Integrated Prevention of Mother-to-Child Transmission of HIV and Support for Infant Feeding

Health Providers Course

LINKAGES

March 2004

INTEGRATED PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV AND SUPPORT FOR INFANT FEEDING

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Preface

The LINKAGES Basic Course on Integrated Prevention of Mother-to-Child Transmission (PMTCT) of HIV and Support for Infant Feeding is designed to give clinic-based health personnel and supervisors a basic understanding of HIV facts and prevention, mechanisms of mother-to-child transmission (MTCT) of HIV, current MTCT risk reduction interventions, and infant feeding in the context of PMTCT. The course also reviews nutritional recommendations for pregnant women and new mothers in areas affected by HIV and AIDS.

Training participants identify and practice basic counseling skills in the context of HIV and AIDS, with a focus on infant feeding, and identify strategies to integrate PMTCT interventions into existing maternal and child health (MCH) and community services. Each session of the basic PMTCT and infant feeding course includes the following components:

- Duration
- Introduction
- Learning objectives
- Training methods
- Materials and recommended reading

The participatory training approach uses the experiential learning cycle method and prepares participants for hands-on performance of skills in their workplaces. The course employs a variety of training methods, including demonstration, practice, case studies, group discussion, role-play, checklists, and lectures. Videos and slides are used during the training to reinforce information and practice. Participants also act as resource persons for each other. Participants benefit from clinical practice, working directly with breastfeeding mothers and pregnant women. The course includes opportunities for participants to talk with people living with HIV and AIDS as well as community service providers and volunteers. At the end of the course, participants should be mentored and supervised by the trainers or other designated staff. Regular updates are encouraged to keep trainees current on new developments in infant feeding in the context of PMTCT.

Respect for individual trainees is central to the training, and sharing of experience is encouraged throughout. Participants complete pre- and post-training assessment questionnaires and discuss their evaluations at the end of training. Participants are encouraged to write their names on their questionnaires so that trainers can provide feedback to individual trainees.

For more information about this course, the LINKAGES PMTCT and Infant Feeding Course for Community Motivators, or the LINKAGES Training of Trainers Course that accompanies both manuals, please contact:

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INTEGRATED PMTCT AND SUPPORT FOR INFANT FEEDING COURSE: INSTRUCTIONAL PLAN

Session number/title	Time	Learning objectives	Content	Training methods	Materials
Day 1					
1: Introduction, Objectives, and Pre-test	2 hrs	• Begin to name fellow participants, facilitators, and resource persons. • Create mutual interdependency among participants and trainers. • Create a dynamic relationship among participants and trainers. • Discuss participants' expectations and fears. • Explain course objectives and purpose of the training. • Administer pre-assessment test. • Discuss administration and housekeeping arrangements.	• Introductions • Expectations • Course objectives • Pre-test	• Introduce presentation game for introductions and expectations. Cut breastfeeding drawings or pictures in half. Give each participant a portion and ask him/her to find a match. Ask pairs to introduce each other's names, expectations of the course, and something of human interest (favorite food, hobbies, likes, dislikes, etc.) • Write expectations on flipchart, fill in expectation "gaps," and introduce missing objectives • Keep expectations and objectives in view during entire course • Ask each participant to fill out a written pre-test	• Matching pairs of drawings or pictures for presentation game • Participants' folders • Course timetable • Transparency of general objectives • Flipchart, markers, masking tape • Pre-test
2: Basic Facts and Impact of HIV and AIDS	3 hrs	• Define common terms related to epidemiology of HIV and AIDS. • Define HIV and AIDS. • Describe status and trends of HIV globally and in own country. • Describe modes of HIV transmission. • Discuss factors that contribute to spread of HIV. • Discuss impact of HIV on	• Definition of common terms related to epidemiology of HIV and AIDS: asymptomatic, determinants, epidemiology, endemic, epidemic, incidence, pandemic, rate, prevalence, incidence, incubation, window period, viral load • Definition of HIV and AIDS • Status and trends of the HIV and AIDS epidemic in the world • Modes of transmission of HIV	• Ask participants to form small groups to match epidemiological terms and brief definitions on manila boards. Facilitate a group discussion in plenary for participants to discuss their matches. • Present HIV and AIDS incidence and trends with transparencies. • Present factors that contribute to the spread of HIV. Then ask participants to reflect on myths and facts about HIV and AIDS and respond to questions by moving to areas	• Manila boards with terms and descriptions of terms • Transparencies • Statements about HIV and AIDS • Posters marked "True" and "False" • Flipchart, markers, masking tape • Handouts: "Myths and Facts about HIV and

Session number/title	Time	Learning objectives	Content	Training methods	Materials
		society. • Discuss common opportunistic infections	• Factors contributing to the spread of HIV • Impact of HIV and AIDS • List of opportunistic infections – Tuberculosis – *Pneumocystis carinii* pneumonia (PCP, AIDS-defining illness) – *Mucocutaneous Candidiasis* – *Herpes zoster* – *Cryptococcosis*	marked "True" or "False." • Ask participants to form small working groups to brainstorm first, transmission of HIV and second, the impact of the epidemic on society • Ask each working group to list opportunistic infections common in their communities • Facilitate group and plenary discussion.	AIDS" and "Myths and Facts about HIV and AIDS Answer Sheet" • Bartlett, John G. 2003. *Medical Management of HIV Infection*. The Hopkins HIC Report. Baltimore: Johns Hopkins University Press • UNAIDS. 2000. The *Status and Trends of the HIV and AIDS Epidemics in the World*, Geneva
3. Behavior Change Communication	2 hrs	• Define communication. • Define BCC. • Identify the goal of BCC. • Describe BCC steps. • Describe BCC methods and processes. • Identify the key elements of BCC. • Practice identifying behavior change stages.	• Definition of communication • Why knowledge is usually not enough to change behavior • Definition of BCC • Stages of BCC and interventions at each stage • Practice identifying behavior change stages regarding optimal infant feeding practices by mothers infected with HIV	• Ask the participants the following questions and write the answers on a flipchart: "What will we do with the information we get from this workshop?", "What is communication?", "Why do people communicate?", "What makes it difficult for people to change behavior?" • Brainstorm the definition of behavior change communication • Divide participants into 3 buzz groups and ask them to think about a behavior they want or need to change. Discuss how difficult it was • In plenary discuss the difference between how it feels to be told what to do and to be asked what you want to do. Ask a few participants to share their feelings	• Flipcharts, markers, masking tape • Handouts: "Stages of Change Model," "Steps to Change and Interventions," "Behavior Change Case Studies," "Behavior Change Case Studies Answer Key"

Session number/title	Time	Learning objectives	Content	Training methods	Materials
				• Discuss why information is usually not enough to change behavior. • On a flipchart draw the stages of behavior change • Brainstorm how people more through these stages to change behavior • Distribute and discuss handouts: Steps of Change Model and Steps to Change and Interventions • Ask participants to close their eyes and think of a non-addictive behavior (not drinking alcohol or smoking) they are trying to change. Ask them to identify at what stage they are in changing the behavior and why. Ask what they need to move to the next step. • Ask participants to identify key elements of behavior change. • Divide participants into 3 working groups and give each group 3 case studies. Ask each group to present 1 case study, identifying what stage the mother in the study is in. • Facilitate discussion in plenary	
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
RECAP					
Day 2					

Session number/title	Time	Learning objectives	Content	Training methods	Materials
4: Prevention and Treatment of Common Sexually Transmitted Infections in Relation to HIV	2 hrs	• Identify common STIs in country. • Describe correlation between HIV, MTCT, and other STIs. • Describe signs and symptoms of each STI. • Discuss prevention and management of STIs without antimicrobial therapies.	• Definition of sexually transmitted infections • Predisposing factors • Classification of STIs • General clinical manifestations of STIs • Complications and implications of STIs • Correlation between MTCT of HIV and STIs • Prevention and management of STIs without antimicrobial therapies	• In plenary brainstorm names and definitions of STIs and lead participants to identify two main categories of STIs • Ask participants to form four small working groups to discuss signs, symptoms, and management of STIs • In plenary show transparencies to complete the discussion • Lead a group discussion on the correlation between HIV and STIs, answering questions with, "Why is this important?" and "How can you apply this information in your work situation?"	• Flipchart, markers, masking tape • Slides • Transparencies • STI leaflets • WHO. 2001. "Global Prevalence of Selected Curable STIs: Overview and Estimates." WHO/HIV_AIDS 2001. 02. Geneva • ___. 2001. *Guidelines for the Management of Sexually Transmitted Diseases.* WHO/HIV_ AIDS 2001.01, Geneva • National STI prevalence information
5: Role of breastfeeding in Child Survival and Safe Motherhood	2 hrs	• State the elements of child survival strategy. • Describe breastfeeding as a child survival strategy. • Explain role of breastfeeding in safe motherhood. • List benefits of breastfeeding to mother, infant, and family. • Describe risks of artificial feeding.	• Definitions of common breastfeeding terms: artificial feeding, bottle-feeding, breastmilk substitute, cessation of breastfeeding, commercial infant formula, complementary foods, cup feeding, exclusive breastfeeding • Definition and elements of child survival • Benefits of breastmilk and breastfeeding for mother and infant: nutritional, health, psychological, economic, environmental	• Write breastfeeding and child survival terms on cards and ask participants to take turns picking a card and explaining the term's relation to child survival. Other participants agree or disagree and complete the explanation • Use transparencies or slides to reflect the role of breastfeeding in relation to other child survival interventions. • Ask participants to form small working groups to discuss the benefits of breastfeeding for mother and infant. Display flipcharts with 4 themes 1)	• Cards with breastfeeding and child survival terms • 4 flipcharts with 1 theme written at top of each • Transparencies • Masking tape, markers • Academy for Educational Development (AED)/ LINKAGES. 2002. "Facts for Feeding: Recommended Practices to Improve Infant Nutrition during

Session number/title	Time	Learning objectives	Content	Training methods	Materials
			• Risks of breastfeeding • Recommended breastfeeding practices • Risks of artificial feeding • Facts about child survival and safe motherhood	Nutritional benefits for the infant, 2) Health benefits, 3) Psychological, developmental, and child spacing benefits, and 4) Econo- ic and environmental benefits. • Ask members of small groups to rotate from chart to chart to provide additional points under each theme. • Facilitate group and plenary discussion • Brainstorm with participants the recommended breastfeeding practices and the risks of artificial feeding. • Make a presentation on additional facts about these child survival strategies	the First Six Months" and "Breastmilk: A Critical Source of Vitamin A." Washington • Defense for Children International-USA (DCI). 1991. *The Effects of Maternal Mortality on Children in Africa: An Exploratory Report on Kenya, Namibia, Tanzania, Zambia and Zimbabwe.* New York • Huffman, S, et al. 1996. *Breastfeeding Saves Lives: An Estimate of the Impact of Breastfeeding on Infant Mortality in Developing Countries.* Bethesda, MD: NURTURE/Center To Prevent Childhood Malnutrition • Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press • WHO/UNICEF/ UNFPA/ UNAIDS. 2003. "HIV and Infant Feeding: A Review of HIV Transmission through Breastfeeding." Revised. Geneva: WHO

Session number/title	Time	Learning objectives	Content	Training methods	Materials
6: Anatomy of the Breast and Physiology of Lactation	1 hr	• Identify parts of the breast and describe their functions. • Describe the hormonal control of breastmilk production and ejection. • Discuss factors that interfere with letdown of milk (ejection reflex).	• Anatomy of the breast: gross structure, microscopic structure, blood supply, and lymphatic drainage • Physiology of lactation: prolactin, oxytocin, infant reflex and lactation, hindering oxytocin and prolactin reflex, full breast = secretion stops, cessation of lactation	• Ask participants to form 4 small working groups in which each group draws a) the breast as it looks on the outside, b) the breast as it looks from the inside. In plenary ask each group to explain its drawings and how milk is produced; Facilitate discussion in plenary • Brainstorm factors that hinder and facilitate lactation	• Newspaper, markers, masking tape, knee-high stockings • Transparencies • Breast model • Handouts • Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International • Zeretzke, Karen. 1996. "Frequently Asked Questions about Breastfeeding." Schaumberg, IL: La Leche League International • Savage-King, *Helping Mothers to Breastfeed*, 1992
7: Composition of Breastmilk	1 hr	• List the main nutrients of breastmilk. • Describe variation of breastmilk. • List difference between the nutrients in breastmilk and cow's milk.	• Composition: colostrum, transitional milk, mature milk; gestational age of infant; duration of feeds • Comparison of human and cow's milk: protein, fat, vitamins, minerals, iron, water, anti-infective properties, growth factors	• Ask participants questions about the differences between colostrum and mature milk and between fore and hind milk. Ask what is special about pre-term milk • Lead a discussion and summary • Make a presentation of a chart that compares human milk and cow's milk	• Flipchart, markers, masking tape • Comparison chart: breastmilk, cow's and formula, WHO/ CDR/93.6 WHO/Wellstart • Riordan, Jan, and Kathleen Auerbach. 1999. *Breastfeeding and Human Lactation*.

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					Sudbury, MA: Jones and Bartlett • Savage-King, *Helping Mothers to Breastfeed*, 1992
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 3					
RECAP					
8: HIV Therapies to Prevent Mother-to-Child Transmission	1 hr	• Describe the basic defense mechanisms of the human body. • Describe the life cycle of HIV in relation to antiretroviral drugs. • Outline the use of antiretroviral drugs in reducing mother-to-child transmission of HIV.	• Human immune system: immunity organs and cells involved in the defense mechanism • Life cycle of HIV: brief description of structure of the virus, infection of the host cell, replication of the virus • Steps of inhibition of HIV and groups of antiretroviral drugs • Use of antiretroviral drugs in PMTCT (trials in the use of antiretroviral drugs to reduce mother-to-child transmission of HIV); postnatal visits and follow-up; data collection and storage	• Ask participants "How does the body react to infections?" • Make a presentation on the human immune system, the life cycle of the HIV virus, and steps of inhibition of the virus. • Make a presentation on various trials of antiretroviral drugs. • Ask the participants to form groups of three people each and asks each group to answer the question, "Why do you need to know this information?"	• Transparencies • Slides • ANC register • Handouts: "External Defenses of the Body," "Major Lymphoid Organs and Tissues," "Age-Adjusted CD4 Values in Healthy Children and Adults," "Structure of the HIV Virus," "Mechanism of HIV Infection," "Steps of HIV Inhibition," Nevirapine: Guidelines for PMTCT Maternal Dosing," Nevirapine: Guidelines for PMTCT Infant Dosing" • Playfair, J.H.L., et al. 2000. *Immunology at a Glance*. Oxford:

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					Blackwell Scientific • ____ and P.M. Lydyard. 2000. *Medical Immunology Made Memorable. 2nd ed. Churchill Livingstone* • WHO. 1999. "HIV in Pregnancy: A Review." Occasional Paper No. 2. WHO/CHS/RHR /99.15. Geneva
9: HIV Testing and Related Issues	1 hr	• Describe standard testing procedure. • Demonstrate two testing methods. • Discuss issues related to HIV testing. • Discuss steps to ensure internal quality assurance.	• Principle of HIV testing: antibody tests, immuno fluorescent assay, viral detection • Demonstration of two testing methods • Testing algorithm • Issues related to HIV testing: window period, false results, discordant results, discordant couples, testing of infants, clear reporting, and interpretation of results • Internal quality assurance: specimen collection, performing the test, storage of specimen, labeling	• Show transparency of types of HIV tests available in the region • Demonstrate 2 testing methods, explaining each step • Ask participants to match terms related to HIV testing results in columns 1 and 2 of Handout 9.1. Facilitate discussion about the results • Ask participants to form 4 working groups. Give each group 4 cards marked 1) Collecting the specimen, 2) Performing the test, 3) Storing the specimen, and 4) Labeling. Ask the groups to write on the back of each card the elements needed in each category to ensure internal quality assurance and to report on their discussion • Facilitate discussion and summary in plenary	• Transparency • Resource person who does HIV testing • Handout: "HIV Testing Results" • Kits for HIV testing • Bartlett, *Medical Management of HIV Infection*, 2003 • UNAIDS/UNFPA/ UNICEF/WHO. 2003. *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*. Geneva

Session number/title	Time	Learning objectives	Content	Training methods	Materials
10: Prevention of Mother-to-Child Transmission of HIV	2 hrs	• Define mother-to-child transmission of HIV. • Discuss the three modes of transmission from mother to child. • Describe factors that facilitate transmission of HIV from mother to child. • Explore interventions to reduce risk of mother-to-child transmission of HIV.	• Definition of mother-to-child transmission • Background information on modes and rate of HIV transmission from mother to child • Factors that influence MTCT of HIV: high viral load, maternal factors, obstetrical factors, fetus, infant • Other factors that influence MTCT of HIV • Prevention and risk reduction interventions for MTCT	• Brainstorm in plenary a definition of mother-to-child transmission • Present summary of studies showing rates of transmission during pregnancy, labor and delivery, and breastfeeding • Ask participants to form 4 small working groups. Display flipcharts with 4 themes (maternal factors that influence MTCT, obstetrical factors that influence MTCT, fetal and infant factors that influence MTCT, and other factors that influence MTCT) throughout the room. Ask groups to rotate from chart to chart and add needed points to each flipchart • Lead discussion in groups and plenary	• Flipcharts, markers, masking tape • Flipcharts with theme at top • Healthlink Worldwide. nd. "HIV and Safe Motherhood." London • UNAIDS/UNFPA/ UNICEF/WHO, *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*, 2003 • WHO, "HIV in Pregnancy: A Review," 1999
11. People Living with HIV and AIDS: Friendship Evening	1½ hrs	• Share experiences on how individuals react when they learn that they are HIV positive. • Discuss reaction of communities and families when one's HIV-positive status is made public. • Share experiences on issues of safer sex for people living with HIV and AIDS. • Discuss experiences of positive living with HIV. • Share experiences on reproductive issues for HIV-	• Friendship meeting with people living with HIV and AIDS who have publicly talked about their HIV status. Each person will be given an opportunity to briefly tell the participants how they think they might have contracted the virus and also what motivated them to take an HIV test.	• Ask participants to gather in a circle with everyone sitting at the same level, including the facilitator.	• Transparency of objectives

Session number/title	Time	Learning objectives	Content	Training methods	Materials
		positive young couples.			
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 4					
RECAP					
12: Management of breastfeeding: A. Positioning and Attachment	1hr.	• Describe correct attachment and positioning of the infant to the breast • Demonstrate alternative breastfeeding positions	• Attachment of the infant to the breast and positioning: infant's body position, infant's head, mother's position, types of positions, definition of attachment, signs of good attachment	• Demonstrate attachment and breastfeeding techniques with mothers and videos • Ask participants to practice techniques for proper attachment and positioning in groups of 5, with a breastfeeding mother in each group • Lead discussion in plenary of proper attachment and positioning	• Video/TV-VCR • Mothers with infants under 2 months old • Dolls/cloth breasts • Handouts: "Proper Attachment" and "Signs of Proper Positioning" • "Infant Cues: A Feeding Guide." 1997. Video. Mark-It TV, UK • Righard, Lennart. "Delivery, Self-Attachment" video • Riordan and Auerbach, *Breastfeeding and Human Lactation*, 1999
B. Exclusive Breastfeeding	1 hr	• Define common infant feeding terms • Outline 2 recommended practices to improve the nutrition of infants 0–6 months old • List 4 nutritional, health, and	• Definition of common terms used in infant feeding: exclusive, predominant, and partial breastfeeding, bottle feeding, artificial feeding, and demand feeding • Recommended practices for	• Ask the participants to form 3 working groups. Give each group a list of partial definitions of exclusive breastfeeding, predominant breastfeeding, partial breastfeeding, bottle feeding, artificial feeding, and demand	• Breastfeeding term and definition divided into words and/or phrases • Questions for each working group • Handout: "Ten Steps to Successful

Session number/title	Time	Learning objectives	Content	Training methods	Materials
		psychological benefits of exclusive breastfeeding for the infant, mother, and family	exclusive breastfeeding • Review of benefits of exclusive breastfeeding: nutritional, health for infant and mother, psychological, economical	feeding. Ask groups to complete the definitions • Ask each group these questions to answer from their experience: – What is given to an infant to eat or drink immediately after birth? Why? – When is an infant placed at the mother's breast? Why? – When and how many times a day do mothers breastfeed? – Do breastfeeding infants less than 6 months old need water, other liquids, or foods? Why or why not? If so, which liquids and/or foods? • Lead discussion and summary in plenary • Review benefits of breastfeeding for infant, mother, and family. Participants throw a ball in a circle. Whoever catches the ball mentions a benefit of breastfeeding	Breastfeeding" • AED/LINKAGES. "Facts for Feeding: Recommended Practices to Improve Infant Nutrition during the First Six Months," 2002 • Mohrbacher and Stock. *The Breastfeeding Answer Book*, 2003 • Riordan, Jan, and Kathleen Auerbach. 1999. *Breastfeeding and Human Lactation*. Sudbury, MA: Jones and Bartlett • Savage-King, *Helping Mothers to Breastfeed*, 1992 • WHO/BASICS/ UNICEF. 1999. *Nutrition Essentials: A Guide for Health Managers*. Geneva: WHO
C. Not Enough Milk	1 hr	• Discuss why infant may not get enough breastmilk.	• Signs that an infant may not be getting enough milk: reliable signs and possible signs; reasons; breastfeeding factors; mother's psychological factors; mother's physical condition; infant's condition; management of not enough milk	• Brainstorm why an infant may not get enough breastmilk • Have participants form groups of 2, with each person suggesting a way to treat this problem • Facilitate discussion and summary in plenary	• Flipchart, markers, masking tape • Handout: "Checklist for Common Breastfeeding Problems: Insufficient Breastmilk"

Session number/title	Time	Learning objectives	Content	Training methods	Materials
D. Infant Refusing to Breastfeed	½ hr	• Explain how to manage an infant who refuses to breastfeed.	• Kinds of refusal, reasons why an infant may refuse to breastfeed, difficulties with the breastfeeding technique, change that has upset infant, management of refusal	• Ask 2 participants to role-play a mother and health worker. The mother complains that her infant refuses to nurse, and the health worker responds • Lead group discussion, asking participants to fill in gaps in the dialogue	• Chairs for role-play • Handout: Checklist for Common Breastfeeding Conditions: Insufficient Breastmilk"
13: Breast Conditions and Their Management	2 hrs	• List common breast conditions and health in relation to lactation. • Describe factors that may lead to breast conditions. • Describe prevention and management of breast conditions. • Describe breast conditions that could facilitate MTCT of HIV.	• Early and late conditions • Common breast conditions, their symptoms, causes and management - Full breasts - Engorgement - Sore nipples - Cracked nipples - Blocked duct - Mastitis - Abscess - Candidiasis/thrush	• Form panel of 5 participants who have been given lead time to prepare and ask each member to discuss one of the following common breastfeeding conditions and its prevention, symptoms, and management – Full breast and engorgement – Sore or cracked nipples – Blocked ducts that can lead to breast infection and mastitis – Abscess – Candidiasis or thrush • Ask participants to fill in a checklist for each breast condition • Lead discussion and summary in plenary. • Show slides of various breast conditions and ask the participants to identify each condition	• Checklists of common breast conditions • Slides of breast conditions • Cabbage leaves • 1-liter bottle • Jugs of cold water and hot water • Handouts: "Results of Poor Breastfeeding Management: Engorgement," "Checklists for Common Breastfeeding Conditions (Engorgement, Sore or Cracked Nipples, Plugged Ducts, Mastitis)", "Mastitis Often Leads to Abscess" • Savage-King, *Helping Mothers to Breastfeed*, 1992 • Riordan, Jan, and Kathleen Auerbach.

