bad gingivitis with small ulcer.
- You have no cough, fever or weight loss
- You have never been tested for HIV in the past
- Your husband is ill, but you do not know his HIV status
- You want to be tested for HIV

(Tear off and give to care provider)

Physical Exam

- Inflammation with small ulcer on gingiva
- About 36 weeks pregnant
- No other clinical findings

Lab Results:

- Rapid HIV test positive
- Rapid syphilis test negative
- Hgb 10 gm/dl
- CD4 400/mm3

Case No. 1

EPT:# 1 **Health worker:.....**	**Very Good**	**OK**	**Not Good**	**Not Done**
GENERAL				
Respectful and caring				
Used simple words				
Listened to patient				
Make sure patient understood				
ASSESS				
Asked why came to the MNCH clinic?				
Reviewed symptoms				
Reviewed past medical history				
Look: physical exam				
ADVISE/ counsel				
Importance of preventing STIs, PMTCT of (HIV and syphilis)				
Used visual aids (Flipchart)				

About what HIV is				
About treatment				
About importance of partner testing				
AGREE				
On client role in four Focused ANC				
ASSIST				
Couple counselling, invitation letter and Partner HTC				
With disclosure				
With strategies for adherence				
ARRANGE				
Necessary testing				
Necessary of initiating ART, prevention with positive				
Counsel and make plans for FP options after birth				
Birth preparedness plan and skilled delivery services available				
Follow-up, appointment or referral (date and place)				
CASE-SPECIFIC QUESTIONS				
Order routine tests VDRL, UA, Hgb. Blood group				
Asked if risk of HIV? (sexual risk, multiple partners, unprotected sex, etc.).				
Asked history of HIV test in the past?				
Explained benefits of knowing your HIV status (for PMTCT transmission, to care for your health)?				
Explained HIV test is available and its procedure?				
Perform HIV test?				
Discussed importance of HIV status disclosure?				
Patient correctly classified as WHO clinical stage3?				
Discussed and provided FDC ARV or 1e?				
Counsel on adherence? If side effect to come back as soon as possible				

Prescribed Amox and Metrondiazole, mouth care and a week appointment				
Demonstrate condom and assist in re demonstration				
Document on ANC register and integrated MNCH/PMTCT/ MBPC register?				

Case # 2

EPTs: Trainee Role Play #2:

You are 30 years old, and 32 weeks pregnant woman who come to the clinic for your first antenatal visit today. This is your second pregnancy. You have painful rash in your back.

If asked:

- Your first child is 2 years old, and is healthy
- You do not feel ill, and has no problems.
- You have come alone because your husband is on business trip.
- You have never been tested for HIV, and you don't know your husband's HIV status

(Tear off and give to care provider)

Physical Exam

- About 32 weeks pregnant
- Small Rashes that starts at the back reaching under the right breast to the front

Lab Results:

- Rapid HIV test positive
- Syphilis test negative
- Hgb 9 gm/dl ,CD4 count 120 /mm3

EPT: # 2. **Health Trainee.....**	**Very Good**	**OK**	**Not Good**	**Not Done**
GENERAL				
Respectful				
Used simple words				
Listened to patient				
Make sure patient understood				
.ASSESS				
Asked why came to the MNCH clinic?				
Reviewed symptoms, Reviewed past medical history				
Look: physical exam				
ADVISE/ counsel				
Importance of preventing STIs, PMTCT of (HIV and syphilis)				
Used visual aids (Flipchart)				
About what HIV is				
About treatment				
About importance of partner testing				
AGREE				
On client role in four Focused ANC				
ASSIST				
Couple counselling, invitation letter and Partner HTC				
With disclosure				
With strategies for adherence				
In breast nipple preparation for Infant feeding				
ARRANGE				
Necessary routine testing				
TB screening to initiation IPT				
Birth preparedness plan and skilled delivery services available				

Plans for FP options after birth, use sticker notified option on her card				
Follow-up, appointment or referral (date and place)				
CASE-SPECIFIC QUESTIONS				
Order routine tests VDRL, UA, Hgb. Blood group				
Asked if risk of HIV?(sexual risk, multiple partners, unprotected sex, etc.).				
Asked history of HIV test in the past?				
Explained benefits of knowing your HIV status (for PMTCT transmission, to care for your health)?				
Explained HIV test is available and its procedure?				
Perform HIV test?				
Discussed importance of HIV status disclosure?				
Patient correctly classified as WHO clinical stage2?				
Discussed and recommended FDC ?				
Counsel on adherence? If side effect to come back as soon as possible?				
Demonstrate condom and assist in re demonstration?				
Provide symptomatic treatment? Like anti pain, multivitamin?				
Provide CPT?				
Document on ANC register and integrated MNCH/PMTCT/ MBPC register?				

Case #3

EPTs: Trainee Role Play # 3:

You gave birth 4 days ago. You are HIV positive; you came with your husband's mother

You gave birth in the same health facility.

The baby weight is 2.5 kg.

Your concern is about the NVP syrup that should be provided for your HEI

If asked:

- You have no complaints

(Tear off and give to care provider)

Physical Exam

- Has pain because of engorged breast
  - No other abnormal findings

Lab Results:

  - Syphilis test negative
  - Hgb 8 gm/dl

EPT: # 3. **Health Trainee:.....**	**Very Good**	**OK**	**Not Good**	**Not Done**
GENERAL				
Respectful				
Used simple words				
Listened to patient				
Make sure patient understood				
ASSESS				
Reviewed client's card TO format?				
Reviewed symptoms, Reviewed past medical history				
Look: physical exam				
ADVISE/ counsel				
Importance of preventing STIs, PMTCT of (HIV and syphilis)				
Used visual aids (Flipchart)				
About treatment adherence				
About danger signs				
FP counselling provide options to be provided after giving birth				
AGREE				
On client role in four Focused ANC, skilled delivery and PWP				
ASSIST				

With strategies for adherence to ART				
With Birth preparedness plan				
Infant feeding options				
partner to start ART from HIV /ART unit				
ARRANGE				
TB screening to initiation IPT				
Follow-up, appointment or referral (date and place)				
CASE-SPECIFIC QUESTIONS				
Order routine tests VDRL, UA, Hgb. Blood group?				
Asked if risk of HIV?(sexual risk, multiple partners, unprotected sex, etc.).				
Discussed importance of HIV status disclosure?				
Patient correctly classified as WHO clinical stage 1 ?				
Continuous ART for her?				
Counsel on adherence? If side effect to come back as soon as possible?				
Demonstrate condom and assist them in re demonstration?				
Discuss about importance of DBS for the HEI?				
Discuss about NVP prophylaxis should be provided for 6 weeks for HEI? Demonstrate using syringe to pour NVP syrup for the baby				
Document on PNC register and integrated MNCH/PMTCT/ MBPC register?				
Demonstrate breast attachment and breast feeding good practices and ask for re demonstration				
Counseling on FP options,				

Case #4

EPTs: Trainee Role Play # 4:

You are a 22 year old 36 weeks pregnant with first pregnancy has come to ANC room after being transferred out (TO) by the HIV care clinic in the facility.

If asked:

- You have no complaints
- You were tested for HIV 2 years back and was positive
- You are enrolled in HIV care for the last 2 years, and you are taking AZT + 3TC + NVP for the last 6 months
- You are transferred out by the HIV care and ART clinic because you are pregnant
- Your partner is also HIV positive, and receives care at the HIV clinic
- Your last CD4 count that was done 4 months back is 250 /mm3
- You are living in malaria endemic area

(Tear off and give to care provider)

Physical Exam

- About 36 weeks pregnant
- No other abnormal findings

Lab Results:

- Syphilis test negative
- Hgb 9 gm/dl

EPT: # 4. **Health Trainee:.....**	**Very Good**	**OK**	**Not Good**	**Not Done**
GENERAL				
Respectful				
Used simple words				
Listened to patient				
Make sure patient understood				
ASSESS				
Reviewed client's card TO format?				
Reviewed symptoms, Reviewed past medical history				

Look: physical exam				
ADVISE/ counsel				
Importance of preventing STIs, PMTCT of (HIV and syphilis)				
Used visual aids (Flipchart)				
About treatment adherence				
About danger signs				
FP counselling provide options to be provided after giving birth				
AGREE				
On client role in four Focused ANC, skilled delivery and PWP				
ASSIST				
With strategies for adherence to ART				
With Birth preparedness plan				
Infant feeding options				
partner to start ART from HIV /ART unit				
ARRANGE				
TB screening to initiation IPT				
Follow-up, appointment or referral (date and place)				
CASE-SPECIFIC QUESTIONS				
Order routine tests VDRL, UA, Hgb. Blood group?				
Asked if risk of HIV? (Sexual risk, multiple partners, unprotected sex, etc.).				
Asked history of HIV test in the past?				
Explained benefits of knowing your HIV status (for PMTCT transmission, to care for your health)?				
Explained HIV test is available and its procedure?				
Perform HIV test?				
Discussed importance of HIV status disclosure?				