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					1999. *Breastfeeding and Human Lactation*. Sudbury, MA: Jones and Bartlett
Videos					
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 5					
RECAP					
14: BFHI in the Context of HIV	1 hr	• Create awareness of events leading to the development of the Baby-Friendly Hospital Initiative. • Discuss the Ten Step to Successful Breastfeeding and BFHI in the context of HIV.	• BFHI goal and objectives • Brief background, reviewing steps in the development of BFHI and related events • BFHI implementation at hospital/health facility levels • 10 steps for successful breastfeeding in the context of HIV Annex • Actions at global level • Four stages for implementation of BFHI • Program guidelines/BFHI principles • Government plans • History of BFHI • Questions on BFHI designation	• Brainstorm the Ten Steps to Successful Breastfeeding in the Baby-Friendly Hospital Initiative and discuss each step in the context of HIV • Make a presentation on BFHI	• Flip-charts, markers, masking tape • Overheads • Handout: "Ten Steps to Successful Breastfeeding" • DCI-USA, *The Effects of Maternal Mortality on Children in Africa: An Exploratory Report on Kenya, Namibia, Tanzania, Zambia and Zimbabwe*, 1991 • UNAIDS/UNFPA/ UNICEF/WHO, *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*, 2003

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					• World Alliance for Breastfeeding Action (WBA). 2000. "Baby-Friendly Initiative Action Folder." Schaumburg, IL • WHO. 1989. "Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services. " Joint WHO/UNICEF Statement. Geneva
15: Women, Work, and Breastfeeding, Expressing and Storing Breastmilk	1 hr	• Explain the need for adequate maternity protection following childbirth for wellbeing of infant and mother. • Create awareness of maternity protection regulations. • Discuss why women should continue breastfeeding when they return to work. • List at least five obstacles to breastfeeding in the workplace. • Correctly demonstrate expression of breastmilk. • Describe storage of expressed breastmilk	• Reasons women should take adequate maternity leave • Maternity protection regulations • Innocenti Declaration Recommendation • Reasons women should continue breastfeeding when they return to work • Advice to give mothers while separated from their infants • Obstacles to breastfeeding in the workplace • How health workers can ensure that working women breastfeed successfully • Tips to successfully combine work and breastfeeding • Milk expression and storage • Goals of World Breastfeeding	• Arrange a panel discussion of 3 working breastfeeding women. Ask one woman why she breastfeeds and works outside the home, another what advice she would give women who return to work and continue breastfeeding, and another what obstacles she's found to breastfeeding in the workplace • Summarize the discussion • Ask one mother to demonstrate how to express and store milk • Have participants form groups of 3 to role-play a mother, a health worker counseling her on expressing breastmilk, and an observer filling in a checklist of optimal counseling behavior • Summarize techniques for	• 3 working breastfeeding mothers • Mother who demonstrates milk expression • Checklist for observer during role-plays • Handout on milk expression • International Labour Organisation, 2000. Maternity Protection Convention (No.183). Geneva • ____. 1952. Revision of Maternity Protection Convention (No. 103). Revised. Geneva • Mohrbacher and Stock, *The Breastfeeding*

Session number/title	Time	Learning objectives	Content	Training methods	Materials
			Week, 1993: Women, Work, and Breastfeeding	expressing and storing breastmilk	*Answer Book*, 2003 • Savage-King, *Helping Mothers to Breastfeed*, 1992 • WHO and UNICEF. 1993. "Breastfeeding Counseling: A Training Course. WHO/CDR/93.3–6, UNICEF/NUT/93.5. Geneva • WABA. 1998. "Report of the WABA International Workshop on Breastfeeding, Women and Work: Human Rights and Creative Solutions." June 1-5, Quezon City, Philippines. Available at www.waba.org.br/report
16. Relactation	45 min	• Define relactation. • List at least four indications for relactation. • Describe at least five factors influencing a mother's milk production. • Correctly demonstrate how to use a supplementer to stimulate a mother's milk supply.	• Definitions: relactation, induced lactation, wet nursing • Indications for relactation • Factors that will help increase milk supply related infant and mother • How to start relactating • How to use a nursing supplementer	• Brainstorm indications for relactation and factors influencing milk production • Listen to a woman or women who describe their experience of relactating • Facilitate group discussion and summary of the women's experiences	• Mothers with experience relactating • Flipchart, markers, masking tape • Gotsch, Gwen, et al. 2002. *The Womanly Art of Breastfeeding*. 7th revised edition. Schaumburg, IL: La Leche League International • Mohrbacher and Stock,

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					The Breastfeeding Answer Book, 2003 • Savage-King, *Helping Mothers to Breastfeed*, 1992, p. 132 • WHO. 1998. "Relactation: A Review of Experience and Recommendations for Practice." Geneva
17: Antenatal, Labor and Delivery, and Post-natal Preparation for Breastfeeding in Areas Affected by HIV and AIDS	2 hrs	• Correctly describe the essential antenatal care package in relation to breastfeeding and HIV and AIDS. • List essential health education topics. • Describe management of breastfeeding and prevention of MTCT during 1st, 2nd, and 3rd stages of labor. • Discuss resuscitation of the newborn in the light of HIV and AIDS.	ESSENTIAL ANTENATAL CARE PACKAGE • First visit: history; physical, obstetrical, and laboratory examinations; provision of HIV testing and counseling and infant feeding counseling, care provision • Subsequent visits Essential health education topics • Infant feeding options • PMTCT Labor and delivery • Management of breastfeeding and prevention of MTCT in three stages of labor and delivery • Resuscitation of the newborn Post-partum • Other procedures: Vitamin A, follow-up of Nevirapine,	• Form 4 working groups of participants to respond to the question, "What interventions in the antenatal, labor and delivery, and post-partum care packages are specific to breastfeeding and HIV and AIDS?" • Ask the groups to list essential health education topics to cover in the context of HIV • Facilitate group presentations and discussion in plenary	• Flipcharts with questions for working groups • Markers • Delivery bag • Linen • Suction tubes • Neonatal ambubag • Doll • Handout: "Interventions to Reduce MTCT" • Healthlink Worldwide. nd. "HIV and Safe Motherhood." London

Session number/title	Time	Learning objectives	Content	Training methods	Materials
			assisting with infant feeding method of choice if breastfeeding–early initiation; no separation of mother-infant pair, growth monitoring visits		
18: Preparation for Assessment and Observation of Breastfeeding	2 hrs	• Assess a breastfeed by observing a mother and infant. • Recognize signs of good and poor attachment. • Demonstrate use of the B-R-E-A-S-T-FEEDING observation form. • Identify a mother who may need help.	Assessment of a breastfeed by looking at: • the mother - how mother holds infant - how does mother put infant on breast - how does mother hold her breast during a feed • the infant - What do you notice about the infant? - How does the infant respond? - Does infant look well attached? - Look for signs of poor attachment	• Review breastfeeding observation and assessment form • Ask participants to practice of attachment and positioning in groups of 3: mother, health worker and observer. The observer fills in the B-R-E-A-S-T-FEEDING Observation Form • Facilitate discussion and summary	• Handouts: "B-R-E-A-S-T-FEEDING Observation Form," "How to Take a Breastfeeding History," "Breastfeeding History Answer Form" • Armstrong, H. D. 1992. "B-R-E-A-S-T-Feeding Observation Form," in IBFAN and UNICEF, *Training Guide in Lactation Management*. New York • Mohrbacher and Stock, *The Breastfeeding Answer Book*., 2003 • Savage-King, *Helping Mothers to Breastfeed*, 1992, p. 18 • WHO and UNICEF, "Breastfeeding Counseling: A Training Course," 1993
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form

Session number/title	Time	Learning objectives	Content	Training methods	Materials
Day 6					
RECAP					
19. Field Visit: Clinical Practice for Breastfeeding	4 hrs	• Practice assessing a breastfeed, observing mother and infant positions, attachment, suckling, and interaction. • Name four characteristics to look for in mother and infant. • Describe the difference between appropriate and inappropriate attachment and positioning		• Form participants into small groups to visit 3–4 labor and delivery clinics or hospitals. At each clinic or hospital, divide the groups into pairs to visit 2 mothers each • Ask each pair to check the mother's health card for HIV status, Nevirapine, and infant feeding choice • Ask 1participant in each pair whose mothers chose to breastfeed to assess a breastfeed and ask the other to observe. Then have the pair reverse roles with another breastfeeding mother • After the assessments, counsel mothers who need advice on attachment and positioning with participants observing • Ask for feedback on the visit and lead a discussion and summary	• Armstrong, "B-R-E-A-S-T-Feeding Observation Form," in IBFAN and UNICEF, *Training Guide in Lactation Management*, 1992 • Savage-King, *Helping Mothers to Breastfeed*, 1992
Day 7					
RECAP					
20: Effects of Drugs on Breastfeeding	1 hr	• Identify drugs used commonly in clinics in ANC and post-natal services that can interfere with breastfeeding.	• Analgesics, antipyretics, non-steroidal anti-inflammatory • Anti-allergies • Antineoplastic and immuno-suppressant drugs used in palliative care • Cardiovascular drugs • Diuretics	• Give each participant one or two cards with a drug category and name of a specific drug on each • Mark three tables (or walls) with signs: "Compatible with breastfeeding," "Avoid during breastfeeding," and "Don't know" • Ask participants to take turns	• Signs • Cards with drug category and name of a specific drug • Lawrence, Ruth, and Robert Lawrence. 1999. *Breastfeeding: A Guide for the Medical*

Session number/title	Time	Learning objectives	Content	Training methods	Materials
			• Gastro-intestinal drugs • Hormones • Psychotherapeutic drugs • Anti-infective drugs: anthelminthics, antibacterials, antifungal, antiprotozoal	reading their cards and placing them on the appropriate table • Facilitate discussion and summary	*Profession*. Philadelphia, PA; Mosby • Mohrbacher and Stock, *The Breastfeeding Answer Book*, 2003 • WHO. 2002. "Breast-feeding and Maternal Medication: Recommendations for Drugs in the Eleventh WHO Model List of Essential Drugs." Geneva
21: The Lactational Amenorrhea Method (LAM)	1 hr	• Define LAM. • Outline its effectiveness. • Describe the three criteria that define LAM. • Outline other methods of contraception contraindicated during breastfeeding.	• Definition of LAM • Effectiveness of LAM • Three LAM criteria • Methods of contraception contraindicated during breastfeeding • Importance of strengthening and promoting family planning methods for HIV-positive mothers who are not breastfeeding	• Ask participants to share experience with breastfeeding preventing pregnancy • Explain the three criteria a woman must meet to qualify for LAM • Divide participants into four small groups and ask each group to read eight case studies on LAM criteria • Have each group present one case study • Lead discussion and summary	• Handouts: "LAM Decisionmaking Path," "Breastfeeding and Fertility," "Case studies to Identify LAM Criteria, "Case Studies to Identify LAM Criteria Answer Sheet" • Academy for Educational Development/LINKAGES Project. 2001. Frequently Asked Questions on the Lactational Amenorrhea Method (LAM). FAQ Sheet 3. Washington, DC • ___. 2003. CD Rom on Lactational Amenorrhea Method.

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					Available at http://www.linkages project.org
22: Breastfeed-ing in Special Situations	1 hr	• Identify special situations in mother and infant that can interfere with breastfeeding. • Discuss infant feeding options in these special situations.	• Breast conditions (session 14) • Caesarian birth • Cancer • Cardiovascular problems or hypertension • Cholera or typhoid fever • Hepatitis B • Herpes simplex I and II (genital herpes) • Malaria • Tuberculosis • HIV /AIDS • Life threatening illness • Malnourished mother • Pregnancy • Neonatal jaundice • Low birthweight • Cleft lip and/or palate • The neurologically impaired infant • Multiples	• Brainstorm conditions that affect mothers and infants that could affect breastfeeding. • Divide participants into 2 groups and each group into two teams. Give each group a set of paper fish of manila board with a maternal or infant condition affecting breastfeeding attached to the underside of each. Paper clips are attached to the mouths and to string of a "fishing pole" • Ask 1participant at a time from each to "fish" for a condition, fitting the paper clip from the pole onto the clip in the fish's mouth and telling how this condition can affect breastfeeding • Ask the "opposing" team to judge the answer and complete information as needed • Facilitate a discussion of Handout 22.1: "Breastfeeding in Special Situation" • Summarize in plenary	• Flipchart, markers • Paper fish with special situations on the undersides • Handout: "Breastfeeding t in Special Situations" • Lawrence, *Breastfeeding: A Guide for the Medical Profession*, 1999 • Mohrbacher and Stock, *The Breastfeeding Answer Book*, 2003
23: Nutritional Status of Women and Children: Traditions and	1 hr	• Outline the national nutrition situation of women and children. • Describe the implications of	• Nutrition situation of children in country • Major nutritional problems in country	• Present transparency on national statistics on maternal and child nutrition • Discuss Handouts 23.1: "Causes of	• Flipcharts, markers, masking tape • Overhead projector • Transparencies

Session number/title	Time	Learning objectives	Content	Training methods	Materials
Trends		women's nutrition status on their infants' health. • Discuss traditional practices that influence pregnant and lactating women's nutritional status. • Discuss other factors that affect women's nutritional status.	• Factors affecting women's nutritional status in country • Major micronutrient deficiencies in country • Suggested interventions or strategies to promote maternal and child nutrition • Common beliefs and taboos that influence nutritional status	Child Death" and23.2: "Age Pattern of Growth Faltering" • Brainstorm food beliefs and taboos related to pregnancy and lactation that influence women's nutritional status • Have participants form small working groups to list factors that affect women's and children's nutritional status and interventions to promote optimal maternal and child nutrition • Lead discussion and summary in plenary	• Handouts: "Major Causes of Child Death," "Age Pattern of Growth Faltering" • Recent national Demographic and Health Survey • Academy for Educational Development/Food and Nutrition Technical Assistance (FANTA). 2004. *HIV/AIDS: A Training Manual*. Washington, DC • Riordan and Auerbach, *Breastfeeding and Human Lactation*, 1999 • UNICEF. 1991. *State of the World's Children*. New York
24: Maternal Nutrition and Breastfeeding	1 hr	• Recognize the importance of maternal nutrition for pregnant and lactating women. • Describe the consequences of maternal malnutrition for maternal and child health. • Discuss the relationship between maternal nutrition and breastfeeding.	• Consequences of maternal malnutrition for maternal and infant health • Infections and the dietary needs of women • Actions to improve maternal nutrition • Health providers actions to improve women's micronutrient intake during pregnancy and lactation • Maternal nutrition and lactation	• Ask participants the following questions: "What are the major nutritional deficiencies in the country?" and "Can a malnourished mother breastfeed her infant?" • Brainstorm actions mothers and health providers can take to ensure adequate food intake during pregnancy and lactation • Facilitate discussion and summary of answers in plenary •	• Overhead projector • Transparencies • Academy for Educational Development/ LINKAGES Project. 2002. "Breastfeeding and Maternal Nutrition: Frequently Asked Questions." Washington, DC • UNICEF. 2001. *State of the World's Children*.

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					New York
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 8					
RECAP					
25. Infant Feeding Options in the Context of HIV	1 hr	• Create awareness of UN recommendations for infant feeding in the context of HIV. • Describe infant feeding options for HIV-positive women. • Review questions often asked before recommending replacement feeds.	• Terms used in infant feeding • UN/WHO Infant Feeding Options for HIV-Positive Women, 2003 • Protection, respect, and fulfillment of human rights • Infant feeding options: – Option 1: Breastmilk only until replacement feeding meets AFASS criteria (acceptable, feasible, affordable, sustainable, and safe) or baby reaches 6 months – Option 2: Expressed, heat-treated breastmilk – Option 3: Wet nursing – Option 4: Commercial infant formula – Option 5: Home-modified animal milk • Main issues to consider in replacement feeding • Breastmilk banks where feasible • Key feeding recommendations	• Form 4 working groups to answer the question: "What are the infant feeding options in the context of HIV?" • Report back and discuss in plenary • Terms used in infant feeding are clarified in plenary • Make a brief presentation of UN guidelines and recommendations for infant feeding in the context of HIV	• Flipchart, markers, masking tape • Transparencies • Handout: "Risks of Artificial Feeding" • Academy for Educational Development/LINAKGES Project. Forthcoming. "Infant Feeding Options in the Context of HIV." Washington, DC • UNAIDS/UNFPA/ UNICEF/ WHO, *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*, 2003 • UNAIDS, UNICEF, and WHO. 1997 "HIV and Infant Feeding: A Policy Statement"

Session number/title	Time	Learning objectives	Content	Training methods	Materials
			• Challenges		• WHO, "HIV in Pregnancy: A Review," 1999
26. Replacement Feeding: Techniques and Practices	1 hr	• Describe how milks can be modified to make it suitable for infants under 6 months old. • Demonstrate preparation of fresh cow's milk, infant formula, and full-cream powdered milk.	• Definition of replacement feeding • What is used for replacement feeding: types of breastmilk substitutes • Correct amounts of different milks • Demonstration of replacement feeding preparation	• Ask a participant to choose a suitable milk for replacement feeds from a display of liquid and powdered, whole and low-fat milks and formulas. Ask another participant to choose the formulas • Demonstrate preparation of replacement feed from cow's milk • In the field divide participants into groups of 3 to make home-prepared cow's milk formula: 1 group uses an electric burner, another, charcoal, and another, firewood • Have each group measure correct amounts of milk, boiled water, and sugar, timing each step and explaining how measurements are calculated • Facilitate discussion and summary in plenary	• Infant formulas • Liquid and powdered cow's milk (whole and low fat) • Sugar • Graduated jugs • Different sized spoons • Cups • Pots • Handout "Correct Amounts of Milk Needed for Infant in First 6 Months" • WHO/UNICEF/UNAIDS. 2000. "New Data on the Prevention of Mother-to-Child Transmission of HIV and Their Policy Implications: Conclusions and Recommendations, WHO Technical Consultation on Behalf of the UNFPA/UNICEF /WHO/UNAIDS Inter-Agency Task Team on Mother-to-Child Transmission of HIV." WHO/RHR/01.28. Geneva

Session number/title	Time	Learning objectives	Content	Training methods	Materials
27. Complementary Feeding of Children 6–24 Months Old	2 hrs	• Define terms used in complementary feeding. • Describe dietary needs of children 6–9 months, 9–12 months, and 12–24 months. • Discuss suitable foods for children from 6 months to 24 months and complementary mixtures (basic and multi-mixes). • Indicate possible consequences of introducing complementary food too early or too late. • Discuss complementary feeding for the infant on replacement feeding. • Discuss feeding concerns related to HIV and follow-up care.	• Definition of terms • Complementary feeding and sustained breastfeeding: kinds of complementary foods, good complementary foods, examples of local, available, affordable foods • Introduction of complementary foods: timely, too early, too late • Frequency of feeding • Feeding during illness • Feeding concerns related to HIV	• Give each participant a local food (solid or liquid, including water) and ask him or her to place the food on 1of 3 tables labeled "0–6 months," 6–9 months," and "9–12 months," depending on the age at which it should be given to infants • Have participants discuss choices • Discuss combinations of foods suitable for infants: what local, affordable, available food can be added to staple foods • Brainstorm 4 factors to consider in choosing appropriate complementary foods (quantity, quality, consistency, frequency) • Form groups of 3 to role-play a mother, counselor, and observer. The counselor suggests to the mother (negotiates) appropriate complementary feeds for infants 6–9 months and 9–12 months old. The observer evaluates the counseling. Participants rotate roles • Ask participants the question, "How does complementary feeding differ for infants who have been breastfed and infants who have been replacement fed?" • List feeding concerns related to HIV for infants < 6 months	• Samples of local, available foods • Cards with designated age groups: 0–6, 6–9, and 9–12 months • Flipchart, markers, masking tape • UNICEF, *State of the World's Children*, 2001

Session number/title	Time	Learning objectives	Content	Training methods	Materials
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how? c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 9					
RECAP					
28. Growth Monitoring and Promotion (GMP)	1 hr	• Define growth monitoring and promotion. • Mention the essential elements of GMP. • Explain the need of communicating effectively during GMP sessions. • Explain the importance of referrals. • Explain the importance of GMP in the context of HIV.	• Definition of terms • Importance of growth monitoring and promotion • Main goals of GMP • Components of GMP package • Importance of GMP in the context of HIV	• Brainstorm definitions and importance of GMP • Form small working groups to list goals and components of GMP • Report back from small groups • Demonstrates interaction with mother using infant health carnet: infant not gaining weight (an interaction in the context of HIV) • Demonstrate IPALAF: Identify Problem, discuss ALternatives, encourage Action, and Follow-up • In triads practice interaction with mother: positive growth and failing growth • Facilitate discussion and summary	• Flipcharts and markers • Masking tape • Child's health carnet
29. Code of Marketing of Breast-Milk Substitutes	1 hr	• Define terms related to the Code of Marketing of Breast-Milk Substitutes. • Discuss the aim and scope of the Code. • Outline the history of the international Code. • Discuss implementation and monitoring of the Code.	• Definition of terms • Aim of the Code • Scope of the Code • History of the international Code • Articles of the Code	• Make a presentation on the International Code of Marketing of Breast-Milk Substitutes • Ask participants to discuss implementation of the Code in their service delivery areas in the context of HIV	• Transparencies • WHO. 1981. *International Code of Marketing of Breast-Milk Substitutes*. Geneva • National Code of Marketing of Breast-Milk Substitutes

Session number/title	Time	Learning objectives	Content	Training methods	Materials
30: Community Support Systems, Role of Men, and Reproductive Health in Relation to Infant Feeding and HIV	3 hrs	• Identify types of support needed for infant and young child feeding in the context of HIV (PMTCT). • List types of support systems available in the community. • Describe strategies that can be used to establish support systems. • Discuss male involvement in the context of HIV.	• Types of support for HIV-positive mother and her partner • Types of support systems - Community - Health worker • How to establish support systems • Conclusions • Male involvement: obstacles and addressing obstacles	• Visit community support group of men and women providing services or counseling to people with HIV and AIDS and discuss community support systems and male involvement • Ask group to share information about how their support system was established • Facilitate discussion and summary of the group's strategies for establishing community support for people living with HIV and AIDS	• Handouts: "Community Support for Infant Feeding Is about…," "Support for a Working Mother," "Social Support System," "Modern and Traditional Support" • Africa OR/TA Project. 1998. "Male Involvement in Reproductive Health Issues." New York: Population Council • Green, Cynthia P. *Interventions to Improve Breastfeeding Behaviors: Detailed Summaries of Five Studies*. Washington, DC: Academy for Educational Development • Hunter, Susan, and John Williamson. 1998. "Responding to the Needs of Children Orphaned by HIV/AIDS," Discussion paper no. 7. Washing-ton, DC: USAID • Kistin N, R. Abramson, and P, Dublin. 1994. "Effect of Peer Counselors on Breastfeeding

Session number/title	Time	Learning objectives	Content	Training methods	Materials
					Initiation, Exclusivity, and Duration among Low-Income Urban Women." *Journal of Human Lactation*;10:11–5 • Pugin E, et al. 1996. "Does Prenatal Education Contribute to the Duration of Full Breastfeeding in a Comprehensive Breastfeeding Promotion Program?" *Journal of Human Lactation* 12:15–20 • UNICEF. 1999. *Baby-Friendly Hospital Initiative Case Studies and Progress Report*. New York
31. Introduction to HIV and Infant Feeding Counseling		• Define counseling. • Describe the role of a counselor. • List five qualities of a good counselor.	• Definition of counseling • What counseling is designed to do • Types of counseling • Counselor's role in the context of HIV and AIDS • Qualities of an effective counselor	• Have participants brainstorm an operational definition of counseling and compare it to WHO's definition • Demonstrate 2 short counseling sessions, one appropriate and one inappropriate • In plenary ask participants to list characteristics of the counselor and the reaction of the mother in each counseling setting • Elicit a group definition of counseling and write it on a flipchart	• National HIV counseling guidelines or protocols

Session number/title	Time	Learning objectives	Content	Training methods	Materials
				• Form groups of 3 to role-play a mother, a counselor, and an observer. The counselor practices active listening, respect, and caring	
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how? c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 10					
RECAP					
32. HIV testing and counseling and Other Issues Related to PMTCT	2 hrs	• Describe HIV testing and counseling. • Discuss advantages and disadvantages of HIV testing and counseling. • Discuss HIV testing and counseling and related issues in PMTCT.	• Description of HIV testing and counseling • Advantages of HIV testing and counseling • Disadvantages of HIV testing and counseling • Who should be tested • Issues to consider in pre-test HIV and AIDS counseling • Issues to consider in post-test HIV and AIDS counseling • Stages for counseling people requesting an HIV antibody test	• Ask question, "What is HIV testing and counseling?" and write answers on a flipchart • Brainstorm advantages and disadvantages of HIV testing and counseling • Demonstrate pre-test HIV counseling sessions and post-test counseling sessions with a negative result and a positive result • Lead discussion and summary in plenary	• Manual for HIV and AIDS Counseling used in the country

Session number/title	Time	Learning objectives	Content	Training methods	Materials
33. PMTCT Behavior	2 hrs	• List at least four common preventive measures and discuss how they are used in PMTCT programs. • Identify at least five personal and interpersonal preventive skills used in PMTCT. • Describe how these skills contribute to behavior change.	• Predisposing factors of HIV • Introducing the subject of prevention to partner • Preventive personal development skills (decision making, assertiveness, high self-esteem, negotiation) • Preventive measures and/or preventive skill of HIV transmission • Gender issues	• Brainstorm ways to prevent HIV transmission and discuss how they are used in PMTCT programs • Form small working groups to discuss skills needed to prevent MTCT (decisionmaking, assertiveness, high self-esteem, and negotiation) in relation to behavior change • Facilitate report back and discussion in plenary • Present steps in negotiation • Form groups of 3 (mother, partner, observer), with the mother role-playing negotiating the use of a condom with her partner. Have participants rotate roles. • Lead a discussion and summary	• Handout: "Stages of Negotiation" • Buchbinder, Susan. 1998. "Avoiding Infection after HIV Exposure." *Scientific American* 279:104 • Coates, Thomas J, and Chris Collins. 1998. "Preventing HIV Infection." *Scientific American* 279:96–97 • Van Dam, Johannes, and Marie Anastasi. 2000. *Male Circumcision and HIV Prevention: Directions for Future Research.* New York: Horizons
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out evaluation form	• Evaluation form
Day 11					
RECAP					
34. Field Visit – PMCT: Health Education Infant Feeding Counseling, Obstetric Procedures	3 hrs	• Experience firsthand the implementation of the Integrated PMTCT Program at three or four different clinics. • Discuss implementation (successes and obstacles)		• Divide participants into groups to visit 3–4 labor and delivery clinics or hospitals and community groups supporting the integrated PMTCT program. Groups observe an educational talk, small group discussions, and	