Patient correctly classified as WHO clinical stage 1 ?				
Provide FDC for her? refer the husband to the other HC				
Counsel on adherence? If side effect to come back as soon as possible?				
Demonstrate condom and assist them in re demonstration?				
Discuss about importance of skilled delivery DBS for the HEI?				
Discuss about NVP prophylaxis should be provided for 6 weeks for HEI?				
Document on PNC register and integrated MNCH/PMTCT/ MBPC register?				

Module three annexes

Annex 3.1. Danger signs needing immediate Care of the Newborn and women

Assess for emergency signs:

- Newborn not breathing, or is gasping
- Respiratory rate less than 30 breaths per minute
- Low or high body temperature
- Convulsion
- Bleeding or shock.

Ask, check record	Look and listen	Sign	Classify	Treatment
Is the infant having difficulty breathing?	• Is baby not breathing? • Is baby gasping? • Count	• Not breathing • Gasping • Breathing poorly (less than 30 per minute)	Birth asphyxia	Start resuscitation: • Clear the airways • Rub the baby's back for ten seconds • Position the newborn • Ventilation using appropriate size mask /self-inflating bag
		• Strong cry	No birth	• Provide cord care

	the breaths in one minute	• Breathing more than 30 per minute	asphyxia	• Provide eye care • Give vitamin K, 1mg IM on mid-anterior thigh • Initiate skin-to-skin contact • Initiate exclusive breastfeeding
Is the infant bleeding?	• Umbilical stump bleeding • Pallor	• Active bleeding from umbilicus • Sign of shock	Bleeding	• Secure umbilical cord for visible bleeding • Vitamin K 1mg IM once if not given • Ensure warmth • Do BG/Rh and hemoglobin if possible • *Refer if bleeding does not stop*
Gestational age	• Weigh the baby	• Weight <1500gm • Gestational age <32 weeks	Very Low birth weight or preterm	• Give first dose of gentamycin • Continue with expressed breastfeeding • Give vitamin K 0.5mg IM mid-thigh • *Refer urgently*
		Weight 1500 to <2500gm OR Gestational age 32 -36 weeks	Low birth weight or preterm	• Kangaroo Mother Care • Counsel on optimal breastfeeding • Counsel on prevention of infection • Give vitamin K 1mg IM on mid-anterior thigh

Ask, check record	Look and listen	Sign	Classify	Treatment
Is the infant not feeding (sucking)? Is the infant having convulsions?	• Count the breaths in one minute. Repeat the count if more than 60 breaths per minute. • Look for severe chest in drawing. • Look and listen for grunting. • Look at the young infant's movements. – Does the infant move only when stimulated? – Does the infant not move even when stimulated?	Any one of the following signs: • Not feeding well • Convulsions • Fast breathing (60 breaths per minute or more) • Severe chest in drawing • Grunting • Movement only when stimulated or no movement even when stimulated • Fever (37.5°C* or above)* • Low body temperature (<35.5°C*)	**Very severe disease**	• Give first dose of intramuscular Antibiotics (Ampicillin and gentamycin). • Treat to prevent low blood sugar • Advise mother how to keep the infant warm on the way to the hospital. • Refer URGENTLY to hospital
	• Look at the umbilicus. Is it red or draining pus? • Look for skin pustules.	• Red umbilicus or draining pus OR • Skin pustules	**Local bacterial infection**	• Give co-trimoxazole or amoxicillin for five days. • Teach mother to treat local infection.

				• Advise when to return.
	• Measure temperature (feel for fever, or low body temperature)	• Temperature between 35.5 – 36.4^{o} C (both value inclusive)	**Low body temperature**	• Treat to prevent low blood sugar. • Keep baby warm using Kangaroo Mother Care. • Refer if temperature remains the same.
	Look for jaundice • Are the palms and soles yellow? • Is skin on the face or eyes yellow?	• Palms and soles yellow OR • Age <24 hours or • Age 14 days or more	**Severe jaundice**	• Warm the baby (Kangaroo Mother Care) • Refer
		• Only skin or eyes yellow	**Jaundice**	• Advise mother to give home care. • Encourage indirect sunlight and exclusive and frequent feeding • Advice mother when to return.

Maternal Danger Sign

Advise to go to a hospital or health centre immediately, day or night, WITHOUT WAITING, if any of the following signs:

- ✓ Vaginal bleeding, Convulsions, Fast or difficult breathing, Fever and too weak to get out of bed, Severe abdominal pain.

➢ Go to health centre **as soon as possible** if any of the following signs:

- ✓ Fever, Abdominal pain, Calf pain, redness or swelling, Severe headaches accompanied, visual disturbances, Edema in hands and face Feels ill, Breasts swollen, red or tender breasts, or sore nipple, Urine dribbling or pain on micturition, Pain in the perineum or draining pus, Foul-smelling lochia

TABLE 19-1 POSTPARTUM ASSESSMENT AND SIGNS OF POTENTIAL COMPLICATIONS

ASSESSMENT	NORMAL FINDINGS	SIGNS OF POTENTIAL COMPLICATIONS
Blood pressure (BP)	Consistent with BP baseline during pregnancy; can have orthostatic hypotension for 48 hours	Hypertension: anxiety, preeclampsia, essential hypertension Hypotension: hemorrhage
Temperature	36.2°-38° C (97.2° to 100.4° F)	>38° C (100.4° F) after 24 hours: infection
Pulse	50-90 beats/min	Tachycardia: pain, fever, dehydration, hemorrhage
Respirations	16-24 breaths/min	Bradypnea: effects of narcotic medications Tachypnea: anxiety; may be sign of respiratory disease
Breath sounds	Clear to auscultation	Crackles: possible fluid overload
Breasts	Days 1-2: soft	Firmness, heat, pain: engorgement
	Days 2-3: filling Days 3-5: full, soften with breastfeeding (milk is "in")	Redness of breast tissue, heat, pain, fever, body aches: mastitis
Nipples	Skin intact; no soreness reported	Redness, bruising, cracks, fissures, abrasions, blisters: usually associated with latching problems
Uterus (fundus)	Firm, midline; first 24 hours at level of umbilicus; involutes ≈1 cm/day	Soft, boggy, higher than expected level: uterine atony Lateral deviation: distended bladder
Lochia	Days 1-3: rubra (dark red) Days 4-10: serosa (brownish red or pink) After 10 days: alba (yellowish white) Amount: scant to moderate Few clots Fleshy odor	Large amount of lochia: uterine atony, vaginal or cervical laceration Foul odor: infection
Perineum	Minimal edema	Pronounced edema, bruising, hematoma
	Laceration or episiotomy: edges approximated	Redness, warmth, drainage: infection
	Pain minimal to moderate: controlled by analgesics, nonpharmacologic techniques, or both	Excessive discomfort first 1-2 days: hematoma; after day 3: infection
Rectal area	No hemorrhoids; if hemorrhoids are present, soft and pink	Discolored hemorrhoidal tissue, severe pain: thrombosed hemorrhoid
Bladder	Able to void spontaneously; no distention; able to empty completely; no dysuria	Overdistended bladder possibly causing uterine atony, excessive lochia
	Diuresis begins ≈12 hours after birth; can void 3000 mL/day	Dysuria, frequency, urgency: infection
Abdomen and bowels	Abdomen soft, active bowel sounds in all quadrants Bowel movement by day 2 or 3 after birth	No bowel movement by day 3 or 4: constipation; diarrhea
	Cesarean: incision dressing clean and dry; suture line intact	Abdominal incision—redness, edema, warmth, drainage: infection
Legs	Deep tendon reflexes (DTRs) 1+ to 2+	DTRs ≥3+: preeclampsia
	Peripheral edema possibly present Homans' sign* negative	Redness, tenderness, pain, positive Homans' sign*: venous thromboembolism (VTE)
Energy level	Able to care for self and infant; able to sleep	Lethargy, extreme fatigue, difficulty sleeping: postpartum depression
Emotional status	Excited, happy, interested or involved in infant care	Sad, tearful, disinterested in infant care: postpartum blues or depression

Annex 3.2. Use of Dried Blood Spots (DBS) for DNA PCR

Dried blood spots have been used in newborn screening programs to determine maternal HIV infection and in research trials to determine HIV subtype. DBS can be obtained by using blood from a heel-prick in infants or a finger-stick in older children. This is less traumatic than venipuncture and uses only a small volume of blood. DBS carries less infective risk than liquid samples and can be stored at room temperature making them easier to transport to central sites for testing.