Session number/title	Time	Learning objectives	Content	Training methods	Materials
		with clinic health workers and community members.		one-on-one counseling rooms • Facilitate discussion between participants and health personnel of counseling pregnant women on infant feeding options • Facilitate discussion between participants and community groups of support provided to the integrated PMTCT program • In plenary ask for feedback on the visits, discuss results, and summarize the exercise	
35. Management of Burnout	½ hr	• Define burnout. • Identify causes of burnout. • Describe symptoms of burnout. • Explain how to prevent and manage burnout.	• Definition of burnout • Causes of burnout – Stressful tasks – Organizational difficulties – Personal issues • Symptoms of burnout – Physical – Behavioral – Cognitive and affective • Prevention and management of burnout • Barriers to staff support	• Brainstorm the definition of burnout • Display 3 flipcharts labeled headings “Causes,” “Symptoms,” and “Prevention and Management” • Brainstorm additions and ask participants to decide where each idea belongs. Ask one participant to write down the ideas on each flipchart	• Flipcharts, markers, masking tape
36. Post-test	1 hr	• Measure participants’ knowledge of infant feeding and HIV for prevention of mother-to-child transmission of HIV.		• Give participants the same questionnaire they filled in during the pre-assessment test to complete in the same length of time • Compare results in term of percentages to results of the pre-assessment test, question by question	• Pre- and post-test questionnaires

Session number/title	Time	Learning objectives	Content	Training methods	Materials
				• Share results the following day during the final evaluation	
Daily evaluation	15 min	• Evaluate the day's activities.	• Participants complete form: a) Something you liked b) Something you will use and how c) Something you learned	• Ask each participant to fill out an evaluation form	• Evaluation form
Day 12					
RECAP					
37. Infant Feeding and HIV Case Studies	2 hrs	• Practice counseling a mother on infant feeding options in the context of HIV.		• Give participants 5 case studies • Demonstrate a role-play of 1case study • Ask 3 participants to role-play another case study • Facilitate discussion and feedback • Ask participants to form groups of 3 (mother, counselor, and observer) to role-play 3 other case studies. The observer gives feedback. Ask the group members to rotate roles in each triad • Facilitate discussion in plenary	• Handout: "Infant Feeding and HIV Case Studies"
Evaluation, feedback, and recommenda-tions	½ hr	• Evaluate workshop training.			• Evaluation form
Official closing					

INTEGRATED PMTCT AND INFANT FEEDING COURSE FOR HEALTH PROVIDERS: TIMETABLE

TIME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6
08:00–08:15		RECAP				
08:15–10:15	Session 1 Introductions, Objectives, and Pre-test	Session 4 Prevention and Treatment of Common STIs in relation to HIV	Session 8 HIV Therapies to Prevent Mother-to-Child Transmission of HIV Session 9 HIV Testing and Related Issues	Session 12 Management of Breastfeeding • Attachment and Positioning • Exclusive Breastfeeding	Session 14 Baby-Friendly Hospital Initiative in the Context of HIV Session 15 Women, Work, and Breastfeeding: Expressing and Storing Breastmilk	Session 19 Field Visit: Clinical Practice for Breastfeeding
10:15–10:30	T E A B R E A K					
10:30–12:30	Session 2 Basic Facts and Impact of HIV/AIDS	Session 5 Role of Breastfeeding in Child Survival and Safe Motherhood	Session 10 Prevention of Mother-to-Child Transmission of HIV (PMTCT)	Session 12, cont. • Not enough Milk • Refusal to Breastfeed	Session 16 Relactation Session 17 Antenatal, Labor and Delivery, and Post-natal Preparation for Breastfeeding in Areas Affected by HIV	Session 19, cont. Feedback from field visit
12:30–14:00	L U N C H					
14:00–16:15	Session 3 Behavior Change Communication	Session 6 Anatomy of the Breast and Physiology of Lactation Session 7 Composition of Breastmilk	Session 10, cont.	Session 13 Breast Conditions and Their Management	Session 17, cont. Session 18 Preparation to Assess and Observe a Breastfeed	
16:15–16:30	T E A B R E A K					
16:30–17:30	Session 3, cont.	Session 7, cont.	Session 11	Video		

			Friendship Evening with PLHA			

TIME	DAY 7	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12
08:00–0815	RECAP					
08:15–10:15	Session 20 Effects of Drugs on Breastfeeding Session 21 The Lactational Amenorrhea Method (LAM)	Session 25 Infant Feeding Options in the Context of HIV Session 26 Replacement Feeding: Techniques	Session 28 Growth Monitoring and Promotion (GMP) Session 29 Code of Marketing of Breast-Milk Substitutes	Session 32 HIV Testing and Counseling and Other Issues Related to PMTCT	Session 34 Field Visit PMTCT: Health Education, Infant Feeding Counseling, and Obstetric Procedures	Session 37 Infant Feeding and HIV Case Studies
10:15–10:30	T E A B R E A K					
10:30–12:30	Session 22 Breastfeeding in Special Situations Session 23 Nutritional Status of Women and Children: Traditions and Trends	Session 26, cont. Practicum on Replacement Feeding	Session 30 Community Support Systems, Role of Men, and Reproductive health in Relation to Infant Feeding and HIV	Session 33 PMTCT Behavior	Session 34, cont.	Evaluation, Feedback, and Recommendations Official Closing
12:30–14:00	L U N C H					
14:00–16:15	Session 24 Maternal Nutrition and Breastfeeding	Session 27 Complementary Feeding of Children 6–24 Months Old	Session 30, cont.	Session 33, cont.	Session 35 Management of Burnout	
16:15–16:30	T E A B R E A K					
16:30–17:30	Session 24, cont.	Session 27, cont.	Session 31 Introduction to HIV		Session 36 Post-test	

			and Infant Feeding Counseling			

SESSION 1: INTRODUCTION, OBJECTIVES, AND PRE-TEST

Duration: 2 hours

1.1 Introduction

This session officially welcomes participants, facilitators, and other resource persons, gives a brief overview of the training and the program, and describes the approach of the course. This approach includes active participation, teamwork, mutual respect, skill performance, and continuous feedback.

1.2 Learning objectives

- Begin to name fellow participants, facilitators, and resource persons.
- Create mutual dependency among participants and trainers.
- Create a dynamic relationship among participants and trainers.
- Discuss participants' expectations and fears.
- Explain course objectives and the purpose of the training.
- Administer the pre-assessment test.
- Discuss administrative and housekeeping arrangements.

1.3 Training methods and content

- Introduce **presentation game** for introductions and expectations. Cut drawings or breastfeeding pictures in half and give each participant a piece of a drawing or picture. Instruct participants to find the matching piece. Once this is accomplished, ask the pairs to introduce each other's names, expectations of the course, and some element of human interest (e.g., favorite food, hobbies, likes, dislikes).
- Write expectations on **flipchart**, filling in expectation "gaps" and introducing missing objectives.
- Keep expectations and objectives in view during the rest of the course.
- Ask each participant to complete a **written pre-test**.

1.3.1 Group dynamics. Ask participants to introduce their neighbors, using guidelines provided by the trainer.

1.3.2 Expectations. Ask participants to list their expectations for the course, write these expectations on a flipchart, and post them on a wall throughout the training. Guide the participants in matching their expectations against the course objectives and discussing them.

Handout 1.1: Expectations for the Course

1.3.3 Course objectives

- Equip participants with infant and young child feeding knowledge and practice of skills in the context of HIV.
- Introduce participants to principles and concepts of counseling and behavior change communication in infant and young child feeding and HIV.

- Develop participants' knowledge of MTCT risk reduction interventions, including antiretroviral drugs (ARVs) and related issues.
- Create awareness among participants of the integrated PMTCT model through sharing of experience and field visits.
- Identify strategies for integrating PMTCT interventions into existing health care and community services.

1.3.4 Objectives of pre-test assessment

- Assess participants' knowledge of key course content
- Identify participants' strengths and weaknesses.

Handout 1.2: Pre-test Assessment

1.4 Materials and recommended reading

- Pictures for presentation game
- Folder for each participant
- Handouts: "Expectations for the Course," "Pre-test Assessment Form"
- Course timetable
- Transparency (slide or overhead) of course objectives
- Flipchart, markers, and masking tape
- Duplicate copies of pre-test

Handout 1.1 EXPECTATIONS FOR THE COURSE

1. What are your hopes and expectations for this course?

2. What will you miss back home or at work as a result of attending this course?

3. What are your interests in working with people with HIV and AIDS?

4. In what ways do you think you might be able to help people with HIV and AIDS in a counseling role?

Handout 1.2 PRE-TEST ASSESSMENT FORM

PROFESSIONAL DEVELOPMENT TO INTEGRATE INFANT FEEDING AND PMTCT INTO HEALTH CARE AND COMMUNITY SERVICES

1. What is MTCT?

   _____

2. What is the estimated percentage of HIV vertical transmission from HIV-positive women?`1

   a. Pregnancy _____%

   b. During labor and delivery _____%

   c. Through breastfeeding _____%

3. In sub-Saharan Africa the estimated HIV prevalence in adults ages 15–49 is (*circle only one correct answer*):

   a. 1 out of 10
   b. 4 out of 5
   c. 1 out of 7

4. Risk factors that influence mother-to-child transmission of HIV include: (*circle the most appropriate*)

   a. Maternal clinical condition
   b. Maternal immune system
   c. Mode of delivery
   d. Viral burden
   e. Duration of rupture of membranes
   f. All of the above
   g. a and d

5. Name two (2) antiretroviral drugs given to HIV-positive pregnant women to reduce the risk of mother-to-child transmission.

   _____

   _____

6. What should be the minimum hemoglobin level in an HIV-positive pregnant woman before she is started on AZT therapy? (*circle the correct answer*)

   a. 6.g/dl
   b. 8.g/dl
   c. 11.g/dl

7. Define the following terms:

   a. Window period

   _____

   _____

   b. Seroconversion

   _____

   _____

8. What is the estimated duration of the window period for most HIV-infected people?

   _____

9. What test is used to detect the HIV virus in infants younger than 18 months old?

   _____

   _____

10. Circle the characteristic that is NOT correct for the hormone prolactin.

    a. Secreted in response to infant suckling on the breast (areola/nipple area)
    b. Secreted during pregnancy
    c. Secreted in response to infant crying or other psychological stimuli
    d. Responsible for milk production

11. Circle the characteristic that is NOT correct for the hormone oxytocin.

    a. Secreted in response to infant suckling on the breast (areola/nipple area)
    b. Secreted in response to infant crying or other psychological stimuli
    c. Responsible for milk production
    d. Responsible for milk ejection

12. If you discover during an antenatal examination that a mother has inverted nipples, you tell her that she will not be able to breastfeed. (*Circle "True" or "False"*)
    a. True b. False

13. Circle the statements that are essential messages to give to every pregnant woman.

    a. Breastfeeding should be initiated within 30 minutes after birth.
    b. Exclusive breastfeeding is recommended for the first 6 months.
    c. Breastfeeding the infant on demand is the best feeding schedule to follow.
    d. Colostrum is the infant's first immunization.
    e. A woman who does not know her HIV status should breastfeed her infant exclusively for about 6 months.

f. All of the above
g. Only b, c, and d

14. Circle acceptable reasons NOT to encourage a mother to hold and breastfeed her infant on the delivery table (couch).

    a. The infant will get too cold.
    b. The mother is exhausted from her labor.
    c. The nurse/midwife is too busy with other important activities to stay by the mother and help her.
    d. The infant should be weighed and bathed first.
    e. The mother is HIV positive.
    f. None of the above
    g. Only c and e

15. To improve absorption of supplemental iron used to treat iron-deficiency anemia, a woman should be instructed to (*circle the most appropriate*):

    a. Take an iron supplement with meals.
    b. Take an iron supplement between meals.
    c. Take an iron supplement with a vitamin C-rich food
    d. Take an iron supplement in divided doses, not to exceed 30 mg/dose.
    e. Both b and c
    f. Both b and d

16. Candidiasis of the lactiferous ducts is NOT manifested by (*circle the most appropriate answer*):

    a. A burning pain that gets worse with breastfeeding
    b. No visible skin changes
    c. Fever
    d. Infant diaper rash

17. Which of the following will NOT help a mother increase her milk supply?

    a. Rest and relaxation
    b. Breast massage before expression
    c. Sleeping through the night to rest
    d. Increased frequency of milk removal

18. HIV-positive mothers should be advised NOT to breastfeed (*circle "True" or "False"*).

    a. True b. False

19. What is the recipe for modifying cow's milk to feed a newborn per kg of body weight, as per UN guidelines on replacement feeds?

    _____

    _____

20. If a mother is breastfeeding exclusively, how often should she be advised to breastfeed to ensure adequate quantity of breastmilk? (*Circle the appropriate answer*)

    a. On demand or every 2 hours
    b. Every 3 hours
    c. Every 4 hours
    d. None of the above

21. What is the most common reason that mothers who have had a Caesarean section fail to initiate breastfeeding early? (*Circle the appropriate answer*)

    a. They have too much incisional pain.
    b. No health worker has provided additional support.
    c. There is no convenient position for them to attach the infant adequately to the breast.
    d. The IV drip tubing makes it impossible for them to hold their infants.
    e. None of the above

22. What is the Code of Marketing of Breast-Milk Substitutes?

    _____

    _____

24. What is the aim of the Code?

    _____

    _____ _____

25. Companies that manufacture infant formula should donate free infant formula to all infants born to HIV-positive mothers. (*Circle "True" or "False"*)

    a. True b. False

26. List at least five (5) designated products covered under the Code.

    _____

    _____

    _____

    _____

    _____

27. The Code of Marketing of Breast-Milk Substitutes prohibits the sale of infant formula. (Circle "True" or "False")

a. True b. False

28. In industrialized countries the risk of respiratory infection and diarrhea is higher in bottle-fed infants than in breastfed infants. (Circle “True” or “False”)

    a. True b. False

29. Circle the illnesses in children and adults for which breastfeeding reduces the risk.

    a. Lymphomas (cancers)
    b. Diabetes
    c. Respiratory tract infections
    d. Otitis media (ear infection)
    e. Diarrheal diseases
    f. All of the above
    g. Only b and c

30. From a nutritional point of view, breastmilk is excellent for the first 3 months of an infant’s life, but supplementing breastmilk with another food from 3 months onward ensures better growth. (Circle “True” or “False”)

    a. True b. False

31. Circle the characteristics colostrum does NOT have compared to mature milk.

    a. Is lower in volume
    b. Is higher in water
    c. Is higher in protein
    d. Is higher in vitamin A

32. Circle the characteristics human milk does NOT have compared with cow’s milk.

    a. Is higher in lactose
    b. Contains growth factors
    c. Is higher in protein
    d. Small amount of iron is well absorbed

33. Circle the INCORRECT statements about the anatomy of the female breast.

    a. Montgomery glands are located on the areola and secrete a lubricating and protective substance.
    b. Lactiferous sinuses extend from the outer part of the breast to under the areola.
    c. Breast size increases during pregnancy.
    d. Breast size does not relate to milk production.
    e. None of the above

34. Maria, a 32-year-old woman who is breastfeeding her 2-month-old son, comes to your clinic concerned about a lump in her breast. She has no family history of breast

cancer or fibrocystic breast. You let her remove milk by breastfeeding and then examine her breast. You feel a 2cm mass in the outer quadrant. What do you do?

a. Treat breast for plugged duct and check after 1 week.
b. Advise her to discontinue breastfeeding.
c. Order mammography.
d. Get a surgical consultation

35. Name the most common micronutrient deficiency associated with increased rates of mother-to- child transmission of HIV.

_____

36. HIV-positive women should be discouraged from getting pregnant because they will infect their infants in any case. (Circle "True" or "False")

a. True b. False

37. The most common type of HIV in sub-Saharan Africa is: (Circle the correct answer)

a. Type 12
b. Type 10
c. Type 1
d. Type 2

38. List one (1) biological factor that makes women more susceptible to HIV infection.

_____

_____

39. List four (4) components of the minimum antenatal care package, two (2) of the intra-partum care package, and three (3) of the post-natal care package.

_____

_____

_____

43. List four (4) advantages of exclusive breastfeeding.

_____

_____

_____

44. List three (3) consequences of poor attachment of the infant to the breast.

_____

_____

_____

45. What percentage of mothers who are newly infected with HIV while breastfeeding transmit the virus to their infants through breastfeeding?

_____

46. To reduce HIV transmission through breastfeeding, mothers should be advised to alternate breastfeeds with infant formula. This reduces the viral load in breastmilk taken in by the infant. (Circle "True" or "False")

    a. True b. False

47. MTCT interventions should only take place where antiretroviral drugs are available. (Circle "True" or "False")

    a. True b. False

48. What is the correct dosage of Nevirapine for a mother to prevent transmission of HIV to her infant?

_____

49. What should a health worker do if an HIV-positive mother delivers within 1 hour of taking Nevirapine?

_____

50. How many doses of Nevirapine should be given to the mother? (Circle the appropriate answer)

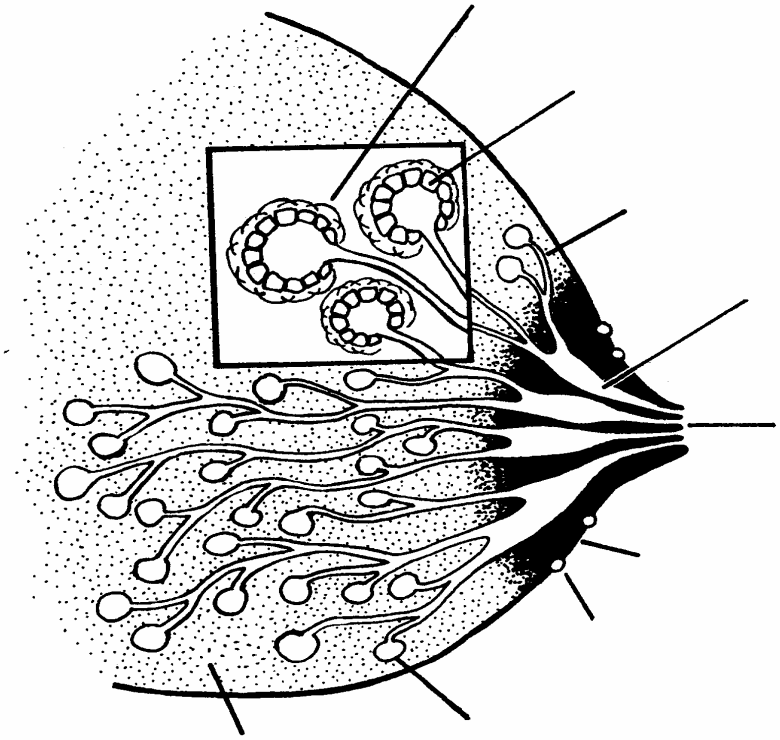
    a. One
    b. Two
    c. Three

51. What is the correct dosage of Nevirapine syrup for the infant in PMTCT, and when is it given?

_____

_____

52. Label the parts of the breast in the diagram below.



Pre-test Assessment Answer Sheet

PROFESSIONAL DEVELOPMENT TO INTEGRATE INFANT FEEDING AND PMTCT INTO HEALTH CARE AND COMMUNITY SERVICES

1. What is MTCT?

   Mother-to-child transmission of HIV (session 11)

2. What is the estimated percentage of HIV vertical transmission from HIV-positive women?

   a. In pregnancy 5%–10% (session 11)

   b. During labor and delivery 10%–20% (session 11)

   c. Through breastfeeding 10%–20% (session 11)

3. In sub-Saharan Africa the estimated HIV prevalence in adults ages 15–49 is: (*Circle only one correct answer*)

   a. 1 out of 10
   b. 4 out of 5
   c. 1 out of 7 (session 2)

4. Risk factors that influence mother-to-child transmission of HIV include: (*Circle the most appropriate*)

   a. Maternal clinical condition
   b. Maternal immune system
   c. Mode of delivery
   d. Viral burden
   e. Duration of rupture of membranes
   f. All of the above (session 11)
   g. a and d

5. Name two (2) antiretroviral drugs given to HIV-positive pregnant women to reduce the risk of mother-to-child transmission.

   Zidovudine
   Nevirapine (session 10)

6. What should be the minimum hemoglobin level in an HIV-positive pregnant woman before she is started on AZT therapy? (*Circle the correct answer*)

   a. 6.g/dl
   b. 8.g/dl (session 10)
   c. 11.g/dl

7. Define the following terms:

   a. Window period

      Period of several weeks during which newly infected people have not yet produced enough HIV antibodies to be detected. During the first 25 to 45 days between infection and detection, the virus can elude efforts to screen it. (session 2)

   b. Seroconversion

      The development in blood serum of antibodies to a particular antigen as a result of infection or immunization. When people develop antibodies to HIV, they "seroconvert" from antibody negative to antibody positive. Antibodies to the virus may take as little as 1 week or as much as several months or more after infection with HIV to develop. After antibodies to HIV appear in the blood, a person should test positive on antibody tests. (session 2)

8. What is the estimated duration of the window period for most HIV-infected people?

   A person may be infected with HIV for from 3 weeks to 3 months before an HIV test shows a positive result. (session 2)

9. What test is used to detect the HIV virus in infants younger than 18 months old?

   The polymerase chain reaction, or PCR, test (session 9)

10. Circle the characteristic that is NOT correct for the hormone prolactin.

    a. Secreted in response to infant suckling on the breast (areola/nipple area)
    b. Secreted during pregnancy
    c. Secreted in response to infant crying or other psychological stimuli (session 6)
    d. Responsible for milk production

11. Circle the characteristic that is NOT correct for the hormone oxytocin.

    a. Secreted in response to infant suckling on the breast
    b. Secreted in response to infant crying or other psychological stimuli
    c. Responsible for milk production (session 6)
    d. Responsible for milk ejection

12. If you discover during an antenatal examination that a mother has inverted nipples, you tell her that she will not be able to breastfeed. (*Circle "True" or "False"*)

    a. True b. False (session 8)

13. Circle the statements that are essential messages to give to every pregnant woman.

a. Breastfeeding should be initiated within 30 minutes after birth.
b. Exclusive breastfeeding is recommended for the first 6 months.
c. Breastfeeding the infant on demand is the best feeding schedule to follow.
d. Colostrum is the infant's first immunization.
e. A woman who does not know her HIV status should breastfeed her infant exclusively for about 6 months.
f. All of the above (sessions 5 and 8)
g. Only b, c, and d

14. Circle acceptable reasons NOT to encourage a mother to hold and breastfeed her infant on the delivery table (couch).

    a. The infant will get too cold.
    b. The mother is exhausted from her labor.
    c. The nurse/midwife is too busy with other important activities to stay by the mother and help her.
    d. The infant should be weighed and bathed first.
    e. The mother is HIV positive.
    f. None of the above (session 8)
    g. Only c and e

15. To improve absorption of supplemental iron used to treat iron-deficiency anemia, a woman should be instructed to: (*Circle the most appropriate*)

    a. Take an iron supplement with meals.
    b. Take an iron supplement between meals.
    c. Take an iron supplement with a vitamin C-rich food
    d. Take an iron supplement in divided doses, not to exceed 30 mg/dose.
    e. Both b and c (session 23)
    f. Both b and d

16. Candidiasis of the lactiferous ducts is NOT manifested by: (*Circle the most appropriate answer*)

    a. A burning pain that gets worse with breastfeeding
    b. No visible skin changes
    c. Fever (session 14)
    d. Infant diaper rash

17. Which of the following will <u>NOT</u> help a mother increase her milk supply?

    a. Rest and relaxation
    b. Breast massage before expression
    c. Sleeping through the night to rest (session 6)
    d. Increased frequency of milk removal

18. HIV-positive mothers should be advised NOT to breastfeed. (*Circle "True" or "False"*)

    a. True b. False (session 26)

19. What is the recipe for modifying cow's milk to feed a newborn per kg of body weight, as per UN guidelines on replacement feeds?

    150 ml/kg body weight/day (an infant who weighs 3 kg needs 450 ml/day.)

    Recipe: 100 ml cow's milk + 50 ml water + 10 g sugar (5 g sugar = 1 teaspoon)

20. If a mother is breastfeeding exclusively, how often should she be advised to breastfeed to ensure adequate quantity of breastmilk? (*Circle the appropriate answer*)

    a. On demand or every 2 hours (session 13)
    b. Every 3 hours
    c. Every 4 hours
    d. None of the above

21. What is the most common reason for failure of early initiation of breastfeeding for mothers who have had a Caesarean section? (*Circle the appropriate answer*)

    a. They have too much incisional pain.
    b. No health worker has provided additional support. (session 22)
    c. There is no convenient position for them to attach the infant adequately to the breast.
    d. The IV drip tubing makes it impossible for them to hold their infants.
    e. None of the above

22. What is the Code of Marketing of Breast-Milk Substitutes?

    An instrument that sets out the responsibilities of the infant food industry, health workers, national governments, and concerned organizations in relation to marketing of designated products (session 30)

24. What is the aim of the Code?

    To contribute to providing safe and adequate nutrition for infants by protecting and promoting breastfeeding and ensuring the proper use of breastmilk substitutes, when necessary, based on adequate information and through appropriate marketing and distribution (session 30)

25. Companies that manufacture infant formula should donate free infant formula to all infants born to HIV-positive mothers. (*Circle "True" or "False"*)

    a. True b. False (session 30)

26. List at least five (5) designated products covered under the Code.

- Infant formula
- Other milk products represented as suitable replacements of breastmilk
- Foods and beverages, including bottle-fed complementary foods, when represented as suitable replacements of breastmilk
- Feeding bottles
- Teats (session 30)

27. The Code of Marketing of Breast-Milk Substitutes prohibits the sale of infant formula. (*Circle "True" or "False"*)

    a. True b. False (session 30)

28. In industrialized countries the risk of respiratory infection and diarrhea is higher in bottle-fed infants than in breastfed infants. (*Circle "True" or "False"*)

    a. True (session 5) b. False

29. Circle the illnesses in children and adults for which breastfeeding reduces the risk.

    a. Lymphomas (cancers)
    b. Diabetes
    c. Respiratory tract infections
    d. Otitis media (ear infection)
    e. Diarrhea diseases
    f. All of the above (session 5)
    h. Only b and c

30. From a nutritional point of view, breastmilk is excellent for the first 3 months of an infant's life, but supplementing breastmilk with another food from 3 months onward ensures better growth. (*Circle "True" or "False"*)

    a. True b. False (session 5)

31. Circle the characteristics colostrum does NOT have compared to mature milk.

    a. Is lower in volume
    b. Is higher in water (session 7)
    c. Is higher in protein
    d. Is higher in vitamin A

32. Circle the characteristics human milk does NOT have compared with cow's milk.

    a. Is higher in lactose
    b. Contains growth factors
    c. Is higher in protein (session 7)
    d. Small amount of iron is well absorbed

33. Circle the INCORRECT statements about the anatomy of the female breast.

    a. Montgomery glands are located on the areola and secrete a lubricating and protective substance.
    b. Lactiferous sinuses extend from the outer part of the breast to under the areola. (session 6)
    c. Breast size increases during pregnancy.
    d. Breast size does not relate to milk production.
    e. None of the above

34. Maria, a 32-year-old woman who is breastfeeding her 2-month-old son, comes to your clinic concerned about a lump in her breast. She has no family history of breast cancer or fibrocystic breast. You let her remove milk by breastfeeding and then examine her breast. You feel a 2cm mass in the outer quadrant. What do you do?

    a. Treat breast for plugged duct and check after 1 week. (session 9)
    b. Advise her to discontinue breastfeeding.
    c. Order mammography.
    d. Get a surgical consultation

35. Name the most common micronutrient deficiency associated with increased rates of mother-to- child transmission of HIV.

    Vitamin A (session 24)

36. HIV-positive women should be discouraged from getting pregnant because they will infect their infants in any case. (*Circle "True" or "False"*)

    a. True b. False (session 26)

37. The most common type of HIV in sub-Saharan Africa is: (*Circle the correct answer*)

    a. Type 12
    b. Type 10
    c. Type 1 (session 2)
    d. Type 2

38. List one (1) biological factor that makes women more susceptible to HIV infection.

    Their anatomy: The vagina has a larger surface area than the penis and is the vessel that receives the sperm.

39. List four (4) components of the minimum antenatal care package, two (2) of the intra-partum care package, and three (3) of the post-natal care package.

    a. Antenatal care
        - Clinical screening and examination
        - Prevention, detection, and treatment of sexually transmitted infections (STIs)
        - Prevention, detection, and treatment of anemia

- HIV testing and counseling
- Condom promotion and provision
- ARV prophylaxis

b. Intra-partum care
   - Keeping the membranes intact as long as possible
   - Use of aseptic techniques
   - Avoidance of invasive procedures

c. Post-natal care
   - High-dose vitamin A supplementation for the mother
   - Counseling on family planning
   - Nutrition counseling and support
   - Condom promotion and provision (session 8)

40. List three (3) advantages of exclusive breastfeeding.

    a. Meets infant's nutritional requirements
    b. Protects infant against illness, allergies, and infections
    c. Delays ovulation
    d. Is cheaper and easier than alternatives (session 5)

44. List three (3) consequences of poor attachment of the infant to the breast.

    a. Infant's inability to milk the breast effectively (session 13)
    b. Sore and cracked nipples (session 13)
    c. Engorgement or plugged ducts (session 14)

45. What percentage of mothers who are newly infected with HIV while breastfeeding transmit the virus to their infants through breastfeeding?

    29% of mothers who seroconvert while lactating pass the virus to their infants (session 11)

46. To reduce HIV transmission through breastfeeding, mothers should be advised to alternate breastfeeds with infant formula. This reduces the viral load in breastmilk taken in by the infant. (*Circle "True" or "False"*)

    a. True b. False (session 11)

47. MTCT interventions should only take place where antiretroviral drugs are available. (*Circle "True" or "False"*)

    a. True b. False (session 11)

48. What is the correct dosage of Nevirapine for the mother to prevent transmission of HIV to her infant?

    200 mg tablet given to mother at onset of labor (session 10)

49. What should a health worker do if an HIV-positive mother delivers within 2 hours of taking Nevirapine?

    Give the infant a dose of Nevirapine within the first hour of life. (session 10)

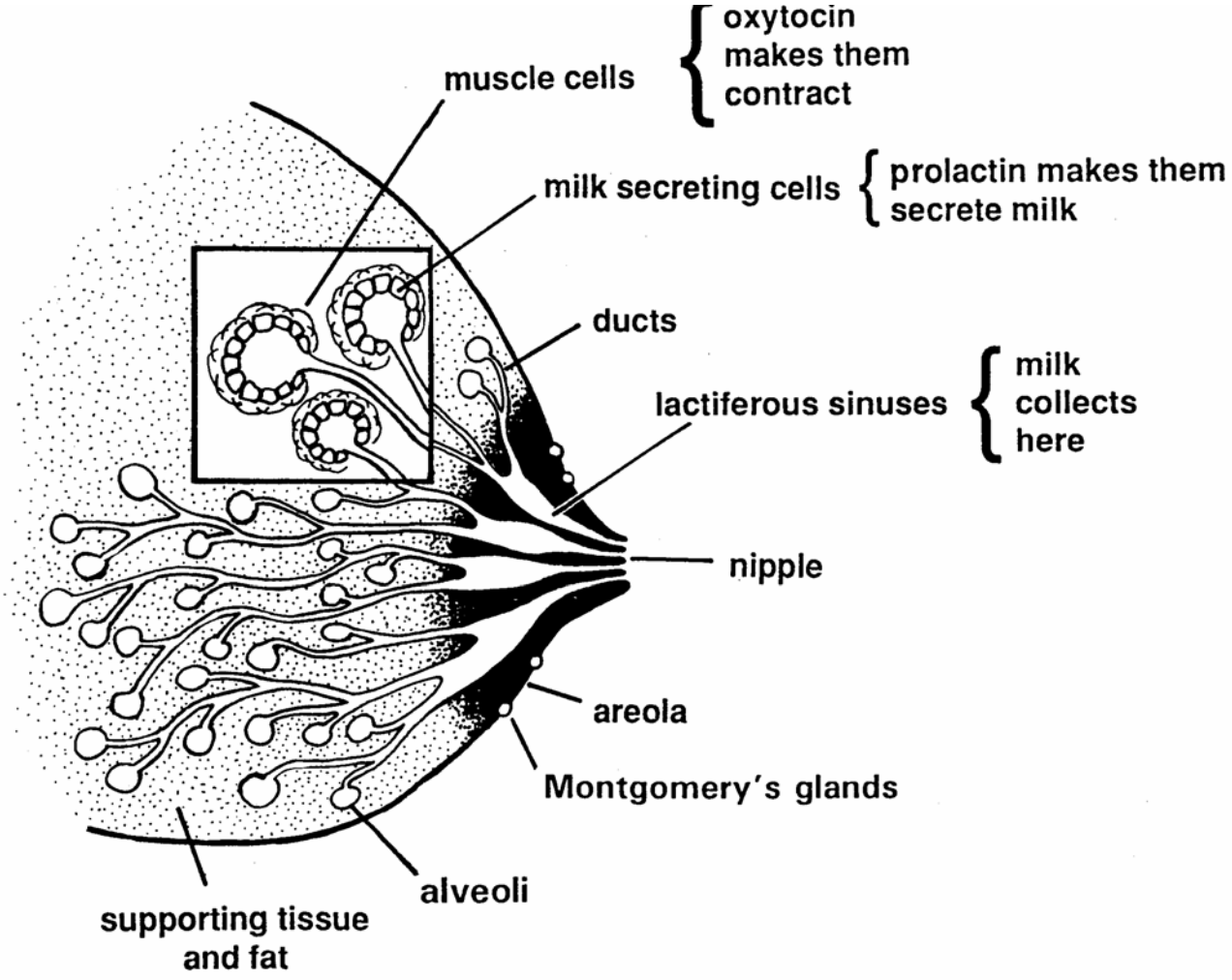
50. How many doses of Nevirapine should be given to the mother? (*Circle the appropriate answer*)

    a. One (session 10)
    b. Two
    c. Three

51. What is the correct dosage of Nevirapine syrup for the infant in PMTCT, and when is it given?

    Syrup dose of 0.6 ml given to infant within 72 hours of birth. (session 10)

52. Label the parts of the breast in the diagram below (session 6)



SESSION 2: BASIC FACTS AND IMPACT OF HIV AND AIDS

Duration: 2 hours

2.1 Introduction

This session provides an introductory framework for understanding common epidemiological terms related to HIV and AIDS and an overview of HIV transmission, factors contributing to transmission of the infection, and the impact of HIV and AIDS on the community.

2.2 Learning objectives

- Define HIV and AIDS and common epidemiological terms related to HIV and AIDS (e.g., asymptomatic, determinants, endemic, epidemic, epidemiology, incidence, incubation, pandemic, prevalence, rate, seroconversion, viral load, window period).
- Describe global and national HIV incidence and trends.
- Describe modes of HIV transmission.
- Describe common opportunistic infections.
- Discuss factors that contribute to the spread of HIV.
- Discuss signs, symptoms, and management of common opportunistic infections
- Discuss the economic, health, and social impact of HIV and AIDS on the community.

2.3 Training methods and content

- Ask participants to form **small groups** to match epidemiological terms and brief definitions on **manila boards**. Facilitate a **group discussion** in plenary for participants to discuss their matches.
- Present HIV and AIDS incidence and trends with **transparencies**.
- Present factors that contribute to the spread of HIV. Then ask participants to reflect on **myths and facts** about HIV and AIDS and respond to questions by moving to areas marked “True” or “False.”
- Ask participants to form **small working groups** to brainstorm first modes of transmission of HIV and AIDS, second, opportunistic infections, and third, the impact of the epidemic on society. Facilitate **group and plenary discussion**.

2.3.1 Definition of terms related to epidemiology of HIV and AIDS

- AIDS: acquired immunodeficiency syndrome
- Asymptomatic: infected with HIV but showing no signs or symptoms of HIV-related illness
- Determinant: element determining, influencing, or predisposing infection with a disease
- Epidemic: excess or increasing occurrence of a disease in community or region
- Endemic: constant occurrence of a disease or infectious agent in a given geographical area or population group

- Epidemiology: study of the distribution, causes, mechanisms of transmission, trends, and determinants of diseases
- HIV: human immunodeficiency virus, of two types: HIV1 and HIV2. HIV1 is the most common type of HIV in sub-Saharan Africa.
- Incidence: number of new cases occurring in a defined population during a specified time
- Incubation: time between becoming infected with HIV and manifesting signs and symptoms of the disease
- Opportunistic infections: Infections that take advantage of the compromised immune system of someone infected with HIV and are caused by germs that are normally found in the environment without causing any problem
- Pandemic: epidemic usually affecting a large proportion of the population and occurring over a wide geographical area (e.g., part of a nation or an entire nation)
- Prevalence: all old and new cases of a disease existing at a given time in a given population
- Rate: measurement of the occurrence of an event (e.g., development of disease or death)
- Seroconversion: the development in blood serum of antibodies to a particular antigen as a result of infection or immunization. When people develop antibodies to HIV, they "seroconvert" from antibody-negative to antibody-positive. It may take from as little as 1 week to several months or more after infection with HIV for antibodies to the virus to develop. After antibodies to HIV appear in the blood, a person should test positive on antibody tests.
- Viral load: amount of virus in the blood of an HIV-positive person
- Window period: period of several weeks in which newly infected people have not yet produced enough HIV antibodies to be detected. During the first 25 to 45 days between infection and detection, the virus can elude efforts to screen it out.

2.3.2 Status and trends of HIV and AIDS globally, regionally, and nationally

- Information on current global, regional, and national HIV and AIDS status and trends

Handout 2.1: Myths and Facts about HIV and AIDS
Handout 2.2: Myths and Facts about HIV and AIDS Answer Sheet

2.3.3 Modes of transmission of HIV

- Through unprotected sexual contact with an infected individual (accounts for more than 70 percent of all infections)
- From infected mother to child, or MTCT (accounts for 90 percent of all infections in children)
- From infected blood and blood products (e.g., through contaminated needles; accounts for small proportion of HIV infection in Africa)

2.3.4 Factors contributing to the spread of HIV in Africa

- Prevalence of other sexually transmitted diseases (STDs)
- Infrequent and inconsistent use of condoms
- Lack of male circumcision
- Poverty and poor overall health
- Unequal social and economic status of women
- Urbanization and mobility
- Early sexual activity
- Multiple sexual relationships
- Adverse cultural practices
- Biological factors
- Age

2.3.5 Opportunistic infections (OIs) and their management

- Definition of opportunistic infections: infections that take advantage of the compromised immune system of someone infected with HIV and are caused by germs that are normally found in the environment without causing any problem

- Common opportunistic infections
  - Fungal infections
    - Pneumocystis carinii
      - One of the most common and lethal OIs
      - Less sever in adults than in children
      - Signs and symptoms include severe respiratory distress with cough, difficulty breathing, and fast breathing
      - Pneumocystis carinii pneumonia (PCP) reactivation

    - Cryptococcosis
      - Pneumonia the most common form
      - Subacute or chronic meningitis the most common manifestation of disseminated cryptococcal infection

    - Mucocutaneous candidiasis
      - Stomatitis and esophagitis in baby can affect HIV transmission
      - Signs and symptoms include anorexia, dysphagia, weight loss, and itchy rash
      - Management: antimycotic drugs locally and generally, heated breastmilk given by cup (risk of transmission through suckling)

  - Parasitic infections
    - Toxoplasmosis

  - Bacterial infections
    - Mycobacterium tuberculosis (TB)
      - Most common opportunistic infection in Africa

        - Atypical pulmonary disease and extrapulmonary disease more common than classical apical cavitary disease
            - Signs and symptoms include fever, weight loss, appetite loss, night sweats, coughs, and weariness

    - Streptococcosis
    - Salmonella typhi and non-typhi
    - Staphylococcus aureus
    - Escherichia coli

- Viral infections
    - Herpes simplex
    - Herpes zoster
        - Signs and symptoms include unilateral vesicular lesions, localized pain, low-grade fever, possible relapsing cutaneous disease, retinitis, central nervous system disease
        - Management: Breastfeeding with non-affected breast, painkillers, local antiseptics (gentian violet solution), local and oral Acyclovir

    - Cytomegalovirus retinitis
    - Cytomegalovirus extra-ocular disease (gastrointestinal): Most common manifestation of disseminated cryptococcal infection

2.3.6 Impact of HIV and AIDS on various sectors

- Women, children, and family
    - AIDS orphans
    - Increased under-5 mortality
    - Increased morbidity and mortality in women
    - Burden of care on women and children in AIDS-affected households

- Education
    - Reduced number of trained teachers and education officers
    - Increased teacher absenteeism
    - Reduced public financing for schools
    - Reduced family resources for schooling fewer children, especially girls able to attend or complete school

- Health
    - Increased bed occupancy
    - High cost of treating opportunistic infections
    - Reduction in number of trained health personnel

- Employment
    - Loss of person hours at work to sickness and funerals

- Agriculture
  - Reduced food security at national and household levels

- Economy
  - Reduced working-age population affecting quantity and quality of labor
  - Reduced per capita gross domestic product (GDP)

2.4 Materials and recommended reading

- Manila boards
- Questions to elicit attitudes about HIV and AIDS
- Handouts: "Myths and Facts about HIV and AIDS" and "Myths and Facts about HIV and AIDS Answer Sheet"
- "True" and "False" signs
- Transparencies
- National HIV statistics
- Bartlett, John G. 2003. *Medical Management of HIV Infection: The Hopkins HIV Report*. Baltimore, MD: Johns Hopkins University Press
- UNAIDS. 2000. The *Status and trends of the HIV and AIDS Epidemics in the World,* Geneva

Handout 2.1 MYTHS AND FACTS ABOUT HIV and AIDS

Listed below are some statements about HIV and AIDS. Two areas of the classroom should be marked with signs reading "TRUE" and "FALSE." The facilitator reads some or all of the statements, one by one, and asks participants to move to the area of the room that corresponds to their responses to each statement. After each statement, participants should explain the reason for their choices.

_____ 1. Public education about AIDS should be incorporated in school curricula.

_____ 2. Employers should have the right to know whether their employees have AIDS.

_____ 3. It should be mandatory that a person who has a blood test to detect the HIV virus is given the results.

_____ 4. HIV can be spread by dry social kissing.

_____ 5. AIDS is a disease that affects only male homosexuals.

_____ 6. A mother infected with HIV can transmit the virus to her unborn child.

_____ 7.HIV is spread through sharing body fluids, specifically semen and blood.

_____ 8. AIDS is a communicable disease.

_____ 9. You can get AIDS by sitting next to someone with AIDS.

_____ 10. A person with AIDS needs help and understanding.

_____ 11. HIV attacks the body's immune system.

_____ 12. Intravenous (IV) drug users are at high risk for contracting HIV.

_____ 13. People get HIV infection by receiving blood donations.

_____ 14. A person must have symptoms of AIDS to infect others.

_____ 15. Heterosexuals who have only a few sex partners won't get AIDS.

_____ 16. Teenagers who are sexually active are at high risk for getting AIDS.

_____ 17. There is no cure for AIDS.

Handout 2.2 MYTHS AND FACTS ABOUT HIV and AIDS
ANSWER SHEET

1. T
2. F
3. F
4. F
5. F
6. T
7. T
8. T
9. F
10. T
11. T
12. T
13. F
14. F
15. F
16. T
17. T

SESSION 3: BEHAVIOR CHANGE COMMUNICATION

Duration: 2¼ hours

3.1 Introduction

This session emphasizes the point that information alone does not change behavior. Behavior change is a process. Every person goes through a series of steps before changing behavior. The session is designed to familiarize participants with the concepts of behavior change communication (BCC), reflect on their own biases, and begin to understand that people behave in certain ways for a variety of rational and logical reasons.

3.2 Learning objectives

- Define communication.
- Define BCC.
- Identify the goal of behavior change communication.
- Describe BCC steps.
- Describe BCC methods and processes.
- Identify the key elements of BCC.
- Practice identifying behavior change stages.

3.3 Training methods and content

- Ask the following **questions** and write the answers on a flipchart:
  1) What will we do with the information we get from this workshop?
  2) What is communication?
  3) Why do people communicate?
  4) What makes it difficult for people to change behavior?
- Facilitate **discussion**.

3.3.1 What will we do with the information we get from this workshop?

- Use the information to improve our lives
- Use the information to improve the health of mothers and children in our families
- Use the information to improve the health of other community members

3.3.2 Define communication

- Transfer of messages or meaning from one person to another
- Interaction around messages and meaning transferred from one person to another

3.3.3 Why do people communicate?

- To give and receive information
- To develop rapport and increase understanding
- To increase understanding
- To maintain companionship
- To satisfy the need to share information and ideas

- To get ideas
- To meet basic human needs

3.3.4 What makes it difficult for people to change behavior?

Any communication requires a *sender* or *source*, a *message*, a *medium* or *setting* through which the message is communicated, a *receiver* or *target* audience, and an *environment* in which the communication takes place. Table 1 lists factors that can affect these elements of communication. These factors therefore affect the quality and effectiveness of health messages and their ability to bring about behavior change.

Table 1 Factors influencing elements of behavior change

Sender (source)	Message	Medium /setting	Receiver	Environment
Mood	Language	Credibility of media	Mood	Availability of services
Attitudes	Vocabulary	Setting	Timing	Distance to service points
Beliefs Credibility	Tone	External interference	Perception about sender	Supportive policies and practices
Habits	Presentation	Talking space/ environ-ment	Attitudes	Support in the community
Biases	Clarity (length, language)	Competing activities	Beliefs	
Level of understanding	Context		Habits	
Body language	Benefits		Biases	
Age	Materials and illustrations		Experience	
Sex	Technical accuracy		Age	
Image: dress, trustworthiness integrity)	Appropriateness/ acceptability		Sex	
Reputation			Poverty	
			Fear of consequences	
			Conflicting loyalties	
			Personal differences	
			Hidden agendas	
			Group or peer pressure	

3.3.5 Define BCC

- Behavior = action in response to stimulation
- Change = to make or become different (always involves motivators and barriers/obstacles)
- Communication = process by which information is exchanged (e.g., through interpersonal or group talks, support groups, print materials, or mass media)
- Behavior change communication = transfer of messages or meaning that fosters a change in behavior in individuals, families, or communities

- Brainstorm the definition of behavior change communication.
- Divide participants into 3 **buzz groups**. Ask the groups to think about a behavior they wanted or needed to change and discuss how hard it was.
- Ask the participants to think about a time when someone told them what to do and discuss how they felt in this situation.
- Ask participants to think about a time when someone asked them what they wanted to do and discuss how they felt in this situation.
- In plenary **discuss** the difference between how it feels to be told what do to and how it feels to be asked what you want to do. Ask a few participants to share their feelings.
- Ask participants to discuss what they needed to change the behaviors they wanted to change.
- Discuss why information is usually never enough to change behavior.

- It is possible, but difficult, to bring about behavior change. People need support to change and sustain their behavior.

3.3.6 Stages of BCC and interventions required at each stage

- On a flipchart draw the stages of behavior change in table 2 below.
- **Brainstorm** with participants how people usually move through these steps (or process) to change behavior.
- Distribute and discuss **handouts**: Steps of Change Model and Steps to Change and Interventions.
- Ask participants to close their eyes and think about a non-addictive behavior (not drinking alcohol or smoking) they are trying to change. Ask them to identify at what stage they are in changing that behavior and why. Ask what they think they will need to move to the next step.
- Ask participants to identify key elements of behavior change.
- Facilitate **discussion**.

Table 2 Stages of behavior change

Stage	Support needed
Pre-awareness	Information
Awareness	More information, especially about benefits
Contemplation	Persuasion

Intention	Encouragement
Trial	Encouragement and negotiation
Adoption	Benefits
Maintenance	Support
Telling others	Praise

Handout 3.1: Stages of Behavior Change
Handout 3.1: Steps to Change and Interventions

- Behavior change communication:
  - Focuses on and promotes adoption of a specific behavior (e.g., going for HIV testing and counseling, starting antenatal care early in pregnancy, using condoms)
  - Promotes maintenance of the desired behavior by discussing not only the behavior but ways people can find support for the behavior so it will take root and become routine
  - Applies adult learning methods (adults learn best when they are respected, asked to share their experience, and invited to discuss and choose a course of action)

3.3.7 Practice identifying behavior change stages regarding optimal practices in communities affected with HIV

- Divide into 3 **working groups** and give each group 3 case studies. Ask each group to present 1 case study and identify what stage the mother in the case study is in. Each group presents one case study.
- Facilitate **discussion** in plenary.
- **Review** key messages of session.

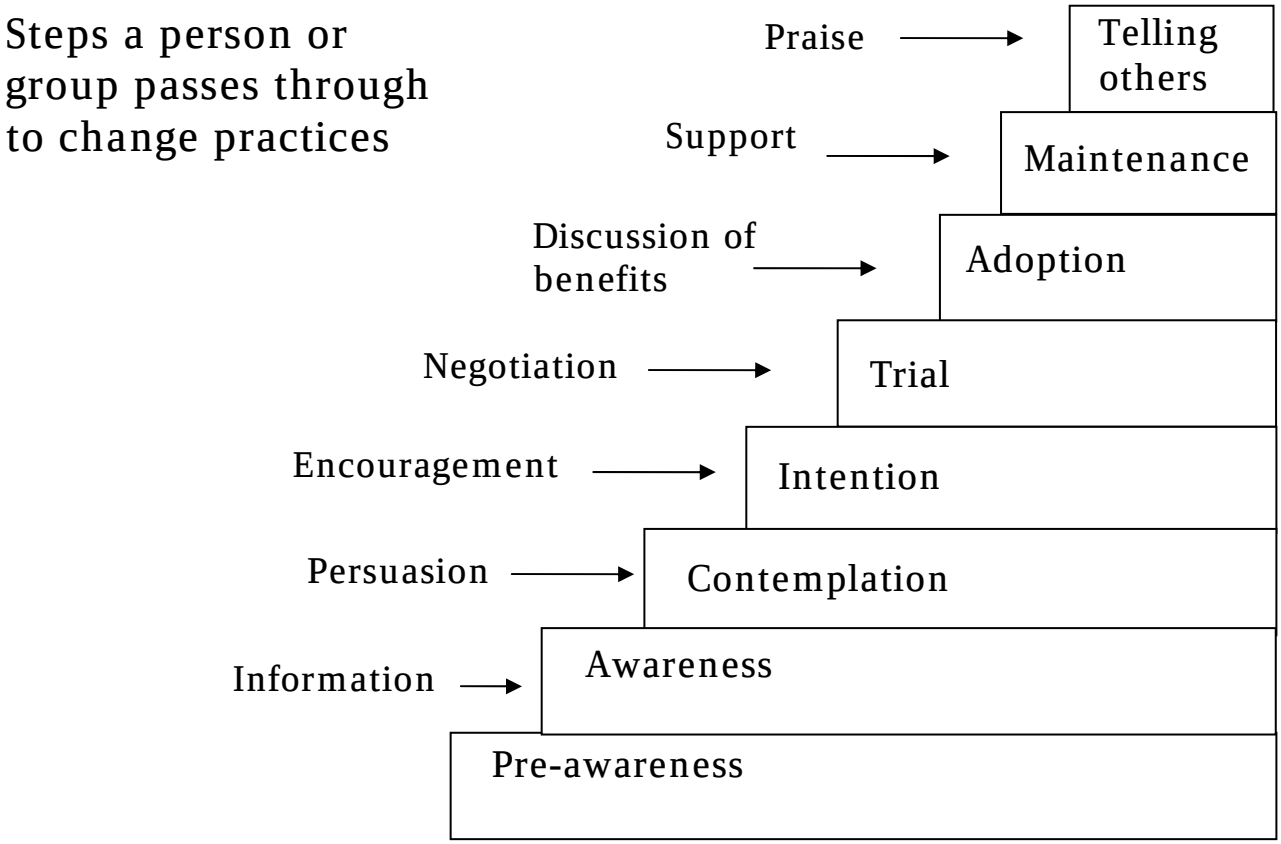
Handout 3.3: Behavior Change Case Studies

- Points for the health provider or counselor to remember:
  - Giving information alone does not necessarily lead to behavior change.
  - Approach adults with respect.
  - Discuss with adults instead of telling then what to do.
  - Recommend specific behaviors that target audiences should consider adopting.
  - Discuss the benefits of the recommended behaviors.