Clinic staff members should be trained to collect DBS. Appropriate universal blood and fluid precautions should be followed.

The health worker's job responsibility is:

Collecting valid specimens

Appropriately labeling and storing the specimens until transported for testing

Ensuring records are properly maintained

Avoiding transcription errors.

Steps in DBS

(See Annex 5.7: How to Collect, Store, and Transport DBS)

- Prepare the necessary supplies: Blood collection card (filter paper), gloves, lancet, alcohol, gauze or cotton wool, sealable plastic bags, humidity cards, and desiccant packs
- Follow standard precaution for handling of blood.
- Clearly label card with appropriate identification number.
- Do not touch circles/sites for blood samples.
- After soaking each circle/site with blood, dry the DBS completely before packaging (it requires a minimum of three hours to dry).
- Protect the DBS card from sunlight, bugs, cockroaches, and dust.
- When dry, stack the DBS cards between sheets of weighing paper.
- Insert cards into sealable, gas-impermeable plastic bag.
- Add desiccant packets, minimum 10 packets per bag.
- Insert DBS cards into envelope. Include lab requisitions and specimen delivery checklist, and clearly label the outside of the envelope.
- Send the envelope to the nearest regional laboratory.

Where HIV PCR tests are available, the sample algorithm in the above Figure may be used.

If DNA PCR test is available, every HIV-exposed infant should have a DNA PCR test.

- If the HIV DNA PCR result is POSITIVE the infant is presumed to be HIV-INFECTED. Repeat DNA-PCR and in the meantime refer these infants to a pediatric ART treatment center for care and treatment.

If the HIV DNA PCR result is NEGATIVE the infant is presumed NOT to be HIV-infected. But if the child develops HIV symptoms (oral thrush, pneumonia, poor growth, developmental delay, chronic diarrhea) repeat HIV DNA PCR testing. (NOTE: Breastfeeding infants remain at risk for acquiring HIV if infant is less than 18 months.)

- If the second HIV DNA PCR result is POSITIVE the infant is presumed to be HIV-INFECTED and should be referred to a pediatric ART treatment center for care and treatment.
- If the second HIV DNA PCR result is NEGATIVE the infant is presumed NOT to be HIV-infected

If mother has opted to breastfeed, advise mother to continue exclusive breastfeeding through 6 months of age, and then to transition to complementary feeding; breast feeding can be continued up to the age of 24 months. Weaning should be over a period of one month.

6 weeks after stopping breastfeeding for an HIV-exposed infant:

Use the rapid antibody test to test for HIV

- If negative, the infant is presumed NOT to be HIV-infected and may be discharged from the program and continue routine well child care.
- If positive, and the infant is less than 18 months of age repeat HIV DNA PCR test because the maternal antibody can persist until 18 months of age.

At 18 months of age for an HIV-exposed infant:

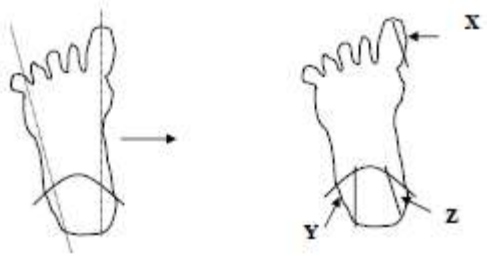
Use the rapid antibody test to test for HIV

- If negative and the infant has stopped breast feeding for at least 6 weeks, the infant is NOT HIV-infected and may be discharged from the program and continue routine well child care.
- If positive, the infant is HIV-infected and should be referred to a pediatric ART treatment center for care and treatment.

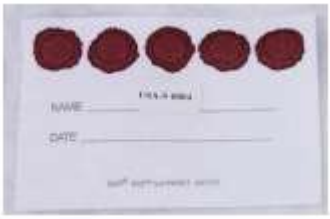
If the infant is still breastfeeding, repeat rapid HIV test 6 weeks after weaning.

How to collect DBS

1. Correctly complete all information requested on the laboratory requisition form.
2. Wash hands and wear powder-free gloves.
3. Confirm identity of infant; write the following information on the DBS filter paper supplied by the Central Laboratory:
    - Infant's name
    - Unique identifier
    - Date of test
    - Hospital name
4. Do not allow water, formulae, powder from gloves, antiseptic solutions to come into contact with filter paper before or after collection of sample since this will affect the result.
5. Draw an imaginary line from midpoint of the big toe to the heel, and one from between the 4th and 5th toe to the heel. The arrows indicate safe areas for puncture site namely X, Y and Z. Do not puncture the back of the heel, Achilles tendon, or lateral aspect of the big toe.



6. With small infants (<9kg), puncture the heel. Do not puncture the fingers; there is risk of hitting the bone.
7. Larger infants (>9kg), puncture the heel, if callous is visible; you may use the medial aspect of the big toe. Do not stick the fingers or small toes; there is risk of hitting the bone. (This is also true when doing an HIV rapid test. Do not stick fingers or small toes of small children. Fingers are safe around age two)
8. Hold the infant's foot below the level of the heart; this will help blood flow more easily.
9. Warm the area, especially if the infant is cold, with a warm moist cloth for three minutes; this can increase blood flow through the site. The mother can hold baby's foot in her hand, rubbing it gently may help.
10. Clean the area with alcohol, and let it dry for 30 seconds.
11. Using a lancet or heel incision device puncture the site identified as above. The puncture should be to a depth of less than 2.0mm. Do not use a needle or scalpel or longer lancet. The lancets are the correct length to puncture safely without damaging bone.
12. Gently wipe away the first drop of blood with a sterile gauze or clean cotton ball.
13. Allow another large droplet of blood to form at the puncture site.
14. Gently touch the printed side of the filter paper against the large drop and allow it to completely fill the circle on the paper. The first drop should fill the circle. Do not press the paper against the heel.



15. Fill in remaining, at least four, circles in the same manner with successive drops of blood; one circle is not enough to test. If a circle is poorly done, move to the next one. Do not apply blood to both sides of the filter paper. Avoid smearing or touching the spots.

16. If there is not enough blood, you may gently press the area around the puncture site. Do not “milk” the area, or you will get tissue fluid instead of blood, and the lab will not be able to test it.
17. Clean the puncture site and press a cotton swab against it until it stops bleeding. Do not use a bandage.

Drying DBS

18. Once the blood spots have been collected, they need to dry.
19. Do not touch or smear the spots.
20. Place the filter paper on a flat surface or a Schleicher and Schuell card board drying rack and allow to AIR DRY overnight (minimum of three hours).
21. Protect them from sunlight, bugs and dust.
22. Do not stack heat or allow to touch other surfaces during the drying process. INSUFFICIENT DRYING ADVERSELY AFFECTS TEST RESULTS.

NB. Drying is the most important process to assure stability of the HIV viral DNA in the paper. If the DBS is not well dried after staying overnight at room temperature, the silica contained in the desiccant packets packed together with the DBS can remove all the remaining moisture.

Packaging DBS

23. Once DBS are completely dry, stack them between sheets of weighing paper so that DBS cards from different infants are not touching one another.
24. Pack up to 15 DBS cards in a gas-impermeable bag.
25. Add the following items to the bag to preserve the specimens: two desiccant packs per sample (this will remove any residual moisture from cards and humidity indicator card (which will indicate the relative humidity inside the bag).
26. Press as much air out of the bag as possible and seal it shut.
27. The humidity indicator card and the desiccant packs have a color indicator which changes from blue to pink as humidity increases. All cards and packs should be replaced with fresh material before they change to a pink color.

NB. Plastic or foil bags used for DBS storage must be gas-impermeable. Bags from grocery stores or other outlets that do not sell scientific supplies are not adequate and should not be used.