3.4 Materials

- Flipcharts, markers, and masking tape
- Handouts: “Stages of Change Model,” “Steps to Change and Interventions,” “Behavior Change Case Studies,” “Behavior Change Case Studies Answer Key”

Handout 3.1 STAGES OF CHANGE MODEL



Handout 3.2 STEPS TO CHANGE AND INTERVENTIONS

Steps	Appropriate interventions To convince the target audience to try new practice – to provide support for the choice and change community norms
Never having heard about the behavior	Build awareness/provide information • Drama, fairs • Community groups • Radio • Individual counseling • Infant and Young Child Feeding Support Groups
Having heard about the new behavior or knowing what it is	Encourage/discuss benefits • Group discussions or talks • Oral and printed word • Counseling cards • Infant and Young Child Feeding Support Groups
Thinking about new behavior	Negotiate and help to overcome obstacles • Home visits, use of visuals • Groups of activities for family and the community • Negotiate with the husband and mother-in-law (or other influential family members) to support the mother
Trying new behavior out	Praise/reinforce the benefits • Congratulate mother and other family members as appropriate • Suggest support groups to visit or join to provide encouragement • Encourage community members to provide support (radio programs)
Continuing to do new behavior or maintaining it	Provide support at all levels • Reinforce the benefits • Praise

Handout 3.3 BEHAVIOR CHANGE CASE STUDIES

1. A pregnant woman has heard about HIV testing and counseling at the local clinic. She doesn't know what to do and is worried about what her husband will say.

2. A woman has brought her 8–month-old child to the infant weighing session. The child has lost weight. The health care worker tells her to give her child different foods because the child is not growing.

3. A health worker talked with an HIV-positive pregnant woman, whose infant is due any day, about her infant feeding options. The woman has decided to breastfeed exclusively for 6 months.

Handout 3.3, cont. BEHAVIOR CHANGE CASE STUDIES ANSWER KEY

1. A pregnant woman has heard about HIV testing and counseling at the local clinic. She doesn't know what to do and is worried about what her husband will say.
   Awareness/contemplation

2. A woman has brought her 8–month-old child to the infant weighing session. The child has lost weight. The health care worker tells her to give her child different foods because the child is not growing.
   Awareness

3. A health worker talked with an HIV-positive pregnant woman, whose infant is due any day, about her infant feeding options. The woman has decided to exclusively breastfeed her infant for 6 months.
   Intention

SESSION 4: PREVENTION AND TREATMENT OF COMMON SEXUALLY TRANSMITTED INFECTIONS

Duration: 2 hours

4.1 Introduction

The impact of sexually transmitted infections (STIs) is often underestimated because the fear of being stigmatized keeps many patients from presenting themselves at health care facilities. This session examines the relationship between STIs and contraction of HIV and discusses their prevention.

4.2 Learning objectives

- Identify common STIs in the participants' countries.
- Explore predisposing factors for transmission of STIs
- Describe the correlation between MTCT of HIV and other STIs.
- Discuss prevention and management of STIs without antimicrobial therapies.

4.3 Training methods and content

- In plenary, **brainstorm** names and definitions of STIs and lead participants to **identify** two main categories of STIs.
- Ask participants to form four **small working groups** to discuss signs, symptoms, and management of STIs. Afterwards in plenary show **transparencies** to complete the discussion.
- Lead a **group discussion** on the correlation between HIV and STIs, answering **questions** with, "Why is this important?" and "How can you apply this information in your work situation?"

4.3.1 Definition of sexually transmitted diseases:

a group of infections spread as a result of unprotected sexual contact with an infected sexual partner

4.3.2 Predisposing factors

- Negative cultural and traditional practices
- Adverse sexual practices
- Gender disparities
- Urbanization and migration
- Poverty
- Education
- Inadequate response of health care systems
- Age
- Conflict and emergency situations

4.3.3 Categories and classifications of STIs

- Class I: genital discharge
  - Gonorrhea
  - Chlamydia

- Trichonomiasis vaginalis (despite the lack of systemic complications, there is evidence that trichomoniasis facilitates the spread of HIV)
- Candidiasis

➢ Class II: genital ulcer
- Syphilis
- Chancroid
- Herpes
- Warts
- Lymphogranuloma (LGV)

4.3.4 Common signs and symptoms

➢ Urethral discharge
➢ Vaginal discharge
➢ Eye discharge
➢ Dysuria (pain in passing urine)
➢ Lower abdominal pain (pelvic inflammatory disease)
➢ Swelling in the groin
➢ Swelling and pain in the scrotum
➢ Lacerations or sores

4.3.5 Complications and implications of STIs

➢ Increased morbidity
➢ Increased vulnerability to HIV infection
➢ Drain on human and other resources at facility level
➢ Infertility
➢ Chronic pelvic infection–ectopic pregnancy
➢ Intrauterine growth retardation
➢ Spontaneous abortion
➢ Stillbirth
➢ Increased chance of cervical cancer
➢ Premature rupture of membranes
➢ Premature onset of labor
➢ Mucosal inflammation of urogenital tract, throat, or rectum in both males and females
➢ Chrorioamnionitis
➢ Postpartum endometritis

Note: Even though there are no systematic complications of vaginal trichomoniasis, this infection facilitates the spread of HIV.

4.3.6 Correlation between MTCT of HIV and STIs

➢ Transmission of HIV
- Role of ulcerations
- Herpes as an important co-factor

- Mucosal inflammation of the urogenital tract, throat, or rectum in both males and females

➢ Mother-to-child transmission of HIV
- Premature rupture of membranes
- Premature onset of labor
- Chorioamnionitis
- Cervicovaginal ulcerations
- Increased rates of prematurity
- Mucosal inflammation of urogenital tract

4.3.7 Prevention and management of STIs without use of antimicrobial therapies

➢ Primary prevention
- Health education
- Information campaigns on the association between HIV and other STIs
- Promotion of safer sex and reduction strategies such as abstinence
- Promotion of correct and consistent condom use

➢ Secondary prevention
- Not limited to antimicrobial therapy
- Promotion of early health care seeking behavior
- Accessible, effective, and acceptable care
- Counseling
- Early detection and treatment of symptomatic infections in clients and partner(s)

➢ Tertiary prevention
- Effective case management of STIs in health facilities
- Encouragement of clients to comply with treatment
- Respect for clients and confidentiality
- Positive attitude on the part of health workers

4.4 Materials and recommended reading

➢ Slides or overhead transparencies
➢ Leaflets on STIs
➢ WHO. 2001. "Global Prevalence and Incidence of Selected Curable Sexually Transmitted Infections: Overview and Estimates." WHO/HIV_AIDS 2001.02. Geneva
➢ WHO, 2001. *Guidelines for the Management of Sexually Transmitted Infections*, WHO/HIV_AIDS 2001.01. Geneva

SESSION 5: ROLE OF BREASTFEEDING IN CHILD SURVIVAL AND SAFE MOTHERHOOD

Duration: 2 hours

5.1 Introduction

This session covers breastfeeding as an integral component of all child survival strategies. Breastfeeding also contributes to safe motherhood.

5.2 Learning objectives

- State the elements of a child survival strategy.
- Discuss breastfeeding as a child survival strategy.
- Explain the role of breastfeeding in safe motherhood.
- List the benefits of breastfeeding for the mother, infant, and family.

5.3 Training methods and content

- Write breastfeeding and child survival terms on **cards** and ask participants to take turns picking a card and explaining the term's relation to breastfeeding. Other participants **agree or disagree** and complete the explanation.
- Use **transparencies or slides** to reflect the role of breastfeeding in relation to other child survival interventions.
- Ask participants to work in **small working groups** to discuss the benefits of breastfeeding for mother and infant. Display **flipcharts** with 4 themes 1) Nutritional benefits for the infant, 2) Health benefits, 3) Psychological, developmental, and child spacing benefits, and 4) Economic and environmental benefits. Members of small groups **rotate from chart to chart** to provide additional points under each theme and discuss these in plenary and **group discussion**.
- **Brainstorm** with participants the recommended breastfeeding practices and the risks of artificial feeding.
- Make a **presentation** on additional facts about these child survival strategies

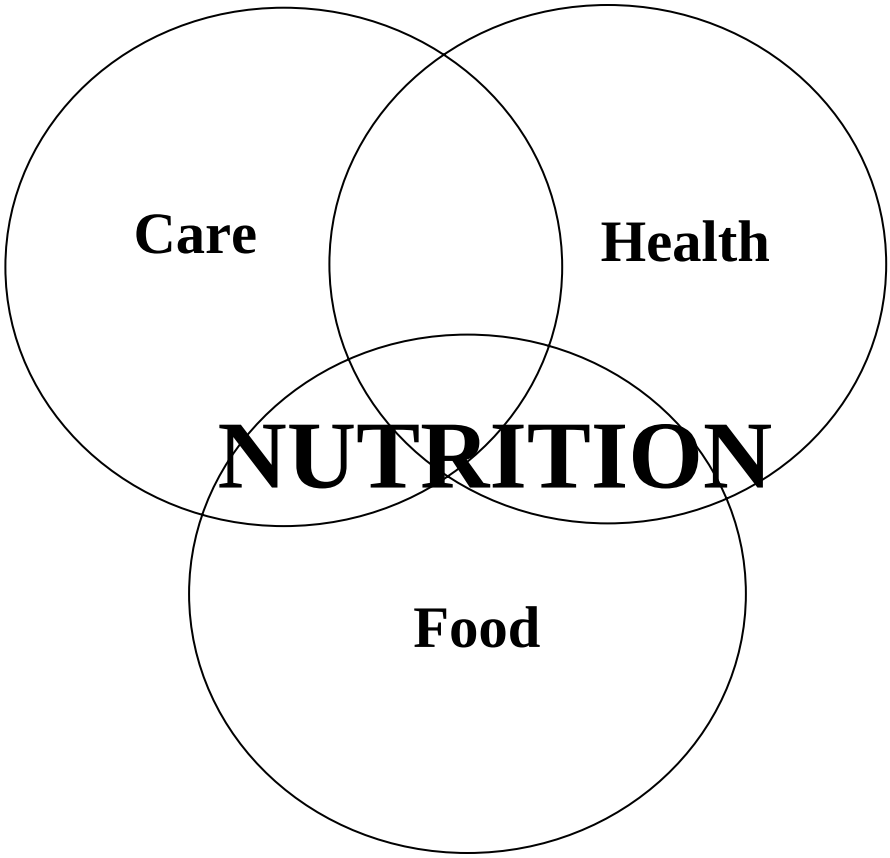
5.3.1 Child survival

- Definition: Mechanism to enhance a child's ability to overcome physical, mental, and psychological barriers to physical and psychosocial growth and development

- Elements
  - Scope of child care
  - Health and nutritional needs
  - Social and mental health needs

Handout 5.1: Elements of Child Survival

Handout 5.1: ELEMENTS OF CHILD SURVIVAL



Source: UNICEF

5.3.2 Benefits of breastfeeding for mothers and infants

- Nutritional benefits of breastmilk for infants
  - Meets all the infant's nutritional requirements for about 6 months
  - Contains all nutrients in the correct amounts
  - Changes composition to meet infant's changing needs
  - Continues to be an important source of high-quality protein, energy, vitamins, minerals, and fatty acids for older infants and toddlers
  - Is easily digested
  - Is species specific

- Health benefits of breastmilk for infants (see also table 1)
  - Protects against illness and infection and enhances the immune system (antibodies)
  - Reduces allergies
  - Provides long-term protection against diabetes and cancer in adult life
  - Has a purgative effect
  - Contains growth factors

Table 1 Properties of colostrum

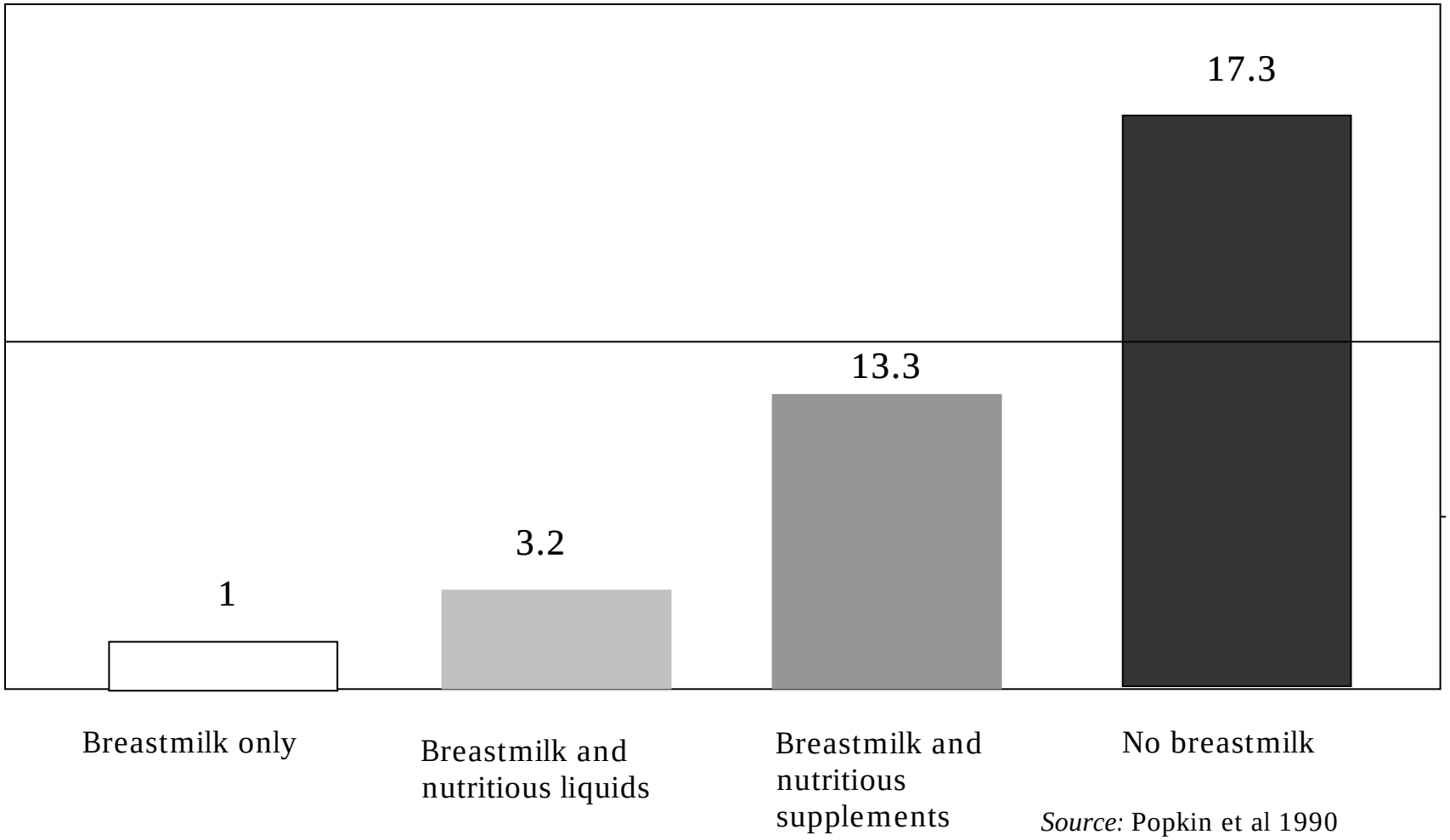
Properties	Importance
Antibodies	Protects against infection and allergy
White cells	Protects against infection
Purgative effects	Cleans meconium (bilirubin-rich stool) to prevent jaundice in newborns
Growth factors	Helps intestines mature and prevents allergies and food intolerance
Vitamin A	Reduces severity of some infections (e.g., measles and diarrhea) and prevents vitamin A-related eye disease

Handout 5.2: Risk of Diarrhea by Feeding Method, Philippines
Handout 5.3: Infant Illness Rates among Breastfeeding and Formula Feeding Women in Two Corporations, United States

- Psychological and developmental benefits of breastmilk for infants and mothers
  - Fosters bonding
  - Provides emotional and psychological well-being
  - Promotes optimal infant growth and development, including brain growth

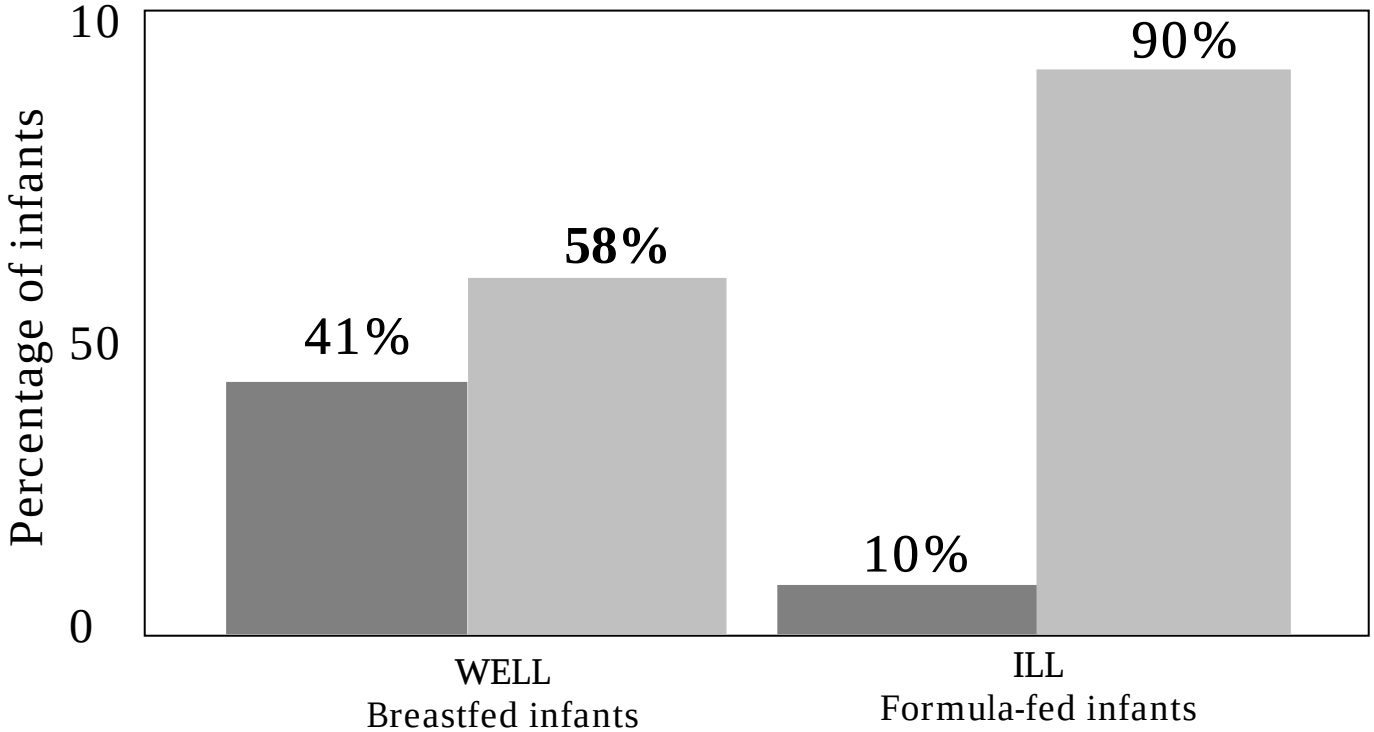
- Economic and environmental benefits of breastfeeding for the family and community
  - Saves on food costs
  - Saves on health care costs
  - Contributes to child spacing
  - Reduces absenteeism of mother from work
  - Costs nothing and saves cost of purchasing breastmilk substitutes
  - Conserves natural resources and reduces pollution

Handout 5.2: RISK OF DIARRHEA BY FEEDING METHOD, PHILIPPINES
INFANTS 0–2 MONTHS OLD



Source: Popkin et al 1990

Handout 5.3: INFANT ILLNESS RATES AMONG BREASTFEEDING AND FORMULA FEEDING WOMEN IN TWO CORPORATIONS, UNITED STATES



In two corporations with established lactation programs, 101employees returning from maternity leave (59 feeding breastmilk and 42 using commercial formula) were given counseling by a lactation professional and facilities to collect and store breastmilk. Of the 28% of infants in the study who had no illnesses, 86% were breastfed and 14% formula fed. When illness occurred, 25% of all maternal absences were among breastfed infants and 75% among the formula fed group. CONCLUSION: Fewer and less severe infant illnesses and less maternal absenteeism was found in the breastfeeding group. *Source:* Cohen et al, *Comparison of Maternal Absenteeism and Infant Illness Rates among Breast-feeding and Formula-feeding Women in Two Corporations*, 1995

Handout 5.4: Early Introduction of Non-Human Milk, Côte d'Ivoire

- Environmental benefits of breastfeeding
  - Conserves natural resources and reduces pollution

- Benefits of breastfeeding in the second year of life
  - Nutrition
  - Reinforces immunity of child exposed to many organisms when beginning to crawl or walk
  - Provides security and comfort through closeness to mother

- Health benefits of breastfeeding for the mother
  - Reduces bleeding immediately after birth (Chua 1994)
  - Promotes involution of the uterus to pre-pregnancy state after delivery
  - Reduces risks of pre-menopausal ovarian and breast cancer and osteoporosis
  - Delays return to menses, helping mother conserve iron to guard against
  - Delays ovulation and pregnancy to contribute to child spacing
  - Contributes to the psychosocial wellbeing of the mother

5.3.3 Recommended breastfeeding practices

- Initiate breastfeeding within about 1 hour of birth.
- Establish proper attachment and positioning.
- Breastfeed exclusively for the first 6 months.
- Breastfeed frequently and on demand, including night feeds.
- In areas of vitamin A deficiency, take a high-dose vitamin A supplement as soon as possible after delivery, no later than 8 weeks post-partum.
- Continue to breastfeed on demand for 2 years and beyond, introducing appropriate local complementary foods when the infant is about 6 months old.

5.3.4 Risks of artificial feeding for the infant

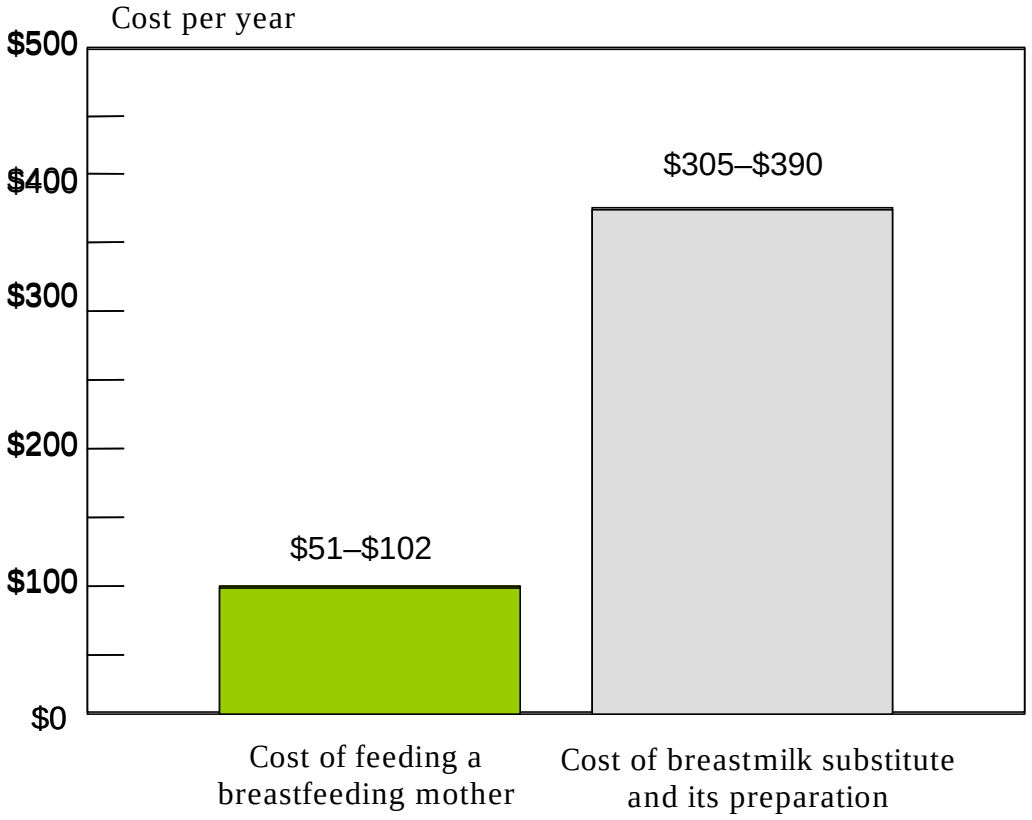
- Interferes with bonding
- Increases chance of ear infections, allergies, and milk intolerance
- Increases chance of diarrhea and respiratory infections
- Increase chance of obesity
- Increases chance of death in resource-challenged settings
- Increases chance of diabetes in adulthood
- Increases chance of developing high cholesterol in adulthood

5.3.5 Child survival and safe motherhood

- Breastfeeding saves the lives of about 6 million infants a year and could save another 1–2 million.
- Four thousand infants in developing countries die each day because they are inadequately breastfed.

Handout 5.4 EARLY INTRODUCTION OF NON-HUMAN MILK, COTE D'IVOIRE

- Early supplementation decreases breastmilk production
- Early supplementation uses more of family resources



Source: NURTURE 1990

- Infants who are not breastfed are up to 14 times more likely than those who are breastfed exclusively to die of diarrhea and up to 3 times more likely to die of acute respiratory infections.
- Oral rehydration therapy (ORT) saves the lives of 1.1 million children 0–5 years old each year.
- Immunization against illnesses saves the lives of at least 2.7 children each year.
- Children who are born after an interval of 2 years are about 2 times more likely to die before the age of 5.
- The death of a mother death affects household food, social, and economic security.
- A woman's health and nutritional status affects her ability to care for her children.
- Many infants die soon after their mothers die.
- Reproductive factors affect a woman's caring capacity.

5.3.4 Conclusion

- The Baby-Friendly Hospital Initiative must be implemented in the context of HIV and AIDS.
- Community and health facility support must be encouraged to promote exclusive breastfeeding.
- Breastfeeding is care, health, and nutrition.

5.4 Materials and recommended reading

- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press
- Academy for Educational Development/LINKAGES. 2002. "Breastmilk and HIV/AIDS: Frequently Asked Questions." Washington, DC
- _____. "Facts for Feeding: Breastmilk: A Critical Source of Vitamin A for Infants and Young Children." Washington, DC
- _____. "Facts for Feeding: Recommended Practices to Improve Infant Nutrition during the First Six Months" and "Breastmilk: A Critical Source of Vitamin A." Washington, DC
- Defense for Children International-USA (DCI). 1991. *The Effects of Maternal Mortality on Children in Africa: An Exploratory Report on Kenya, Namibia, Tanzania, Zambia and Zimbabwe.* New York
- Huffman, S, et al. 1996. *Breastfeeding Saves Lives: An Estimate of the Impact of Breastfeeding on Infant Mortality in Developing Countries.* Bethesda, MD: NURTURE/Center To Prevent Childhood Malnutrition
- WHO, UNICEF, and UNAIDS. 2000. "New Data on the Prevention of Mother-to-Child Transmission of HIV and Their Policy Implications: Conclusions and Recommendations, WHO Technical Consultation on Behalf of the UNFPA/UNICEF/WHO/UNAIDS Inter-Agency Task Team on Mother-to-Child Transmission of HIV." WHO/RHR/01.28. Geneva, October 11–13

SESSION 6: ANATOMY OF THE BREAST AND PHYSIOLOGY OF LACTATION

Duration: 1 hour

6.1 Introduction

This session teaches the anatomy of the breast (mammary gland), an accessory organ of the reproductive system and the physiology of lactation. This information will help participants know how breastfeeding works in order to help mothers.

6.2 Learning objectives

- Identify the parts of the breast and describe their functions.
- Describe the hormonal control of breastmilk production and ejection.
- Discuss factors that interfere with letdown of milk (ejection reflex).

6.3 Training methods and content

- Form four **working groups**. Ask each group to draw: 1) the breast as it looks on the outside and 2) the breast as it looks from the inside. In plenary ask each group to explain its **drawing** and how milk is produced. Facilitate a **discussion** in plenary and a short summary.
- A cloth **model** of a breast can be used (or constructed by participants during the session, depending on time available) to draw the parts of the breast.
- Facilitate a **brainstorming** session on factors that hinder and facilitate lactation.

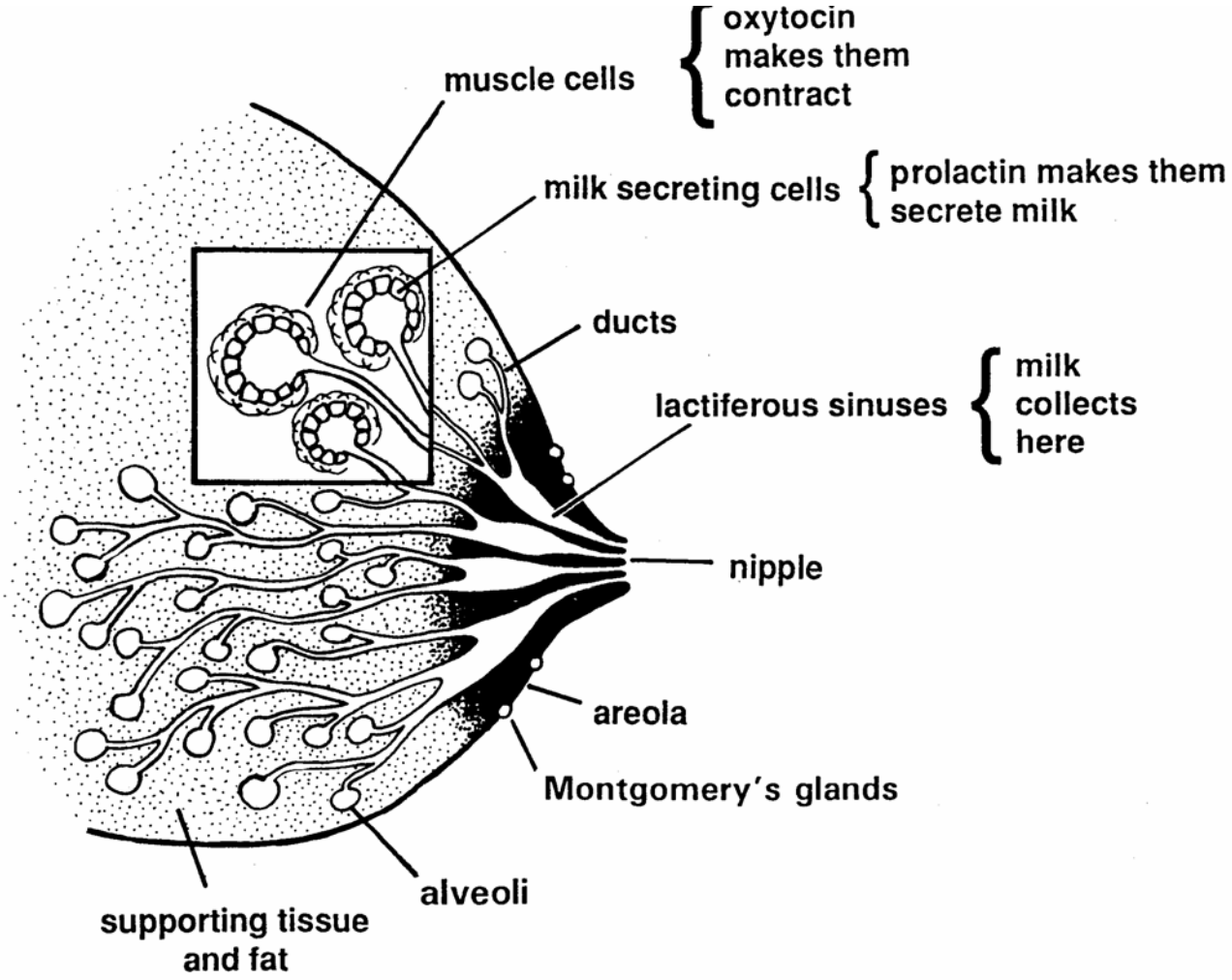
6.3.1 Anatomy of the breast

- Gross structure
  - Skin: Surrounds and protects the breast
  - Size: Varies from each individual
  - Shape: Hemispherical swelling
  - Nipple: Small conical eminence or protuberance; variation in shape, size, and length
  - Areola: Circular area of hyper pigmented breast surrounding nipple

- Microscopic structure
  - Glandular tissue
  - Fatty or adipose tissue
  - Fibrous tissue
  - Alveoli
  - Milk ducts
  - Milk sinuses (collecting ducts)

Handout 6.1: Microscopic Structure of the Breast

Handout 6.1: MICROSCOPIC STRUCTURE OF THE BREAST



- Blood supply and lymphatic drainage
  - The breasts are richly supplied with blood.
  - Lymph drains into the axillary glands.

6.3.2 Physiology of lactation

- In preparation for lactation, estrogen helps the breasts enlarge, and progesterone helps increase secreting tissues

- Prolactin
  - Reflex produces milk, depending on
    - How often the infant suckles
    - How long the infant suckles
    - How strong the sucking is
    - How well positioned the infant is on the breast
  - Works after infant suckles
  - Suppresses ovulation
  - Makes night feeds important
  - Is hindered by bottle feeding, incorrect positioning, and painful breast conditions

  Handout 6.2: Prolactin Reflex
  Handout 6.3: Prolactin

- Oxytocin
  - Makes myo-epithelial cells of the alveoli contract (milk ejection reflex)
  - Makes the uterus contract to help deliver the placenta and reduce post-partum hemorrhage
  - Works while the infant is suckling
  - Production affected by mother's thoughts, feelings, and sensations (pain, worry, lack of self-confidence, doubt, lack of support hinder oxytocin reflex)

  Handout 6.4: Oxytocin Reflex

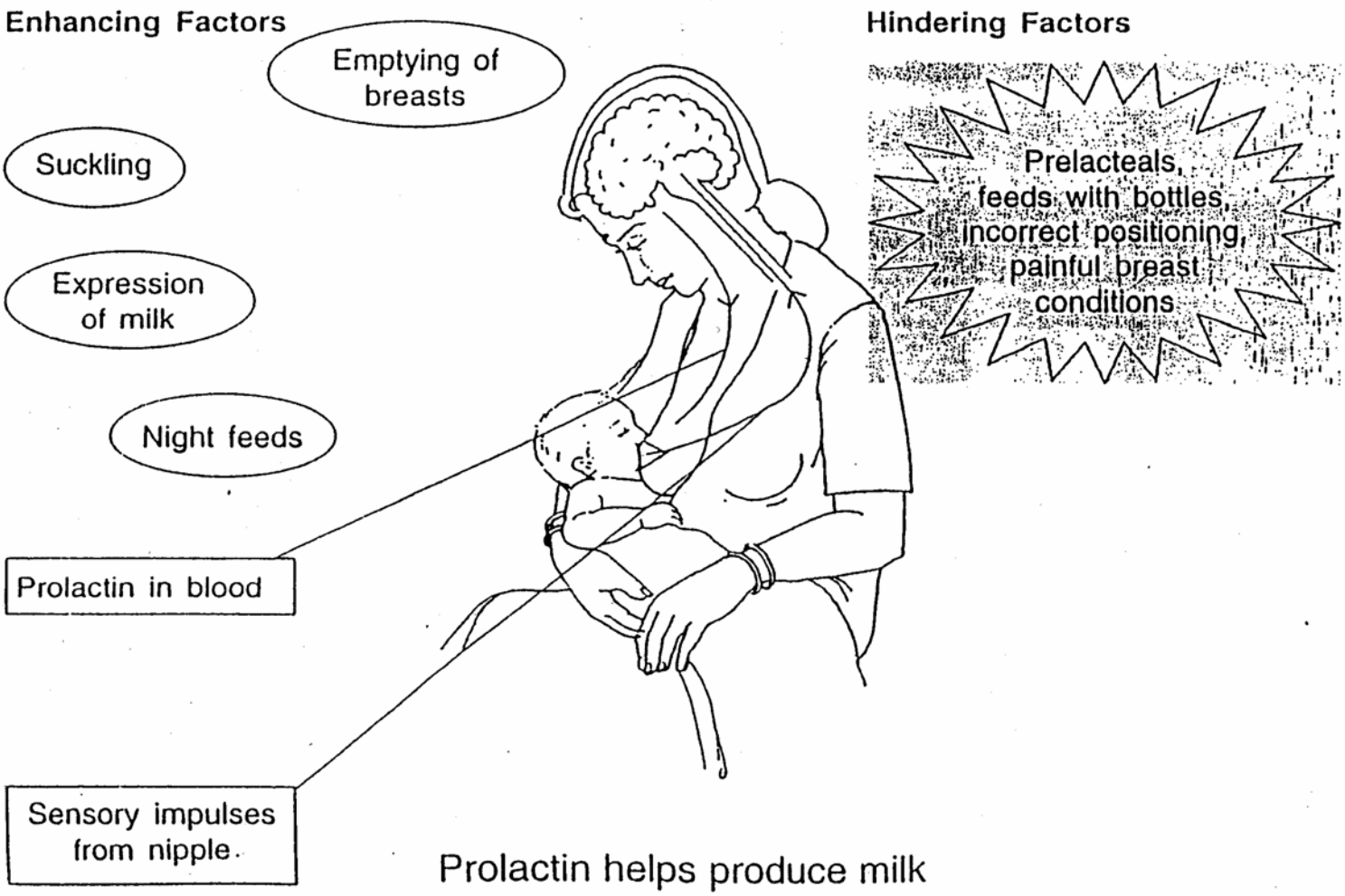
- Infant reflex and lactation
  - Rooting
  - Suckling: the more an infant suckles, the more milk is produced (if breast remains full of milk, secretion stops)
  - Swallowing

  Handout 6.5: Inhibitor in Breastmilk

- Cessation of lactation
  - About 40 days after total cessation of breastfeeding

  Handout 6.6: Instructions for Making Cloth Breast Models

Handout 6.2: PROLACTIN REFLEX

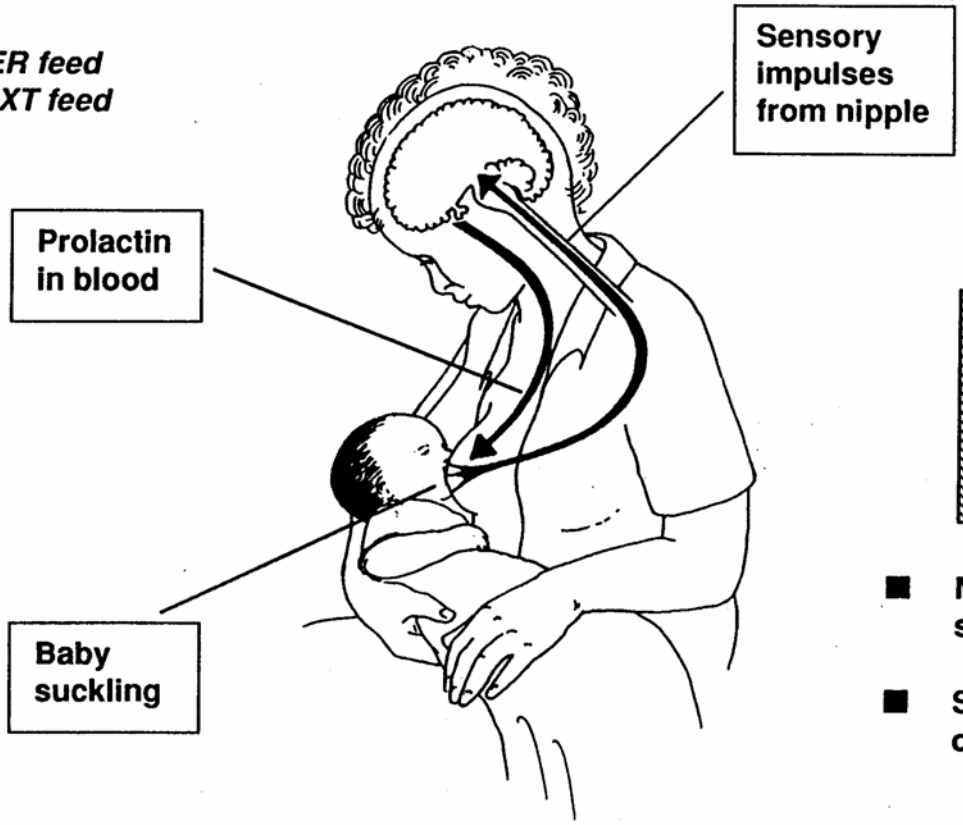


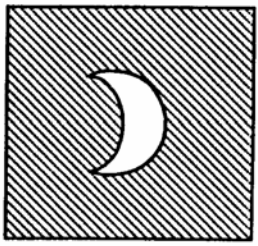
Handout 6.3: PROLACTIN

WHO/CDR/93.6

PROLACTIN

Secreted AFTER feed to produce NEXT feed





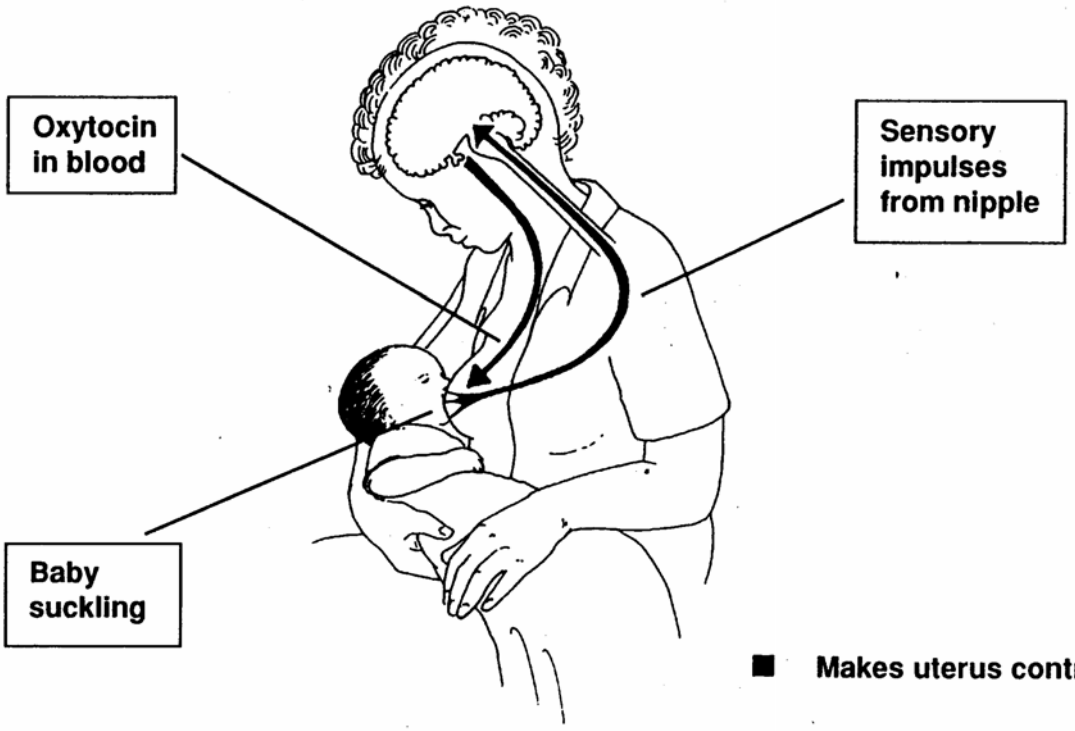
- **More prolactin secreted at night**
- **Suppresses ovulation**

Handout 6.4: OXYTOCIN REFLEX

IIO/CDR/93.6

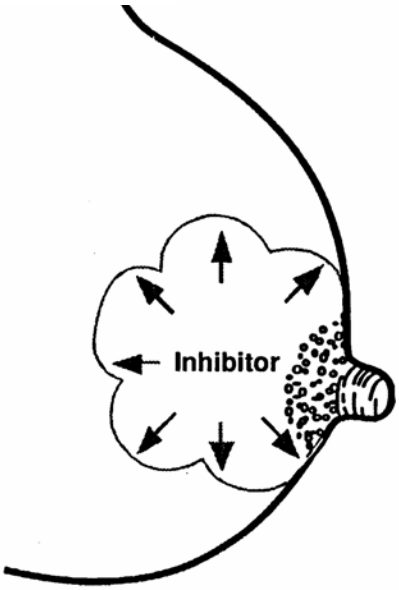
OXYTOCIN REFLEX

Works BEFORE or DURING feed to make milk FLOW



- **Makes uterus contract**

Handout 6.5 **INHIBITOR IN BREASTMILK**



- **If breast remains full of milk, secretion stops**

Handout 6.6 Instructions for making cloth breast models

Use two socks: one sock in a light brown or other colour resembling skin to show the outside of the breast, and the other sock white to show the inside of the breast.

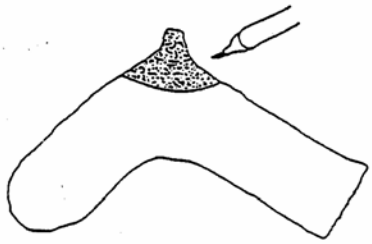
Skin-colour sock

Around the heel of the sock, sew a circular running stitch (= purse string suture) with a diameter of 4cm. Draw it together to 1 ½ cm diameter and stuff it with paper or other substance to make a "nipple." Sew a few stitches at the base of the nipple to keep the paper in place.

Use a felt-tip pen to draw an areola around the nipple.

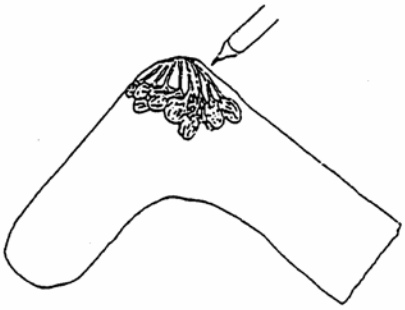
White sock

On the heel area of the sock, use a felt-tip pen to draw a simple structure of the breast: alveoli, ducts, and nipple pores. Be sure the lactiferous sinuses will be in the areola area.



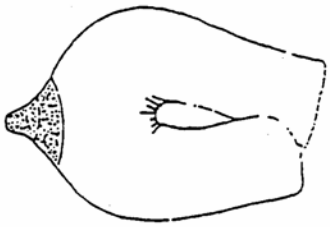
Putting the two socks together

Stuff the heel of the white sock with anything soft. Hold the two ends of the sock together at the back and form the heel to the size and shape of a breast. Various shapes of breasts can be shown. Pull the brown sock over the formed breast so that the nipple is over the pores.



Making two breasts

If two breasts are made, they can be worn over clothing to demonstrate positioning and attachment. Hold them in place with an old nylon stocking tied around the chest. The correct position of the fingers for hand expression and massage can also be demonstrated.



6.4 Materials

- Transparencies
- Newspapers and markers
- Knee-high stockings
- Model of a breast
- Handouts: “Microscopic Structure of the Breast,” “Prolactin,” Prolactin Reflex,” “Oxytocin Reflex,” “Inhibitor in Breastmilk,” “Instructions for Making Cloth Breast Models”
- Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International
- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press

SESSION 7: COMPOSITION OF BREASTMILK

Duration: 1¼ hours

7.1 Introduction

This session teaches the composition of breastmilk, is the perfect food for infants because it contains all the necessary nutrients and is readily available in right quantities.

7.2 Learning objectives

- List the main nutrients in breastmilk.
- Describe variations in breastmilk.
- List the differences between the nutrients in breastmilk and cow's milk.

7.3 Training methods and content

- **Asks questions** of the participants: 1) Name the differences between colostrum and mature milk, 2) What is the difference between fore and hind milk? and 3) Is there anything special about pre-term milk?
- Lead a **discussion** and summary.
- Make a **presentation** of a chart comparing human milk and cow's milk.

7.3.1 Composition

- Depends on
  – Stage of lactation
  – Gestational age of infant
  – Duration of feeds

7.3.2 Stages of lactation

- Colostrum
  - First milk
  - Produced the first 10 days
  - Contains high level of protein (2.3mg/100mls)
  - Contains high levels of anti-infective factors (immunoglobulins IgA and IgM)
  - Contains growth factors
  - Contains high levels of fat-soluble vitamins (A, D, E, and K)

- Transitional milk
  - Contains more water than colostrum
  - Contains more lactose than colostrum
  - Contains less protein than colostrum

- Mature milk
  - Takes 3–14 days to evolve from colostrum
  - Contains
    - – Protein
    - – Lactose
    - – Vitamins
    - – Minerals
    - – Enzymes
    - – Micronutrients

7.3.3 Affected by gestational age of infant

- Pre-term milk contains more protein than full-term milk to allow "catch-up" growth of premature infant

7.3.4 Duration

- Fore milk secreted at beginning of feed contains more proteins, vitamins, and minerals.
- Hind milk secreted at end of feed contains more fat to help infant gain weight.