Storage of DBS

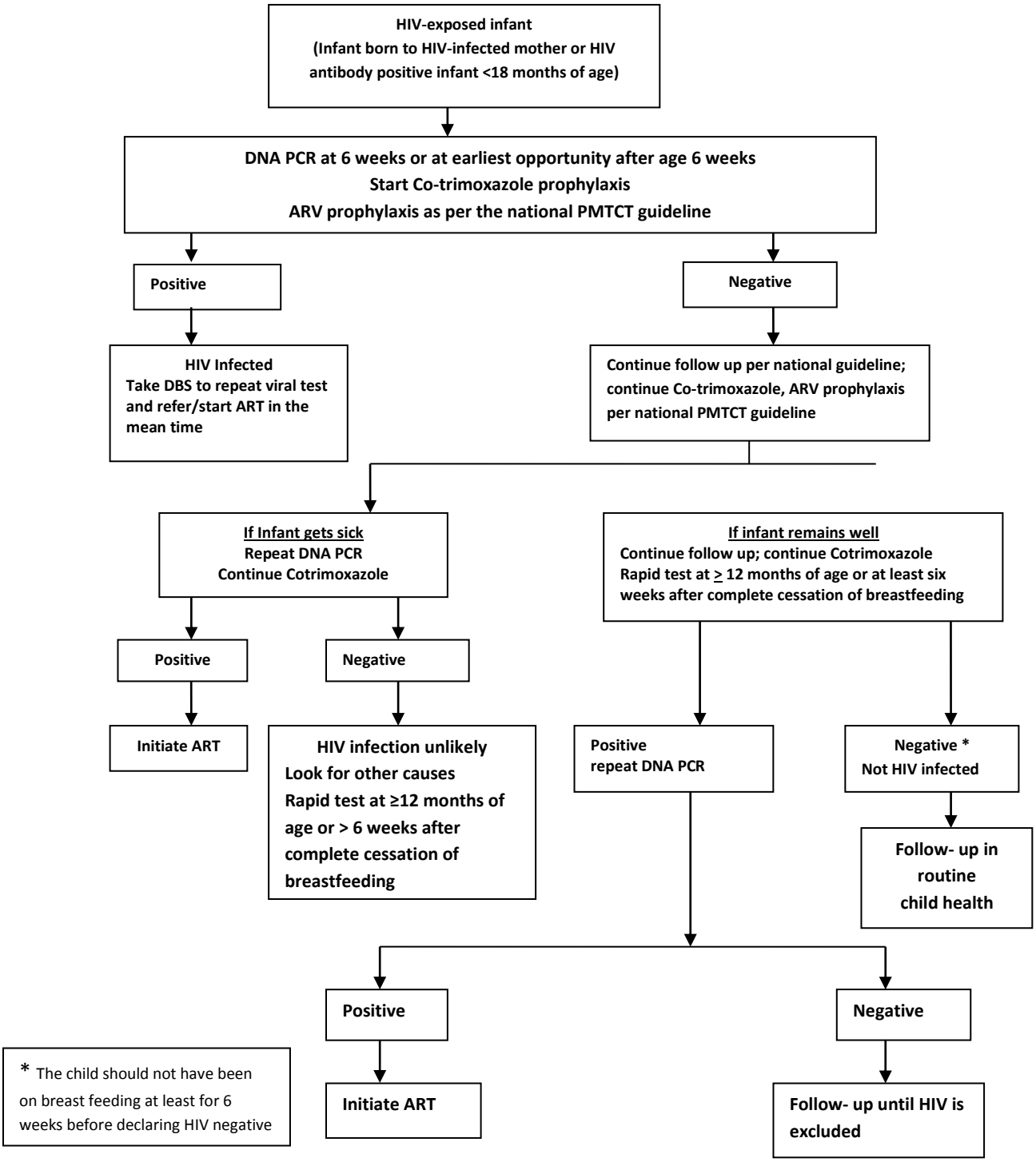
28. For storage before transportation to the laboratory, DBS should be kept in gas impermeable bags with desiccant and humidity indicator cards, and stored at room temperature inside a drawer.
29. Avoid exposing DBS to light. The light and oxygen can react with hemoglobin-producing active oxygen which can damage the viral RNA/DNA material.

Transportation of specimens to the laboratory

30. DBS should be transported to the Central Laboratory on the scheduled day.
31. To prepare DBS for transport, remove bagged samples from the drawer and remove old desiccants. Add fresh desiccants and reseal bag.
32. Use the specimen delivery checklist to verify you have a requisition form for each DBS.
33. Place the bag of DBS, requisition forms, and the specimen delivery checklist into a large cardboard or padded envelope, and seal.
34. Label the envelope with
    - Your clinic name
    - Infant DBS specimens
    - Date you are sending to lab
35. Transport the bag by the fastest means possible to the laboratory. AVOID EXPOSURE TO EXTREMES OF HEAT DURING TRANSPORTATION.
36. If a cooler is available for transport this will protect the samples from short periods of high temperature.

NB. DBS is considered non-infectious and can be sent inside a letter envelope without additional bio safety measures.

Annex 3.3: Algorithm for testing of HIV Exposed infants less than18 months of age



Module four annexes

Annex.4.1.National PMTCT dashboard for monitoring performances at all levels

Table One: Dashboard Legend

DASHBOARD SCORING									
Robot			Scoring Definitions						
Green: 80%-100%			Target has been met						
Yellow:60%-79%			Good progress has been made						
Red:<60%			No progress/ remain stagnant for the indicator, *Needs Attention!*						
Ser. No.	**Indicators**	**Quarter 1 plan from the eligible**	**Expected Q1 coverage**	**July in #/ %**	**Aug. in #/ %**	**Sept. in #/ %**	**Q1 Coverage in #/ %**	**Q1 Score in color**	**Remark/ National plan**
1	% Clients got HIV testing at ANC, L&D & PNC	Example 757,197	100%	252,393/ 100%	200,600/ 79%	230,000/ 91%	(682993/ 757197), 100%	Green 79-95%	100% (3,028,718 eligible)
2	% of HIV+ women identified at ANC, L&D & PNC	6917(25 % from the eligible)	100% for the quarter	2,305	1,000/ 43%	2,000/ 86%	(5,305/ 6,917/=77%)	Yellow b/n 60-79%	100% (27,669, eligible)
3	# HIV+ ANC +Laboring +								95%(eligible) (Proporti

	Lactating women Initiated on ART (Option B+ regimen) for the 1st time								on not known yet)
4	# HIV+ women got pregnant while on ART and linked to ANC								
5	% Infant receiving NVP Prophylaxis	6917(25 % from the eligible)	100% for the quarter	727/ 31.5%	727/ 31%	727/ 31%	2,182/ 6,917/ 31.5%	**Red <60%**	95%100% (27,669, eligible)
6	% Eligible Infants getting DNA/ PCR around 6 weeks of	6917(25 % from the eligible)	100% for the quarter	392/ 17%	392/ 17%	392/ 17%	1176/6917=17%		100% , (27,669, eligible)

	age								
7	% of HEI, Confirmatory Anti body test done								95%
8	% of partners of pregnant mothers tested for HIV								100%
9	% of pregnant mothers VDRL test done								

Example for National Annual Plan from the Eligible

Note: Dash board is used at Woreda / zone / Region and National level

- Dashboard Scoring is done by color. Help to monitor PMTCT performances at each level quarterly
- If the percent of an indicator performance is above 80 to 95%: Green
- If the percent of an indicator performance is between 60-79%: Yellow
- If the percent of an indicator performance is less than 60%: Red

Annex4.2. HIV-1 DNA PCR Test Request Form

Facility Name:_____ Region _____

Infant's Name: _____ MRN_____

08 ☐ 09 ☐ _____ _____

HEI ID: Region code Health facility type code Health facility code Facility Consecutive

Date of birth: _____/_____/_____ dd mm yyyy	Age_____ _	Sex: M ☐ F ☐

Request for test: Initial/ Diagnostic ☐ Repeat/Confirmatory ☐

Specimen type: DBS ☐ EDTA Whole Blood ☐

Date of Sample Collection ____/____/____

dd mm yyyy

Name of the testing laboratory: _____

Specimen collected by: _____

PMTCT information

Infant on breastfeeding	Yes ☐	No ☐		**Infant not breast feeding**		
PMTCT Intervention given to infant	1. Daily NVP since	Yes ☐	No ☐	1. Daily NVP for 6	Yes ☐	No ☐
	2. No intervention	☐		2. No intervention	☐	
Mother on ART	Yes ☐			No ☐		