7.3.5 Comparative composition of human milk, animal milk, and infant formula

Component	Human milk	Animal milk	Infant formula
Protein	Correct amount, easy to digest	Too much, difficult to digest	Partly corrected
Fat	Enough essential fatty acids, lipase to digest	Lacks essential fatty acids, no lipase	Lacks essential fatty acids, no lipase
Vitamins	Enough	Not enough A and C	Vitamins added
Minerals	Correct amount	Too much	Partly corrected
Iron	Small amount, well absorbed	Small amount, not well absorbed	Added, not well absorbed
Water	Enough	Extra needed	May need extra
Anti-infective properties	Present	Absent	Absent
Growth factors	Present	Absent	Absent
Other		Causes allergy in some infants	

Source: WHO and Wellstart International, publication WHO/CDR/93.6

7.4 Materials and recommended reading

- Flipchart and markers
- Transparencies
- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press
- Riordan, Jan, and Kathleen Auerbach. 1999. *Breastfeeding and Human Lactation*. Sudbury, MA: Jones and Bartlett

SESSION 8: HIV THERAPIES TO PREVENT MOTHER-TO-CHILD TRANSMISSION

Duration: 1 hour

8.1 Introduction

This session helps participants understand the life cycle of HIV to appreciate its effects on the immune system and covers the basic pharmacology of antiretroviral drugs (ARVs) used to prevent mother-to-child transmission of HIV.

8.2 Learning objectives

- Describe the basic defense mechanisms of the human body.
- Describe the life cycle of HIV in relation to antiretroviral drugs.
- Outline the use of ARVs to reduce mother-to-child transmission of HIV.

8.3 Training methods and content

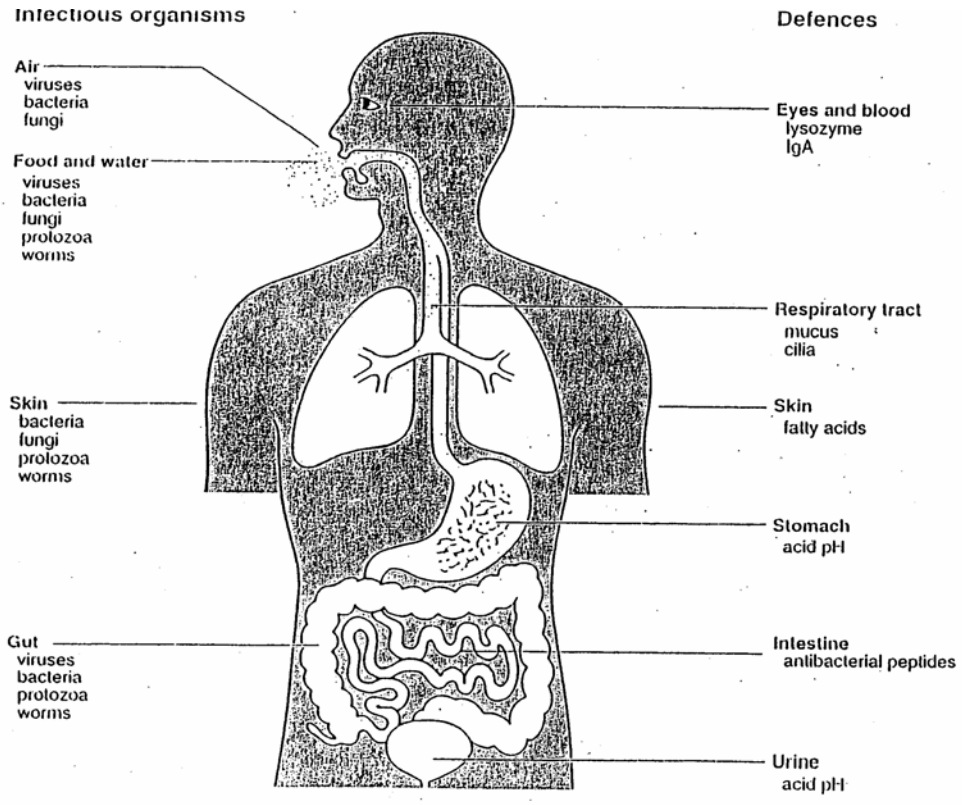
- Ask participants the **question**, **"**How does the human body react to infections?"
- Make a **presentation** on the human immune system, the life cycle of the HIV virus, and steps of inhibition of the virus.
- Make a **presentation** on various trials of antiretroviral drugs.
- Ask the participants to form **groups** of three people each and asks each group to answer the question, "Why do you need to know this information?"

8.3.1 The human immune system

- The air we breathe, our skin, and our intestinal tracts are crowded with microbes.
- The body has external defenses to help reduce the load of microorganisms
  - The skin and its secretions
  - Gastric acid in the digestive tract
  - Mucous and cilia in the respiratory tract
- The body's internal defense mechanism is the immune system.
- Immunity organs are called lymphoid organs.
  - Lymph nodes
  - Bone marrow
  - Thymus
  - Pharynx (tonsils, adenoids)
  - Liver
  - Spleen
  - Gut (Peyer patches, appendix)
  - Respiratory mucosae
  - Skin

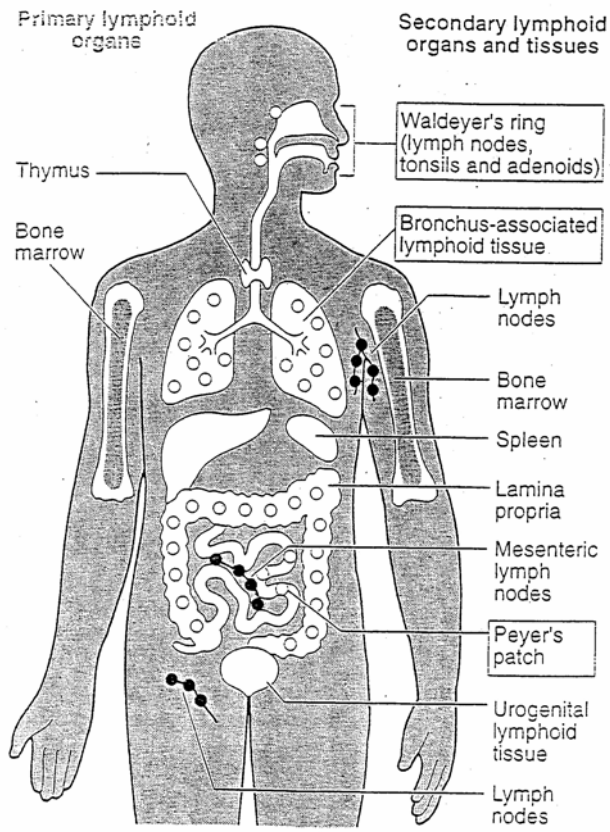
Handout 8.1: External Defenses of the Body
Handout 8.2: Major Lymphoid Organs and Tissues

Handout 8.1: EXTERNAL DEFENSES OF THE BODY



The external defences of the body. The air we breathe, our skin and our intestinal tract are crowded with microbes. Most of these are bacteria and viruses, with occasional fungi, but in tropical countries protozoa and helminths (worms) add further to the burden. Bactericidal skin secretions, gastric acidity, and mucus and cilia in the bronchial tree help to reduce the load while intact epithelium generally keeps them from entering the tissues. In the blood and secretions, the enzyme lysozyme kills many bacteria by attacking their cell walls. IgA antibody (see p. 25) is also important in the defence of mucous surfaces.

Handout 8.2: MAJOR LYMPHOID ORGANS AND TISSUES



The major lymphoid organs and tissues. The mucosa-associated lymphoid tissue is shown in boxes. We have a large amount of MALT since the mucosal surface area is about 400 times the external surface area of the body and is without the outer protective epidermal layer of the skin

- Cells involved in the defense mechanisms
  - White cells (leucocytes)
    - Granulocytes (neutrophils, eosinophils, and basophils)
    - Monocytes (develop into macrophages in the tissues)
    - Lymphocytes
  - Key cells of adaptive immunity with unique features
    - Restricted receptors permit each cell to respond to an individual
    - antigen (basis of specificity)
    - Clonal proliferation and long life span (basis of memory)
    - Recirculation from tissues back into bloodstream ensures body-wide distribution of specific memory following a local response
  - B-lymphocytes (antibody-forming cells derived from bone marrow)
  - T-lymphocytes (derived from thymus)
    - CD4 cells (helper T cells) help lymphocytes produce antibodies
    - CD8 cells (cytotoxic T cells) kill cells bearing a stimulating antigen
    - Target cells for HIV infection

Handout 8.3: Age-Adjusted CD4 Values in Healthy Children and Adults

8.3.2 Life cycle of HIV

- Structure of the HIV virus

  Handout 8.4: Structure of the HIV Virus

- Infection of the host cell and replication of the virus

  Handout 8.5: Mechanism of HIV Infection

8.3.3 Steps of inhibition of HIV

- Inhibition of HIV infection

  Handout 8.6: Steps of HIV Inhibition

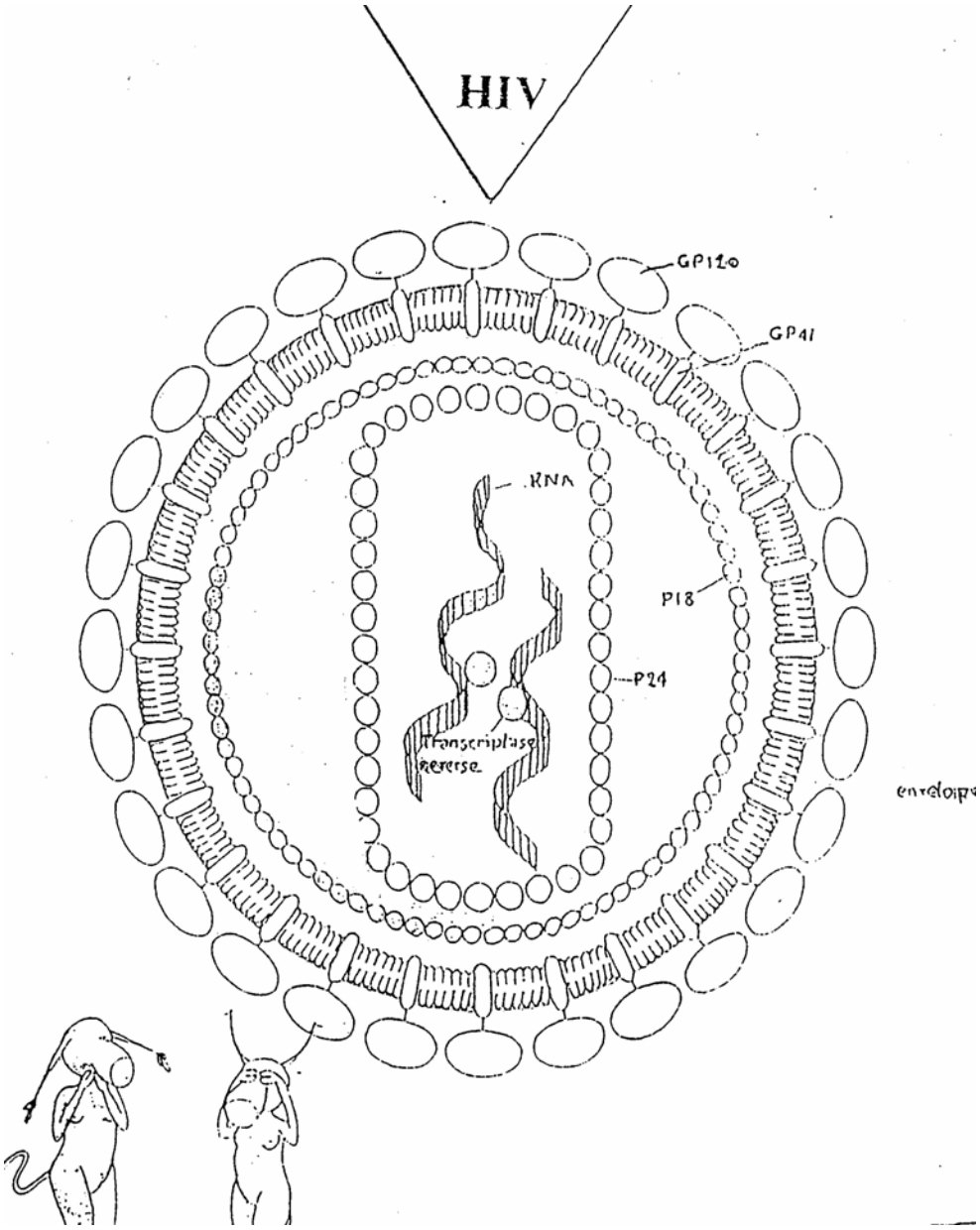
8.3.4 Antiretroviral drugs

- Groups of antiretroviral drugs (ARVs)
  - Reverse transcriptase inhibitors
    - Zidovudine (AZT)
    - Didanosine (ddl)
    - Zalcitabine
    - Stavudine (d4T)
    - Nevirapine (NVP)
  - Protease inhibitors
    - Saquinavir
    - Ritonavir

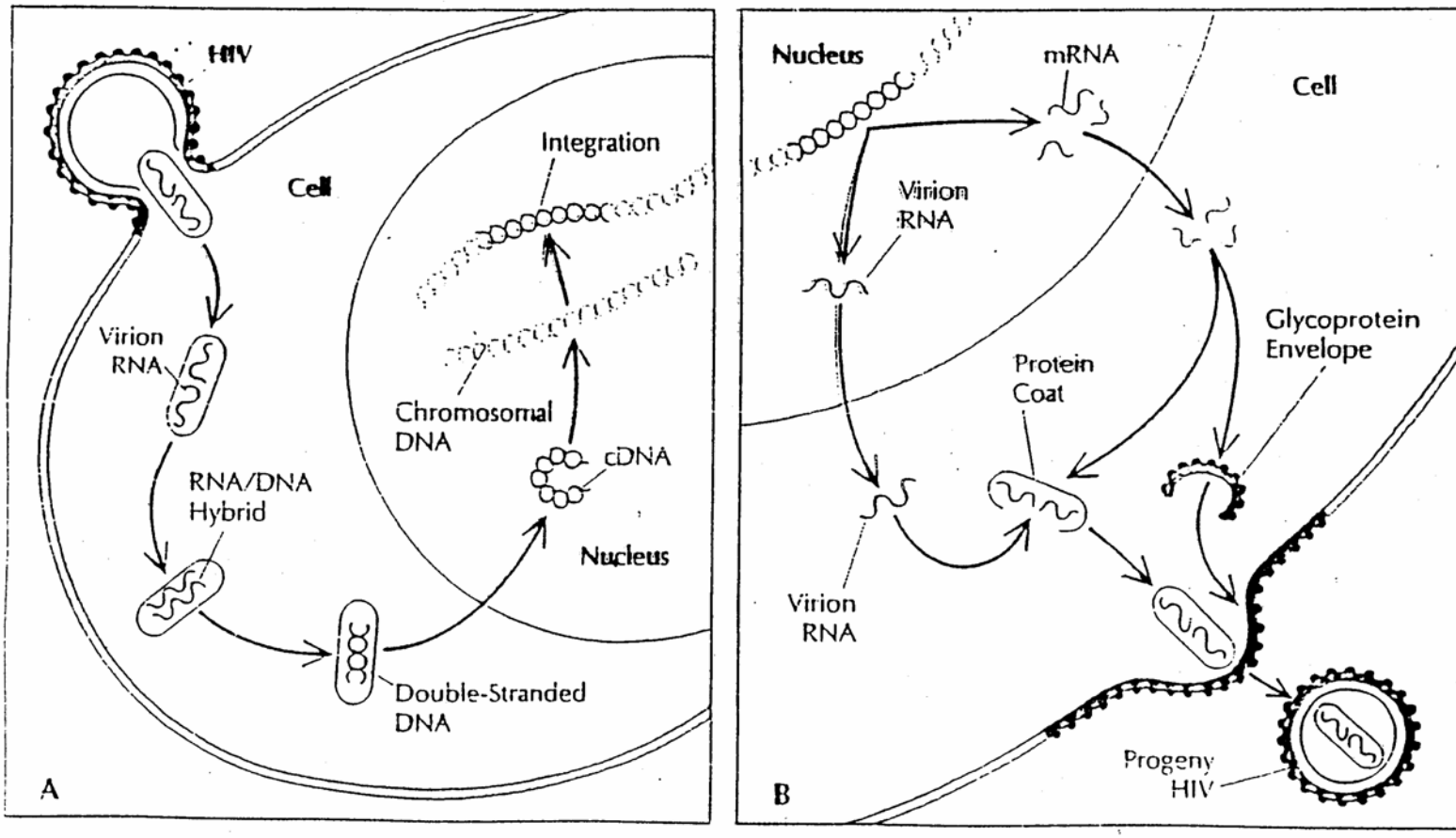
Handout 8.3: AGE-ADJUSTED CD4 VALUES IN HEALTHY CHILDREN AND ADULTS

	Children (age in months)				Adults
	1–6	7–12	13–24	25–74	
Numbers tested	106	28	46	29	327
Absolute CD4 count median (cells/mm³)	3,211	3,128	2,601	1,668	1,027
5th–95th percentile	1,153–5,285	967–5,289	739–4,463	505–2,831	237–1,817
CD4 percentage median	51.6	47.9	45.8	42.1	50.9
5th–95h percentile	36.3–67.1	32.8–63.0	31.2–60.4	32.2–52.0	34.7–67.1
CD4/CD8 ratio median	2.2	2.1	2.0	1.4	1.7
5th–95h percentile	0.9–3.5	0.8–3.4	0.6–3.4	0.7–2.1	0.4–3.0

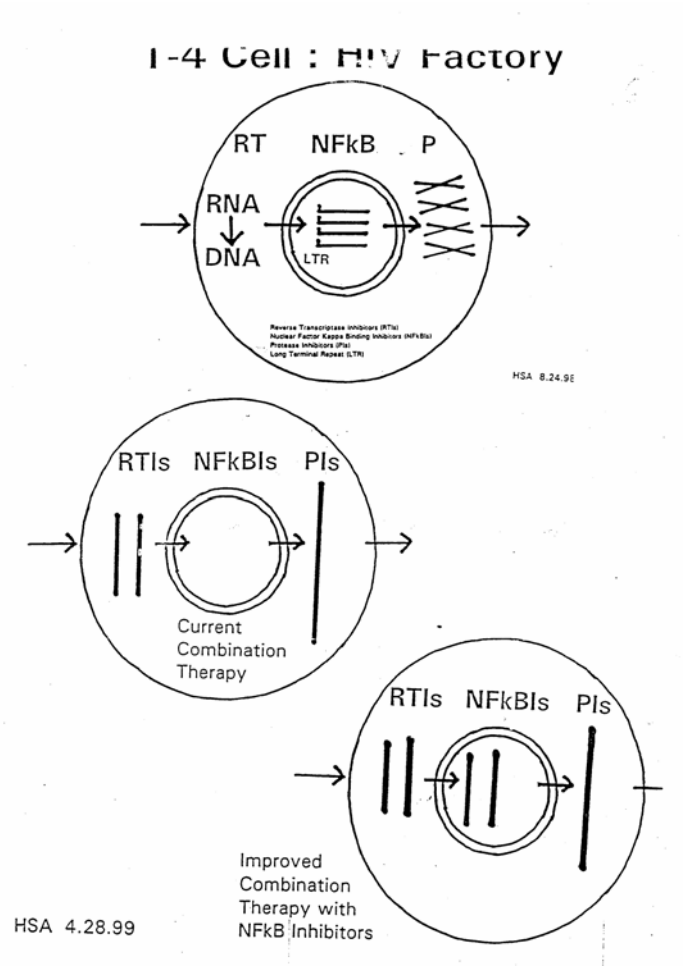
Handout 8.4: STRUCTURE OF THE HIV VIRUS



Handout 8.5: MECHANISM OF HIV INFECTION



Handout 8.6: STEPS OF HIV INHIBITION



- Indinavir
- Integrase inhibitors are under development

➢ Use of antiretroviral drugs in PMTCT

- Providing ARVs for HIV-positive women and their infants is part of the integrated package of PMTCT interventions.

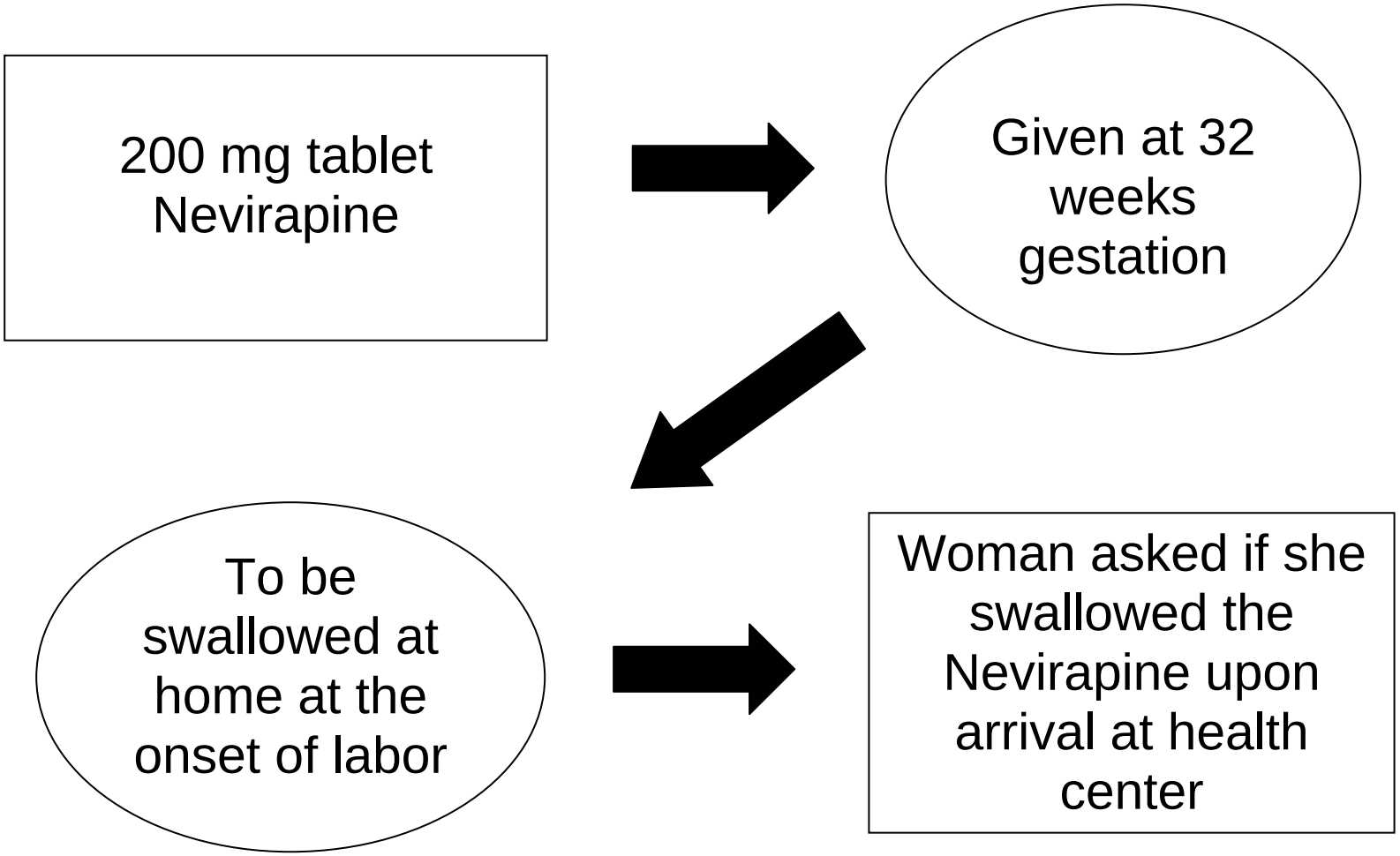
- Nevirapine (NVP)
  - Shown in trials (notably the Uganda HIVNET 012 study, in which mothers breastfed) to reduce MTCT at ages 14–16 weeks by 47 percent at a drug cost of $4 per mother (2002)
  - 200mg tablet given to mother at onset of labor
  - Standard syrup dose of 0.6 ml given to infant within first week after birth during mother's post-natal clinic visit
  - If mother does not take the drug or takes it less than an hour before delivery, the infant will need to receive the NVP dose within the first hour of life

Handout 8.7: Nevirapine Guidelines for PMTCT Maternal Dosing
Handout 8.8: Nevirapine Guidelines for PMTCT Infant Dosing

- Zidovudine (AZT)
  - Shown in trial to reduce MTCT by 67 percent (mothers did not breastfeed)
  - Long course referred to as PACT G076
  - Course begins at 14 weeks of pregnancy
  - Given when HIV + pregnant woman has minimum hemoglobin level of 8 g/dl Given intravenously during labor
  - Oral dosage for infant for 6 weeks

- Post-natal visits and follow up
  - Mother who receives Nevirapine should be reminded at each visit to bring her infant for immunization and post-natal follow up
  - Infant should be followed up at day 3; weeks 6, 10, and 14; and months 6, 9, 12, 15, and 18 (HIV testing of infant at 18 months)

Handout 8.7: NEVIRAPINE GUIDELINES FOR PMTCT, MATERNAL DOSING



Handout 8.8: NEVIRAPINE GUIDELINES FOR PMTCT, INFANT DOSING

Infant who comes late to first post-natal care visit can get dose any time before day 8
(day of life 1–7)

If infant is critically ill, Nevirapine can be withheld until he/she is better,
but
should be given before day 8 of life
(day of life 1–7)

- Data collection and storage
  - Standard registration log used to collect necessary information on each mother-infant pair
- Cost (locally)
- Side-effects being researched
  - Possible toxicity
  - Possible resistance to antiretroviral therapy developing in mothers and infants exposed to ARV prophylaxis

8.4 Materials and recommended reading

- Transparencies
- Slides
- Handouts: "External Defenses of the Body," "Major Lymphoid Organs and Tissues," "Age-Adjusted CD4 Values in Healthy Children and Adults," "Structure of the HIV Virus," "Mechanism of HIV Infection," "Steps of HIV Inhibition," Nevirapine: Guidelines for PMTCT Maternal Dosing," Nevirapine: Guidelines for PMTCT Infant Dosing"
- ANC register
- Playfair, J.H.L. et al. 2000. *Immunology at a Glance*. Oxford: Blackwell Scientific
- ____ and P.M. Lydyard. 2000. *Medical Immunology Made Memorable*. 2nd Edition. Churchill Livingstone
- WHO. 1999. "HIV in Pregnancy: A Review." Occasional Paper No. 2. WHO/CHS/ RHR/99.15. Geneva

SESSION 9: HIV TESTING AND RELATED ISSUES

Duration: 1 hour

9.1 Introduction

This session introduces participants to HIV testing, an important part of the fight against HIV. The session covers the benefits of learning one's HIV status in order to seek counseling (HIV-negative people are counseled and supported to remain negative, and HIV-infected people are counseled to look after their health and perhaps change their lifestyles) and make an informed choice of infant feeding method and future reproductive health.