Requesting Health worker _____ Designation_____signature_____

TO BE COMPLETED BY TESTING LABORATORY

Date sample received: _____/_____/_____ dd mm yyyy		Date test performed: _____/_____/_____ dd mm yyyy	
HIV-1 DNA Result:	☐Positive	☐Negative	☐ Indeterminate
If test not done, reason:	☐No requisition with sample ☐ No sample with requisition ☐Poor sample condition ☐ Insufficient sample volume ☐Improper identification ☐Other :(Specify)_____		

Comment:		
Lab test done by:	Signature	Date:_____/_____/_____
Test results checked by:	Signature	Date:_____/_____/_____

***Remark**: This form should be completed in triplicate. The original and second copy should be send to the Laboratory with the specimen. The third copy should be retained in the clinic. After laboratory test, the original form with completed results should be returned to the clinic and the copy will be retained in the laboratory.*

Annex 4.3a.CQI TOOL

FACILITY LED ASSESSEMET OF PMTCT SERVICE

Region: _____Health facility: _____Date: _____/_____/_____

S.N	Service area	Intervention	Result statements	Check points (Use observation(O) or/and interview(I) or/and review of documents(RD))	Scoring Defined in #	M&E (Quantitative indicators)	Remark
1	Card Room or Reception	Post reminder (statement "Priority for pregnant and lactating women")	Card room with notice posted on visible place	☐Reminder notice posted (O) ☐Clerk gives priority for pregnant and lactating women(O/I)	---of---		
2		Use of Cue card	Health workers Complied to TC standards	☐Presence of Cue card and utilization/application for PMTCT(o) ☐Client informed about availability of interventions to reduce MTCT(I) ☐Privacy assured (O) ☐HIV testing conducted using the national	---of---	# of pregnant women tested and know their result	

	ANC unit			testing algorithm(O) ☐Syphilis testing as a routine(I,RD) ☐Syphilis test positives management (I,RD)			
3		Prevention and treatment of iron deficiency anaemia in pregnancy	Pregnant mothers screened and treated for anaemia	☐ Lab testing for Hemoglobin/ Hematocrit conducted (RD) ☐ Iron supplementation provided (RD)	--of---	# of pregnant women tested for anaemia, % # of pregnant women who received Iron supplementation	
4		Male friendly MNCH services	Male partners involvement in the MNCH entry points	☐Woman informed on the necessity of partner testing(I) ☐Invitation sent to PW's partners to attend clinic's session (I, RD) ☐Family testing using family matrix (O,I) ☐HCT service provided to PW partners(I,RD)	---of--	# of male partners tested	
5		Recording and reporting	Records are complete and kept (Record	☐All HMIS forms available (O) ☐Completeness of records (O, RD) ☐Records properly handled(cabinets, room	---of--		

			Keeping)	locked) (O) ☐Transfer in and transfer out sheet has been presnt & completed well(O,I,RD)			
6		Availing Attendance register to track LTFU	Clinical Attendance book in place (patient tracking system available?)	☐Attendance tool in place for easy reference(O) ☐Proper application of tracing tool (O,RD)	---of----	# of pregnant women LTFU care;	
				TOTAL SCORE	--of ----		
S.N	Service area	Intervention	Result statements	Check points (Use observation(O) or/and interview(I) or/and review of documents(RD))	Scoring Defined in #	M&E (Quantitative indicators)	Remark
7		Clinical service related to PMTCT open round the clock (24/7)	PMTCT service available 24 hours for labouring	☐Trained health worker assigned(O, I) ☐Basic L&D equipment available (delivery coach, delivery set, maternity bed…) and ready for use(O)	---of---	# PW+ provided with ART during ANC, L&D & PNC; # of HEI received	

			women	☐ART for the mother (I/O) ☐ARV prophylaxis for newborn available(RD/O) ☐Check for Expiry date for all ARVS (O) ☐Job aids related to PMTCT in place(O)	-	ARV for PMTCT	
8	L&D unit	Use of Cue card	Health workers Complied to CT standards	☐Client informed about availability of interventions to reduce MTCT(I) ☐Privacy assured(O) ☐HIV testing conducted using the national testing algorithm(O, RD) ☐HCT service provided to delivering women partners (I,RD)	---of--- -	# of women TC during L&D and know their status	
9		Male friendly MNCH services	Male partners involvement in the MNCH entry points	☐Woman informed on the necessity of partner testing(I) ☐Invitation sent to PW's partners to attend clinic's session (I, RD) ☐HCT service provided to PW partners (I,RD)	---of---	# of male partner tested at L&D(the denominator is the # of ANC HTC)	

		Infection prevention during labor and delivery	Use of standard precautions	☐presence of personal protective equipment for delivery service available (O, I) ☐Presence of instrument cleaning & processing set up been present (O,I) ☐clean ,neat delivery room(O) ☐Hand hygiene practice & procedure posted (O)	---of---		
10		Linking cases to PMTCT/ANC for Rx, care and support	HIV positive mothers linked to care, support and treatment services	☐Standard referral forms are available and used(O, RD) ☐Service directory available(O, RD) ☐ Referral and feedback forms are properly documented (O, RD) ☐ HEIs put on NVP Prophylaxis and linked to MBPCF(I,O,RD)	---of--- -	# of mothers linked to treatment, Care &Support to ANC unit # of HEIs put on NVP	
				TOTAL SCORE	---of---		

S. N	Service area	Intervention	Result statements	Check points (Use observation(O) or/and interview(I) or/and review of documents(RD))	Scoring Defined in #	M&E (Quantitative indicators)	Remark
11	PNC/EPI /HEI unit	Availing regular standard services during all clinic hours	services open regularly during all clinic hours	☐Provide standard PNC as per the guidelines for mother-infant pairs(O, RD) ☐Counseled on BF and care for HIV exposed infant(O, RD) ☐Offer HCT if not done already(RD) ☐Job aids available(O)	---of----	# of HIV+ mothers received at least one PNC services; # of HEI on BF received daily NVP for PMTCT	
12		Making MNCH services Male friendly	Male partners involved in the MNCH entry points	☐Woman informed on the necessity of partner testing(I) ☐Invitation sent to women's partners to attend clinic's session(RD) ☐HTC service provided to women partners (RD)	---of----	# of male partners tested for HIV in PNC	

13		Use of dual protection (contraception and consistent use of condom)	HIV positive women received dual Prevention counseling	☐Different options for FP methods counseled and demonstrated, stressed on dual protection(O,I, RD) ☐Job aids available (O)	---of----	# HIV +Women provided with PP FP methods	
14		Linking clients to care and support	HIV positive mothers linked to care, support and treatment services	☐standard HIV/AIDS referral forms are available and used (O,RD) ☐Service directory available(O, RD) ☐Referral and feedback forms are properly documented(O,RD)	---of----	# of HIV positive women and newborn linked to treatment, C&S	
15	FP	Use of dual protection (contraception and consistent use of condom)	HIV positive women received counselling on dual protection	☐Different options for FP methods counseled and demonstrated, stressed on dual protection (O,I,RD) ☐different FP options are available(O) ☐Job aids available(O)	---of----	# of HIV Positive women who are on FP	
				TOTAL SCORE	__of__		

S. N	Service area	Intervention	Result statements	Check points (Use observation(O) or/and interview(I) or/and review of documents(RD))	Scoring Defined in #	M&E (Quantitative indicators)	Remark
16	EID		HEI diagnosed	☐Postal office receives DBS sample within 5 days after collection(I) ☐DBS test turn round time <1month(I) ☐Tracing of clients to inform status (RD,I)	---of----	# of infants tested with DNA PCR and know their status	
17	ART	Referral linkage	Referral system among ART and PMTCT	☐Transfer in and transfer out sheet has been presnt & completed well(O,I,RD) ☐ Team work among PMTCT and ART provider (I,O) ☐Referral slip used for pre-ART clients linked for PMTCT (O/I)	--of----	# of mothers linked b/n ART & PMTCT	
	Laborat	Establish functional drug	Functional L&S	☐PMTCT logistics and supply			

18	ory Pharmacy store and dispensary	and supplies system	mgt. system	management conform with the national drug policy and regulations(O) ☐Regular update of drug and supplies stock balance(RD) ☐Early request (one month)of refill prior to stock out of medical and supplies(RD) ☐Reagent for syphilis test available (O,I ,RD) ☐RPR/VDRL test performed for ANCs(I,RD) ☐ Quality assurance performed(HTC, DBS) (I, RD)	---of----	# of health facilities with stock-outs in the last three months	
19	PMTCT / MCH coordination	Existing system for monitoring and documenting best practices	Best practices and challenges documented	☐Regular meeting conducted every 2 weeks to capture lessons learnt and challenges for decision making (verified by minutes)(RD) ☐CQI recording formats and M&E	---of----		

	service			tools available (O,RD) ☐Timely report and feedback provided to challenges including logistics and supplies issues(RD)			
				TOTAL SCORE	**---of---**		
				GRAND TOTAL SCORE	**---of---**		

Note: These are not the only quality indicating checks. However, these are considered basics to start up identifying problems of PMTCT services. The health facility can possibly generate information to from other source to identify problems/challenges/gaps and run the process of PDSA.

Annex 4.3 b: Sample of Clients' Exit Interview Questionnaire

Instruction: Hello, I would like to ask your permission to be part of an assessment about how you felt about the services you received in today's visit to this health facility. This is to better understand how services can be improved. You are kindly requested to respond to the questions honestly.

Thank you. Let's begin now. Answer questions with a tick against the corresponding response that matches.

S/#	Items/questions	Responses			
1.	Reason for your visit	□ ANC/PMTCT □ Delivery Service □ Post natal care □Other (specify)			
		Excellent	Good	Fair	Remark
2	In general, how do you feel about the waiting time?				
3	How do you feel about the time given for consultation by the health provider?				
4	How do you rate the assistance of the health provider to make you understand the recommendations that you need to follow?				
5	How well do you think your privacy was respected and maintained during your visit?				
6	Generally, how do you rate your satisfaction with the services you				

	received today?				
7	If fairly satisfied, which service(s) do you think need(s) improvement?	□ART □ PMTCT /ANC □ L&D □ Postnatal/FP □Card room, □Pharmacy □Laboratory □ other (specify)			

These are all the questions. Thank you for your time and your valuable information.

ANNEX 4.3c: Action Plan Framework

Name of facility: _____ Date: ____/_____/_____

ACTION PLAN

R/N (Result area #)	GAP IN THE CHECK POINTS (problem statement)	INDICATOR (intended Target)	Possible cause (key causes)	Action taken (Test action)	Responsible PERSON	Support Required	Timeline (d/m/y)	Evaluate/ lesson learned (Study)	action for the next cycle
	P1: P2:	I: T:	C1: C2:						□Modify □Expand □Drop

Annex 4.4. Tips for Practical Attachment Facility Visit

1. Introduce to facility head and management team about the objective of this facility visit

Objective

- Implementing follow up of CQI and plan of action to be done in the facility
- Introduction dash board
- Introduce clinical and systemic mentoring of PMTCT/HIV exposed infants
- Identify the level of involvement of mother mentors for PMTCT through interview, observation and discussion with MNCH/PMTCT coordinator and mother mentors including document review

2. Visiting

- First visit all areas of key PMTCT Implementing areas in group (ANC,L&D,PNC,EPI,F/P, Adult and pediatric ART, Pharmacy and Laboratory)

3. Clinical Case Review

- Select 6 cards among PMTCT clients and 3 new and 3transferred from ART to ANC
- Review findings and actions performed
- Put tally accordingly and sum for the cards you reviewed

S.N	Activity Description	Done	Not Done	Finding and Action
	Assessment of FP and documented FP options			
	WHO clinical Starting			
	CD4 follow up after 6 months			
	Viral load done after one year			
	ART initiation and Re-filling at ANC			
	TB screening			
	Referral for TB suspect			
	INH prophylaxis for TB negatives			

	CPT prophylaxis			
	STI screening and management			
	Nutritional assessment and management			
	Adherence monitoring and counselling			
	Disclosure counselling			
	Family Index Client Finding or use of family matrix			
	Children identified HIV positive through the use of family matrix			

4. Clinical case review for HEI Case review for HEI

See 3-5 HIV exposed infant card and review and put tally accordingly

S.N	Activity Description	Done	Not Done	Finding
1	NVP prophylaxis provided and registered in the MBPC register at a time of delivery			
2	CPT started at 6 weeks			
3	DBS at 6 weeks, results registered			
4	Ab confirmatory test done at 18 months			
5	Growth Monitoring & Developments Assessment			
6	Vaccination/ EPI			
7	Infant feeding selected and current status			
8	Other care of exposed infant			

5. **Key tasks**

   A. Perform facility led assessment tool

   B. Explaining How to use dash board

   C. Doing action plan of health facility with PMTCT team and facility head

   D. Summary report on:-

   - General view of Facility MNCH/PMTCT performance: strengths, gaps identified and areas of improvement specific to the facility
   - Total Performance & gap of the health facility
   - Document any challenges related to MNCH/PMTCT services.

Format for practical attachment– Trainees assignment to Health facilities

S.N	NAME OF THE PARTICAIPANTS'	NAME OF HEALTH FAILITY	TEAM LEADER
1			
2			
3			
4			
5			
6			
7			

HIV CARE/ART FOLLOW-UP FORM

FEDERAL MINISTRY OF HEALTH, ETHIOPIA

Facility Name: _____

Patient card No. _____ Unique ART No. _____ TB card No. _____ PMTCT confidentiality code/_____ (patient's mother for children)

Name: _____ Age _____ Years (months for children<5years) Sex ☐ M ☐ F Height/Length _____ (cm/m)

Address : Region _____ Wereda/Subcity _____ Kebele _____ House. No. _____ Telephone _____

Date Confirmed HIV+: _____/_____/_____ (dd/mm/yy)

Type of HIV test: ☐ Rapid HIV tests ☐ ELISA ☐ PCR (for children)

Eligible (date) _____/_____/_____ Why eligible (code) _____ Elig. & Ready (date) _____/_____/_____ (dd/mm/yy)

P/F	S/US	Follow Up date (dd/mm/yy)	Months on ART	Wt (Kg)	Pregnancy PP method EDD / height/head circum. for child (cm)	Functional Status (W,A,B) / Developmental Milestone (A,D,R)	WHO stage 1 - 4	TB Screen. P/N	TB Proph/ Rx	OIs	Cotrimoxazole: Adh (G,F,P)	Cotrimoxazole: Dispense dose	Other medication dispensed	ARV drug: Adh (G,F,P)	ARV drug: why	ARV drug: Dispense (dose /code)	ARV drug: Side effect	ARV drug: Reason for change	CD4/mm3 or % if<5 yrs. or TLC	Hgb. ALT/AST	Next visit date (dd/mm/yy)

Followup Card V.2 1999

P = Paying for ART **F** = Free ART

S = Scheduled **US** = Unscheduled

TB SCREEN

SCREEN FOR TB AT EVERY VISIT!!!

1. Cough for > 2 weeks?
2. Fever for > 2 weeks?
3. Weight loss > 3 kg since last visit?
4. Night sweats for > 2 weeks?
5. History of TB contact in the past year?

P (Positive screen) = YES to question 1 or **NO** to Q1 and YES to 2 or more of other questions. **Evaluate for TB.**

N= Negative screen.

TB PROPHYLAXIS/TREATMENT

INH = Currently on INH prophylaxis

(Specify month on treatment e.g. **INH4** = 4th month on INH prophylaxis)

....On completion of proph. = **INH DC**

TB Rx = Currently on DOTS (Specify month on treatment

e.g. **TB Rx4** = 4th month on DOTS)

...On completion of DOTS = **TB Rx DC**

OI

Zoster

BP, Bacterial Pneumonia

PTB, Pulmonary TB

ETB, Extra pulmonary TB

Thrush - oral, vaginal

Ulcers - mouth, genital,

DC or **DA**, Diarrhea Chronic/Acute

PCP, Pneumocystis pneumonia

CT, CNS Toxoplasmosis

CM, Cryptococcal Meningitis

Other

MONTHS ON ART

Duration in months since initiation of ART

0 = ART initiation date

1 week = 1 week

2 weeks = 2 weeks

3 weeks = 3 weeks

1 = 1 month

2 = 2 months e.t.c.

If Pre-ART, leave this column blank

PREGNANCY/FAMILY PLANNING

Use this column for height and head circumference for children at EVERY visit

P = Pregnant (If pregnant, give estimated due date (EDD))

PMTCT = Referred to PMTCT (enter code in the space provided on the header)

FP= On family planning (enter code):

1 = condoms

2 = oral contraceptive pills

3 = injectable/implantable hormones

4 = Diaphragm/cervical cap

5 = Intrauterine device

6 = Vasectomy/tubal legation

FUNCTIONAL STATUS

W= Working (able to perform usual work in or out of the house, harvest, go to school, for children, normal activities or playing)

A=Ambulatory (able to perform activities of daily living)

B=Bedridden (not able to perform activities of daily living)

DEVELOPMENTAL MILESTONES FOR CHILD

Code as: **A**=Appropriate; **D**= Delay; **R**= Regression

Sitting without support..... 3 to 9 months

Standing with assistance ..... 5 to 11 months

Hands and knees crawling..... 6 to 13 months

Walking with assistance..... 7 to 14 months

Standing alone..... 8 to 17 months

Walking alone..... 9 to 18 months

Delay: failure to attain milestones for age

Regression: Loss of what has been attained for age

ELIGIBLE

ELIGIBLE date (dd/mm/yy/when patient is medically eligible for ART

WHY ELIGIBLE

WHY ELIGIBLE (Note reason why patient eligible for ART)

1 Clinical only 3 TLC

2 CD4 4 Transfer in (T)

ELIGIBLE AND READY

Enter the date (dd/mm/yy) when patient is medically eligible and ready (counseled for adherence) for ART

ADHERENCE

Estimate adherence using the table below:

Adherence % missed doses:

	%	(of 30 doses)	(of 60 doses)
G (good)	>95%	≤ 2 doses	<3 doses
F (fair)	85-94%	3-5 doses	3-9 dose
P (poor)	<85%	≥ 6 doses	>9 doses

If fair or poor adherence, in why column note reason:

1 Toxicity/side effects
2 Share with others
3 Forgot
4 Felt better
5 Too ill
6 Stigma, disclosure
7 Drug stock out
8 Lost/ ran out of pills
9 Delivery/travel problems
10 Inability to pay
11 Alcohol
12 Depression
13 Other

SIDE EFFECTS

1 Nausea
2 Diarrhea
3 Fatigue
4 Headache
5 Numbness/ tingling
6 Rash
7 Anemia
8 Abdominal pain
9 Jaundice
10 Fat changes
11 dizzy, anxiety, night mare

REASON FOR REGIMEN CHANGE

1 Toxicity/side effects
2 Pregnancy
3 Risk of pregnancy
4 Due to new TB
5 New drug available
6 Drug out of stock
7 Other
8 Clinical failure
9 Immunologic failure
10 Virologic failure

REASON FOR STOPPING REGIMEN

STOP = Stopped ART if STOP, in why column, note reason

1 Toxicity/side effects
2 Pregnancy
3 Treatment failure
4 Poor adherence
5 Illness, hospitalization
6 Drugs out of stock
7 Patient lack finances
8 Other patient decision
9 Planned treatment interruption
10 Other

DISPENSE DOSE/REGIMEN CODE

Note the number of doses of treatment dispensed / Regimen code*

Adult 1st Line Regimens:

1a(30)=d4T(30)-3TC-NVP

1a(40)=d4T(40)-3TC-NVP

1b(30)=d4T(30)-3TC-EFV

1b(40)=d4T(40)-3TC-EFV

1c = AZT-3TC-NVP

1d = AZT-3TC-EFV

Child 1st Line Regimens:

4a =d4T-3TC-NVP

4b = d4T-3TC-EFV

4c = AZT-3TC-NVP

4d = AZT-3TC-EFV

Adult 2nd Line Regimens:

2a = ABC-ddI-LPV/r

2b = ABC-ddI-NFV

2c= TDF-ddI-LPV/R

2d= TDF- ddI-NFV*

Child 2nd Line Regimens:

5a = ABC-ddI-LPV/r

5b = ABC-ddI-NFV

5c = TDF-ddI-LPV/R

5d = TDF-ddI-NFV*

In the follow-up date, in 2nd column, if one of the options below applies, use the row next to the last visit to enter the appropriate information

TO = transfered out **LOST** = not seen since >/= 1month < 3 months **DROP** = lost to follow-up for > 3month **DEAD**

Federal Democratic Republic of Ethiopia
Ministry of Health

Health Center/Clinic/Hospital

Integrated MNCH/PMTCT Register

Region	Subcity/Woreda	Health Facility Name	Begin Date	End Date

Federal Democratic Republic of Ethiopia
Ministry of Health

PMTCT Register for Health Center/Hospital

Cohort : Year _____ Month _____

Registration								ANC						Delivery					Post-Delivery Care		HIV Care to be Filled when applicable								HIV Exposed Infant								Remark
	Identification					Entry To PMTCT														FP Service																
Serial No.	Mother's Name	MRN	ART unique ID #	Age	Booking Date	Newly diagnosed & started on ART (1=at ANC; 2=at L&D; 3=post partum)	Known HIV + (1=On ART at entry; 2=Not on ART)	LMP	EDD	Gestational Age in weeks (GA)	Tetanus Sulfate/Folic Acid Provided(Y/N)	Syphilis test result (P/N/ND)	Selected Infant Feeding option (EBF, EBF)	Date of Delivery (DD/MM/YY)	Place of Delivery (1=Same Facility,2=Other Facility,3=Home)	Delivery outcome(LB, SB)	ART Taken During Labor (Y/N)	Infant Received NVP(Y/N)		Family Planning Counseled(Y/N)	Contraceptive method(see code)	Partner tested (R/NR/ND)	TB symptom screening (P/N/ND)	Date INH prophylaxis started	Date TB Rx started/stopped	Initial CD4 test(Value or ND) / Date of sample taken	WHO Clinical Stage	Maternal CPT started (Y/N)	Date ART Initiated	Initial ART Regimen(See Code)	Infant's MRN	Date of HEI enrollment to PMTCT (DD/MM/YY)	Infant Received NVP(Y/N)	Infant feeding practice within the first 6 months (EBF/ ERF/ MF)	Age in Wks Started CPT	Age in Wks Tested With DNA/PCR	Result of DNA PCR(P/N/Dk)	Rapid HIV AB test result at/ with in 18 mos (P=Positive;N=Negative)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39

Newly diagnosed and started on ART

At ANC	
At L&D	
At PNC	

Known HIV positive

On ART at entry	
Not on ART	

CONTRACEPTIVE SELECTED
1. Con= condoms
2. OC= oral contraceptive pills,
3. Inj= Inject able /implantable hormones
4. Diaph=Diaphragm/cervical cap,
5. IMP=Implants
6. IUCD=intrauterine device
7. Vas/Tub=vasectomy/tubal ligation
8. EC= Emergency Contraception
9. Others (specify)

ART REGIMEN CODE
1a =
1b =
1c = AZT-3TC-NVP
1d = AZT-3TC-EFV
1e = TDF-3TC-EFV
1f =TDF-FTC-NVP
1g = AZT prophylaxis
1h= other prophylaxis
1i =others, specify

CODING
N if negative and no longer breastfeeding;
N/BF if negative and still breastfeeding; or
P if positive;
or Dead if dead;
or U if status unknown.

# of infants tested with PCR test

<2 months	Positive	PCR test result
2-12 months	Negative	
	Unknown	

Federal Democratic Republic of Ethiopia
Ministry of Health

PMTCT Register for Health Center/Hospital

Cohort : Year ______________ Month ______________

	Months 0-6								
							6 months		
	0	1	2	3	4	5	Regimen	MUAC	CD4
	40	41	42	43	44	45	46	47	48
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
Maternal Status	↓	↓	↓	↓	↓	↓	↓		
Indicate regimen code (if alive & on ART)									
TO for Transferred Out;									
LTF for Lost to F/U;									
D for Known Dead									
Infant Status	↓	↓	↓	↓	↓	↓	↓		
Indicate NVP for 1st month of life and CPT after 1st month of life.									
TO for Transferred Out;									
LTF for Lost to F/U;									
D for Known Dead									
DN for Discharged negative infants									

	Months 7-12								
						12 months			
	7	8	9	10	11	Regimen	MUAC	CD4	Viral load performed (√) / (detectable/ undetectable)
	49	50	51	52	53	54	55	56	57
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
mother									
Infant									
Maternal Status	↓	↓	↓	↓	↓	↓			
Indicate regimen code (if alive & on ART)									
TO for Transferred Out;									
LTF for Lost to F/U;									
D for Known Dead									
Infant Status	↓	↓	↓	↓	↓	↓			
Indicate NVP for 1st month of life and CPT after 1st month of life.									
TO for Transferred Out;									
LTF for Lost to F/U;									
D for Known Dead									
DN for Discharged negative infants									

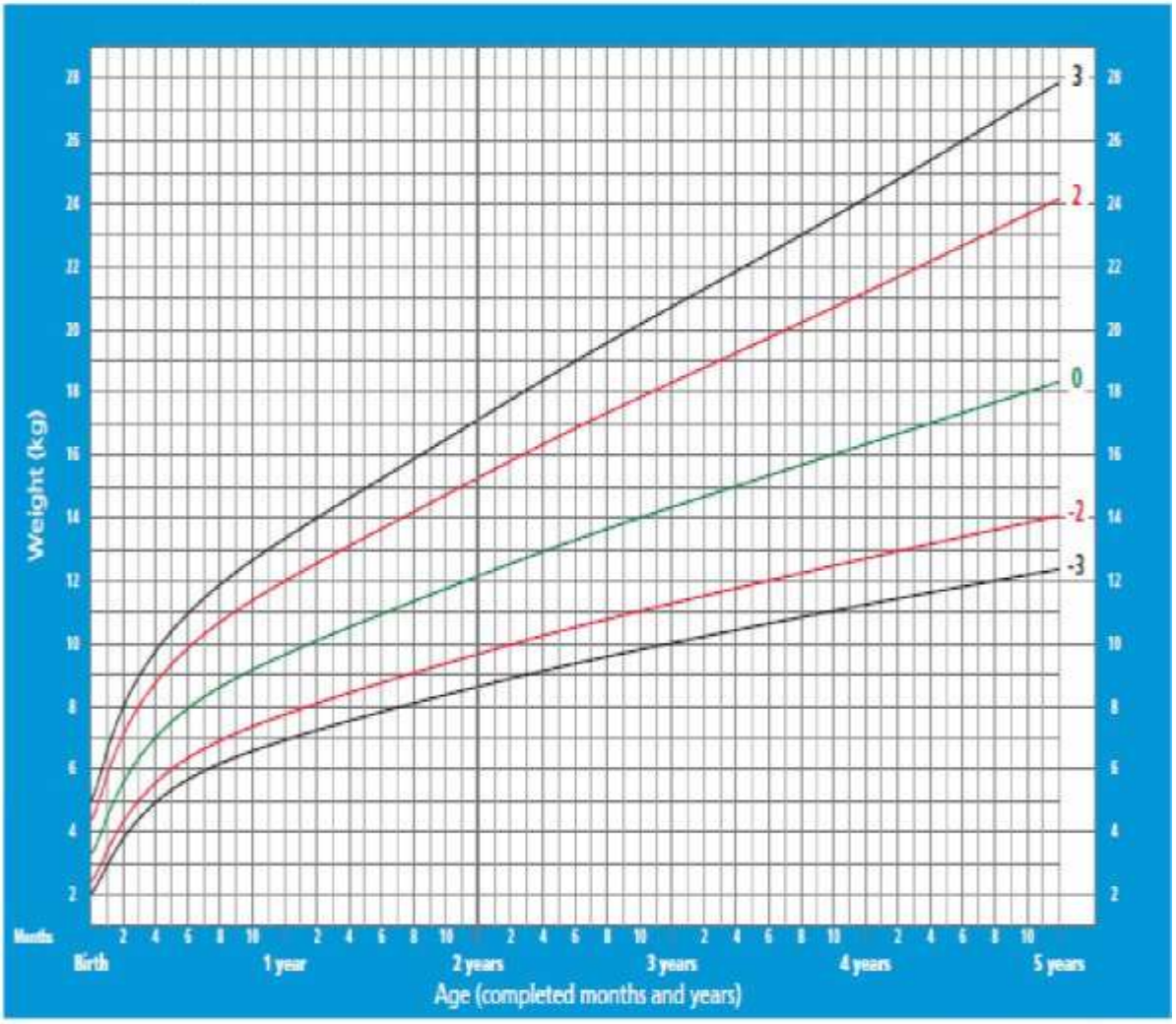
	Months 13-24															
						18 months								24 months		
	13	14	15	16	17	Regimen	MUAC	CD4	19	20	21	22	23	Regimen	MUAC	CD4
	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
mother																
Infant																
mother																
Infant																
mother																
Infant																
mother																
Infant																
mother																
Infant																
mother																
Infant																
mother																
Infant																
Maternal Status	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓		
Indicate regimen code (if alive & on ART)																
TO for Transferred Out;																
LTF for Lost to F/U;																
D for Known Dead																
Infant Status	↓	↓	↓	↓	↓	↓			↓	↓	↓	↓	↓	↓		
Indicate NVP for 1st month of life and CPT after 1st month of life.																
TO for Transferred Out;																
LTF for Lost to F/U;																
D for Known Dead																
DN for Discharged negative infants																

	Months 25-30							
						30 months		
	25	26	27	28	29	Regimen	MUAC	CD4
	74	75	76	77	78	79	80	81
mother								
Infant								
mother								
Infant								
mother								
Infant								
mother								
Infant								
mother								
Infant								
mother								
Infant								
mother								
Infant								
Maternal Status	↓	↓	↓	↓	↓	↓		
Indicate regimen code (if alive & on ART)								
TO for Transferred Out;								
LTF for Lost to F/U;								
D for Known Dead								
Infant Status	↓	↓	↓	↓	↓	↓		
Indicate NVP for 1st month of life and CPT after 1st month of life.								
TO for Transferred Out;								
LTF for Lost to F/U;								
D for Known Dead								
DN for Discharged negative infants								

Weight-for-age BOYS

Birth to 5 years (z-scores)

World Health Organization

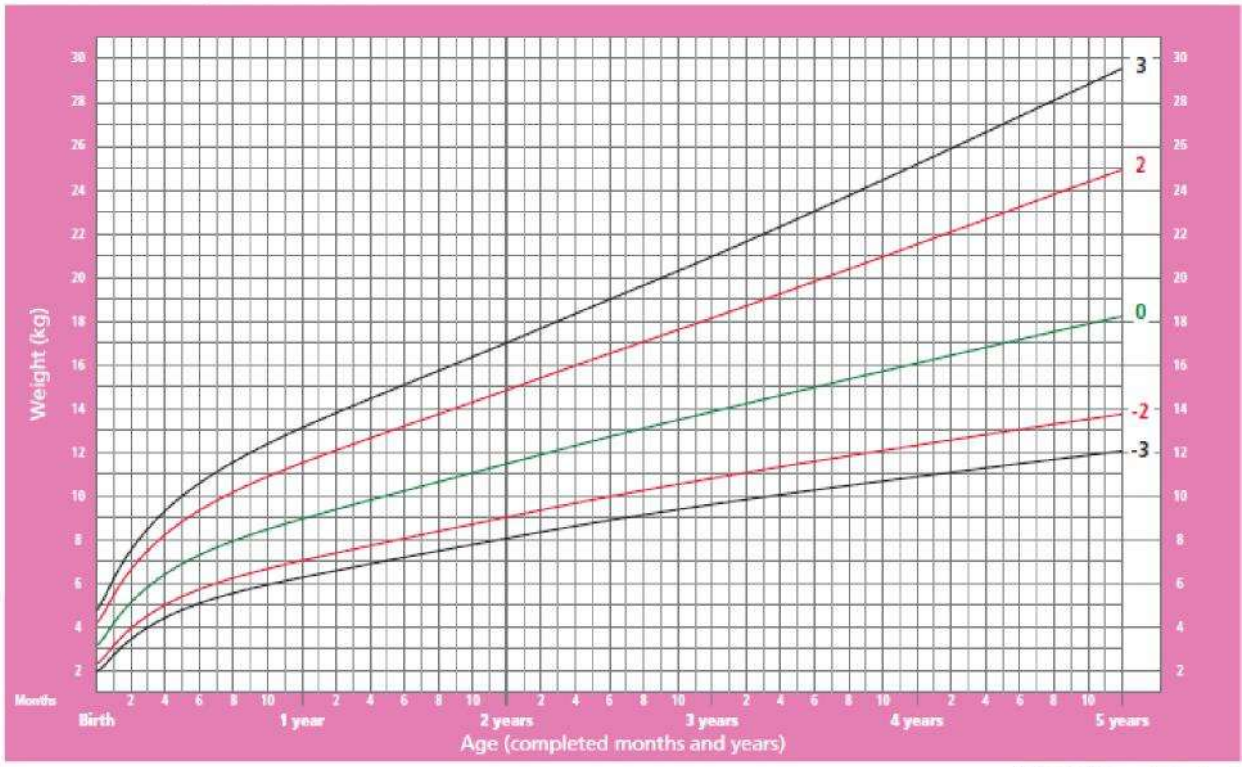


WHO Child Growth Standards

Weight-for-age GIRLS

Birth to 5 years (z-scores)

World Health Organization



WHO Child Growth Standards