9.2 Learning objectives

- Describe standard HIV testing procedures.
- Demonstrate two HIV testing methods.
- Discuss issues related to HIV testing.
- Discuss steps to ensure internal testing quality.

9.3 Training methods

- Show a **transparency** on the types of HIV tests available in the region.
- **Demonstrate** two testing methods, explaining each step.
- Ask participants to **match** terms related to HIV testing results in columns 1 and 2 of Handout 9.1. Facilitate **discussion** about the results.
- Ask participants to form four **working groups** and **gives** each group four cards marked: 1) Collecting the specimen, 2) Performing the test, 3) Storing the specimen, and 4) Labeling. Ask each group to write on the back of each card the elements needed in each category to ensure internal quality assurance. The groups write their answers on the back of the cards.
- Ask the groups to **report back** from their discussion.
- Facilitate a **discussion** and summary in plenary.

9.3.1 How HIV infection is determined

- Detection of antibodies to the virus
- Detection of viral antigens
- Nucleic acid-based tests
- Culture

9.3.2 Types of HIV tests

- Serological (antibody) test
  - Detects HIV antibodies in patient serum or plasma based on antigen–antibody reaction
  - Consists of a screening enzyme immuno-absorbant assay (EIA) that uses antigens prepared by Lysis of whole virus or synthetic peptides

- If sample contains HIV antibodies, a reaction or agglutination will be observed
- A positive reaction indicates the presence of HIV
- A negative reaction (no reaction) indicates the absence of HIV
- Examples of serological tests
  - ELISA: Wellcozyme Test kit, Bionor test kit, Western blot (takes minimum of 45 minutes
  - RAPID: Abbott Determine test kit, Uni-Gold test kit, Oral-Quick test kit (takes minimum of 10–15 minutes)

➢ Immuno-fluorescent Assay (IFA)
- Detects HIV antibodies using patient serum reacted with HIV-infected cells
- Uses fluorochrome as the indicator method

➢ Viral detection
- Detects HIV antigens, DNA, or RNA
- Example is polymerase chain reaction (PCR) test
- HIV-1 DNA PCR, the most sensitive PCR test, can detect 1–10 copies of HIV Proviral DNA
- Viral detection tests are mostly used to clarify indeterminate serological tests, neonatal HIV testing, and virological monitoring in therapeutic trials

9.3.3 Testing algorithm

➢ At least two testing methods in each HIV testing and counseling center to maximize accuracy (table 1)

Table 1 Testing algorithm

HIV STRATEGY	INTERPRETATION OF RESULTS
- Test sample with ELISA or simple Rapid Assay. - If first assay is POSITIVE, retest sample using ELISA or simple Rapid Assay based on a different antigen preparation or test. - If first and second assays show discordant results, re-test sample using a third ELISA or Rapid Assay.	- 1st assay NEGATIVE = patient/client is HIV negative (note window period) - 1st assay POSITIVE + 2nd assay POSITIVE = Patient/client is HIV positive - If result is discordant, repeat sample and testing on Western Blot

9.3.4 Issues related to HIV testing

➢ Window period
- Repeat test after time (3 months) for people with negative results.

- False results
  - False negative results encourage spread of HIV.
  - False positive results traumatize clients and risk legal action.

- Discordant results
  - Use third testing method and send to Reference Laboratory.

- Discordant couples
  - Re-testing required
  - Safe sex methods

- Testing of infants
  - Serologically significant at 18 months unless Proviral DNA PCR used

- Clear reporting and interpretation of results
  - Uniform codes

Handout 9.1: HIV Testing Results
Handout 9.2: HIV Testing Results Answer Sheet

9.3.5 Internal quality assurance

- Specimen collection
  - Aseptic collection
  - Avoid hemolysis
  - Use plain or EDTA vacutainers only
  - 2–3mls of blood is enough

- Performing the test
  - Test to be done immediately
  - Ensure test procedure followed as required by the Manufacture

- Storage of specimen
  - Stored as serum or plasma at 2–8° C if test is to be run within 7 days
  - Frozen at -20° C or colder if testing is delayed

- Labeling
  - Reference number or code corresponding to the one on the laboratory
  - Counselors to counter-check before sending the sample

9.4 Materials and recommended reading

- Handout: "HIV Testing Results"
- Bartlett, John G. 2003. Management of HIV Infection. The Hopkins HIV Report. Baltimore, MD: Johns Hopkins University Press
- UNAIDS, UNFPA, UNICEF, and WHO. 2003. *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*. Geneva

- WHO. 1999. “HIV in Pregnancy: A Review.” Occasional Paper No. 2. WHO/CHS/RHR/99.15. Geneva
- Kits for HIV testing

Handout 9.1 HIV TESTING RESULTS

Next to the terms in column 1, place the letter of the correct matching phrase from column 2.

_____ 1. Discordant couples	a. Use third testing method and send to reference laboratory
_____ 2. Infants	b. Repeat test after 3 months on all negative results
_____ 3. Window period	c. Risk traumatizing client and legal action
_____ 4. Discordant results	d. Serologically significant at 18 months unless using Proviral DNA PCR
_____ 5. False positive results	e. Encourage spread of HIV
_____6. False negative results	f. Retest

Handout 9.2 HIV TESTING RESULTS ANSWER SHEET

Next to the terms in column 1, place the letter of the correct matching phrase from column 2.

__f._ 1. Discordant couples	a. Use third testing method and send to reference laboratory
__d._ 2. Infants	b. Repeat test after 3 months on all negative results
__b._ 3. Window period	c. Risk traumatizing client and legal action
__a._ 4. Discordant results	d. Serologically significant at 18 months unless using Proviral DNA PCR
__c_ 5. False positive results	e. Encourage spread of HIV
__e._ 6. False negative results	f. Retest

SESSION 10: PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV

Duration: 2 hours

10.1 Introduction

This session provides detailed information on the rate of HIV transmission from mother to child, factors influencing transmission, and interventions that can help reduce the risk of transmission.

10.2 Learning objectives

- Define mother-to-child transmission of HIV.
- Discuss the three modes of transmission of HIV from mother to child.
- Describe factors that facilitate transmission of HIV from mother to child.
- Describe interventions to reduce the risk of mother-to-child transmission of HIV.

10.3 Training methods and content

- Ask participants to **brainstorm** in plenary a definition of mother-to-child transmission of HIV.
- Make a **presentation** of a summary of studies showing rates of transmission during pregnancy, labor and delivery, and breastfeeding.
- Ask the participants to form **small working groups**. Flipcharts with four themes (maternal factors that influence MTCT, obstetrical factors that influence MTCT, fetal and infant factors that influence MTCT, and other factors that influence MTCT) are displayed throughout the room. Ask the groups to rotate from chart to chart and add points they think are needed to each flipchart.
- Lead a group **discussion** in plenary.

10.3.1 Definition of MTCT: Transmission of the HIV virus from an HIV-infected mother to her child

10.3.2 Modes of transmission from mother to child

- If no interventions are in place to reduce MTCT:
  - During pregnancy (5 percent–10 percent)
  - During labor and delivery (10 percent–15 percent)
  - Through breastfeeding (5 percent–20 percent)
- Because there is no reliable way to determine whether an infant is infected until about 6 weeks of age, the precise timing of transmission cannot be determined
- Labor and delivery is the greatest risk period; as much HIV is transmitted within hours of labor and delivery as post-natally within months of breastfeeding

10.3.3 Rates of transmission from mother to child

- 20 percent MTCT rate
- Only 30 percent of HIV-positive mothers pass the virus to their infants (70 percent do not)

Handout 10.1: MTCT Attributable Risks

Handout 10.1: MTCT ATTRIBUTABLE RISKS

- During delivery: 10%–20% (published study; average: 15%)
- During pregnancy: 5%–10% (published study; average: 7%)
- During breastfeeding: 10%–20% (average when breastfeeding for 2 years: 15%)
- Early (first 2 months): 5%–10%
- Late (after 2 months): 5%–10%

Source: De Cock et al 2000

Handout 10.2: HIV Prevalence (appropriate slide of prevalence rate in country)

10.3.4 Factors that influence MTCT of HIV

- Country's HIV prevalence rate
- Conditions associated with high risk of transmission
  - In mother
    - High viral load
    - Advanced HIV infection or AIDS
    - New HIV infection during breastfeeding
    - Compromised immune status (low CD4 count)
    - Poor nutritional status
    - No antiretroviral treatment
    - Breast conditions (e.g., cracked nipples or mastitis)
    - Untreated sexually transmitted infections
  - Obstetrical procedures
    - Multiple vaginal examinations
    - Premature rupture of membranes
    - Prolonged rupture of membranes (more than 4 hours)
    - Mode of delivery (i.e., episiotomy, Caesarian section)
    - Intrapartum hemorrhage
    - Milking of the cord
  - In fetus
    - Prematurity
    - Multiple pregnancies
  - In infant
    - Unnecessary suctioning of newborn
    - Breastfeeding duration
    - Mixed feeding
    - Oral lesions or thrush

Handout 10.3: Mother-to-Child Transmission of HIV by Mode of Feeding

- Biological factors
  - Difference between vagina and penis: Vagina has a larger surface, is mucosal (more susceptible) and receives the sperm
  - Presence of Langerhans cells in cervix
- Behavioral factors
  - Multiple sexual partners
  - Irregular use of condoms
- Cultural and social factors
  - Heavy physical labor
  - Gender inequalities
  - Pressure on women to reproduce
  - Burden of disease and caring for family

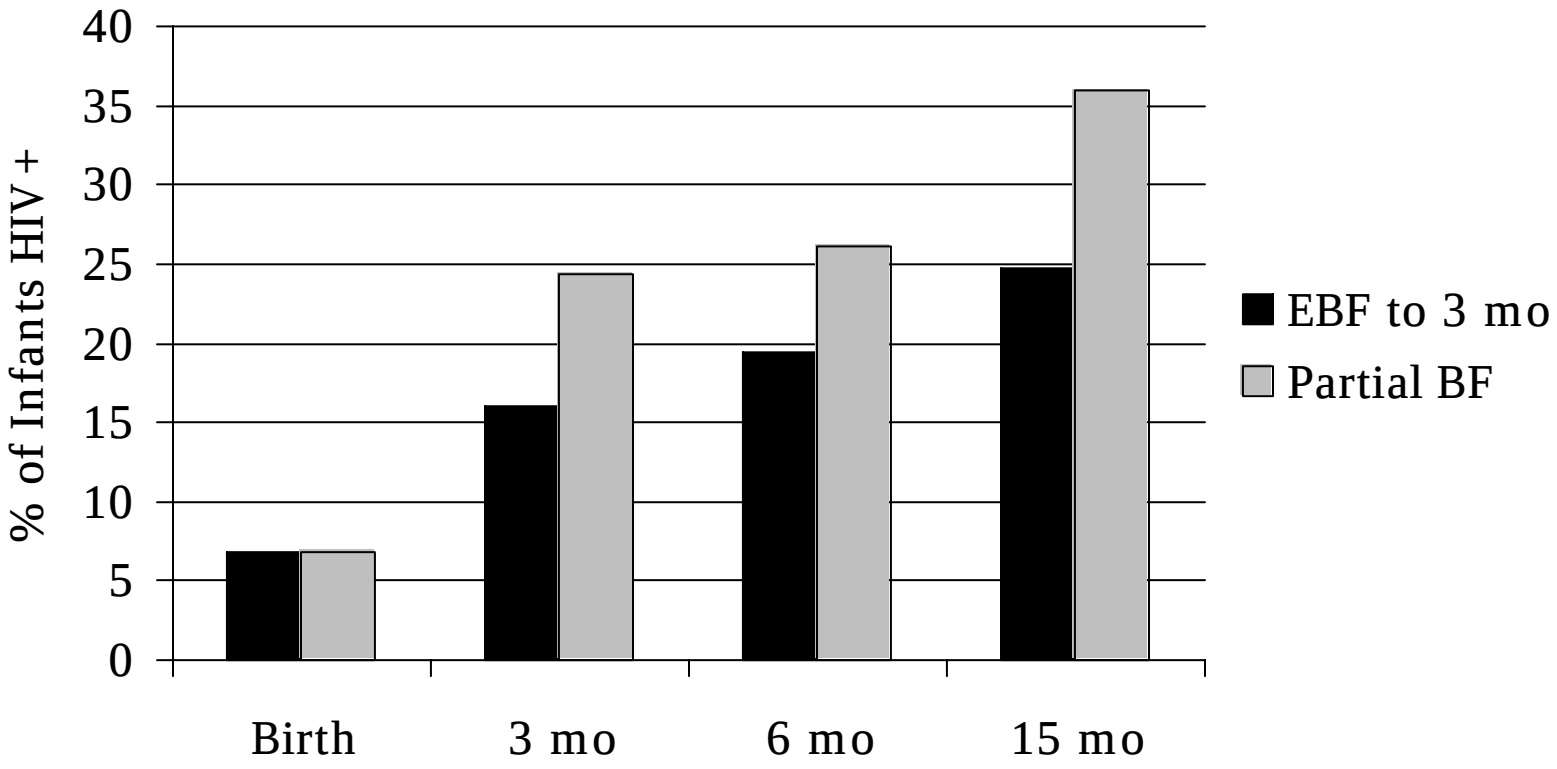
Handout 10.2: HIV Prevalence

- Estimated HIV-positive rate: ___%

- Using 20% HIV positive rate, _____ infants a year will be infected with HIV through mother-to-child transmission

Photo: UNICEF

Handout 10.3: MOTHER-TO-CHILD TRANSMISSION OF HIV BY MODE OF FEEDING



Source: Coutsoudis et al 1999, 2001 (Durban, South Africa)

10.3.5 Prevention and risk reduction of MTCT of HIV

- 3-pronged strategy recommended by UN agencies
  - Primary prevention among parents-to-be
  - Prevention of unwanted pregnancies among HIV-infected women
  - Prevention of transmission from HIV-infected women to their infants through
    - ARV prophylaxis
    - Safe delivery practices
    - Infant feeding counseling and support

- PMTCT should be holistic, using all possible strategies.

- Training and capacity building of health workers and service providers (See sessions on Preparation for breastfeeding during antenatal, labor and delivery, and postnatal periods; Infant feeding options in the context of HIV)

10.4 Materials and recommended reading

- Handouts: "MTCT Attributable Risks," "HIV Prevalence," "Mother-to-Child Transmission of HIV by Mode of Feeding"
- Healthlink Worldwide. nd. "HIV and Safe Motherhood." London
- WHO. 1999. "HIV in Pregnancy: A Review." Occasional Paper No. 2. WHO/CHS/RHR/99.15. Geneva
- UNAIDS, UNFPA, UNICEF, and WHO. 2003. *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*. Geneva

SESSION 11: FRIENDSHIP EVENING WITH PEOPLE LIVING WITH HIV AND AIDS

Duration: 1 hour

11.1 Introduction

Involvement of people living with HIV and AIDS is vital to preventing further infection in a community and supporting people who are infected with HIV and their families. This session introduces participants to people living with HIV and AIDS who have publicly acknowledged their status. The people living with HIV and AIDS explain to participants why they decided to be tested.

11.2 Learning objectives

- Describe how people might react when they learn they are HIV positive.
- Discuss how communities and families react when people's HIV-positive status is made public.
- Share information about how people living with HIV and AIDS practice safer sex.
- Discuss positive living with HIV.
- Share information about reproductive issues for young HIV-positive couples.

11.3 Training methods and content

- Ask participants to gather in a **circle** with everyone sitting at the same level, including the facilitator.

11.4 Materials and recommended reading

- Transparency of objectives

SESSION 12: MANAGEMENT OF BREASTFEEDING

Duration: 4 hours

12.1 Introduction

This session explains the importance of primary prevention of HIV infection, observance of safe obstetrical procedures, and optimal maternal and infant nutrition in an integrated PMTCT program. The session focuses on optimal breastfeeding practices to reduce the risk of HIV transmission.

12.2 Learning objectives

- Describe correct attachment of the infant to the breast.
- Demonstrate alternative breastfeeding positions.
- Define common infant feeding terms.
- Outline two recommended practices to improve the nutrition of infants 0–6 months old
- List four nutritional, health, and psychological benefits of exclusive breastfeeding for the infant, mother, and family.
- Discuss why an infant may not get enough breastmilk.
- Explain how to manage an infant refusing to breastfeed.

12.3 Training methods

- **Demonstrate** attachment and breastfeeding techniques with real breastfeeding mothers and videos.
- Ask participants to **practice** techniques for proper positioning and attachment in groups of five, with a breastfeeding mother in each group
- Lead a **discussion** in plenary of key messages on proper positioning and attachment.

12.3.1 Attachment of infant to the breast (See Savage-King, F., *Helping Mothers to Breastfeed*, p. 18)

- Definition: The way the infant attaches his/her mouth to the breast
- The infant cannot milk the breast effectively unless correctly attached to the breast.
- Poor attachment results in incomplete removal of milk and can lead to sore nipples, breast inflammation, and mastitis, which can increase the risk of transmission of HIV through breastmilk.
- Taking more breast tissue allows the areola to elongate and enables the gums to press on the milk sinuses where milk is stored.

- Correct attachment will prevent sore and cracked nipples.
  - Wait until infant opens his/her mouth wide, as if yawning.
  - Support the breast by holding it with the thumb on top and the four fingers below.
  - Bring the infant to the breast once the infant opens his/her mouth wide.

- Center the breast in the infant's mouth, with the nipple touching the roof of the mouth higher up, to give the infant a good grasp of the breast tissue.

➢ How to achieve good attachment

- More of the areola visible above the infant's mouth than below to stimulate effective suckling
- Infant's mouth is wide open
- Infant's lower lip is curled downwards
- Infant's chin touches the breast
- Infant takes slow, deep sucks, sometimes pausing
- Suckling is comfortable and pain free

12.3.2 Positioning of the infant (See *Helping Mothers to Breastfeed*, Felicity Savage-King, p. 18). Consider three points: Infant's body, infant's head, and mother's position

➢ Infant's body

- Infant's whole body should face the mother and be close to her, tummy to tummy.
- Infant should not be heavily dressed.
- Infant's arms should be between the infant and the mother's body
- Infant's bottom should be supported, not rest on mother's lap.

➢ Infant's head

- Infant's head should be facing the breast, not twisted to one side.
- Infant's face should be close to the breast, with the tip of the nose opposite the nipple.
- Infant's chin should touch the breast.
- Infant's neck should not be extended or stretched.
- Infant's head and body should be in a straight line.

➢ Mother's position

- Mother should sit or lie somewhere comfortable so she is relaxed.
- Mother's shoulders and neck should look relaxed and comfortable.

12.3.2 Common breastfeeding positions

➢ Cradle hold

- Commonly used with newborns
- Infant is held across the front with infant's tummy against mother's tummy (tummy to tummy).

➢ Football hold

- Commonly used by mothers who have had a Caesarian section or have delivered twins
- Infant's body is tucked under mother's armpit

- Infant's trunk rests on mother's forearm.

➢ Side lying or sleeping position
  - Best way to breastfeed at night
  - Can also be comfortable if mother has stitches

Handout 12.1: Common Breastfeeding Positions

Handout 12.1: COMMON BREASTFEEDING POSITIONS

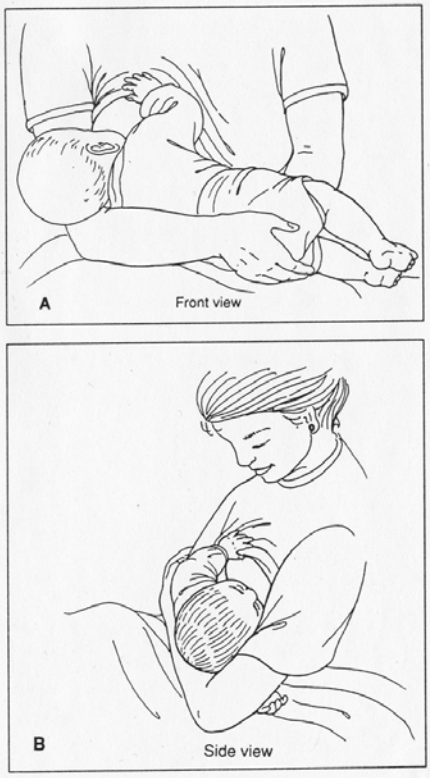


FIGURE 9–9. Madonna (cradle) position. *A. Front view. B. Side view.*

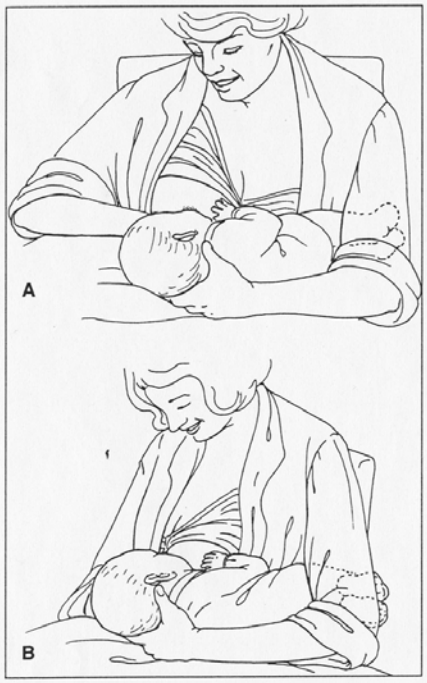


FIGURE 9–10. Football position. *A. Modified clutch position. B. Clutch hold.*

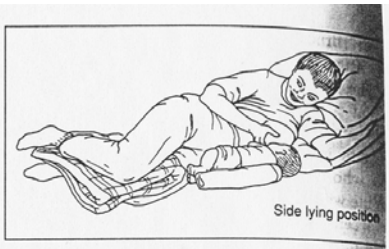


FIGURE 9–11. Side-lying position.

Source: Riordan and Auerbach 1999

12.3.4 Exclusive breastfeeding

Training methods

- Ask the participants to form three **working groups** and give each group a list of partial definitions of "exclusive breastfeeding," "predominant breastfeeding," "partial breastfeeding," "bottle feeding," "artificial feeding," and "demand feeding." Ask each group to **complete the definitions**.
- Ask each group the following **questions** and asks them to answer from their experience of actual practice in the community:
  - "What is given to infants to eat or drink immediately after birth? Why?"
  - "When is an infant placed at the mother's breast? Why?"
  - "When and how many times a day do mothers breastfeed?"
  - "Do breastfeeding infants less than 6 months old need water, other liquids, or foods? Why or why not? If so, which liquids and/or foods?"
- Lead a **discussion** and summary in plenary.
- Rapidly **review** the benefits of breastfeeding for the infant, mother, and family. Ask the participants to form a **circle**. Ask each participant to throw a ball to another participant. The person who catches the ball must state one benefit of breastfeeding.

- The composition of breastmilk is clearly perfect for the infant. This session looks at the importance of exclusive breastfeeding.

- Definitions of common breastfeeding terms (see Glossary)

- Review of benefits of exclusive breastfeeding
  - Nutritional
    - Meets infant's nutritional requirements
    - Changes in composition to meet infant's changing needs
    - Is easily digested and effectively used
    - Is species specific

  - Infant's health
    - Protects against illness
    - Reduces allergies
    - Protects against infections
    - Provides long-term protection against diabetes and cancer
  - Mother's health
    - Reduces bleeding after delivery
    - Promotes involution of the uterus following delivery
    - Reduces risks of pre-menopausal ovarian and breast cancers and osteoporosis
    - Delays ovulation
    - Protects against anemia and pregnancy

  - Psychological
    - Fosters mother-infant bonding

- Provides emotional and psychological wellbeing for both mother and infant

- Economic
  - Saves families the cost of purchasing breastmilk substitutes
  - Reduces health care costs
  - Saves time

➢ Recommended practices for exclusive breastfeeding
- Early initiation
- Proper positioning and attachment
- Demand feeding
- Rooming in and bedding in

12.3.5 Reasons women stop breastfeeding or begin complementary foods early

➢ "Not having enough milk"

> - Ask the participants to **brainstorm** reasons an infant may not get enough breastmilk.
> - Ask the participants to form **groups** of two people, each of whom will suggest a way to treat this problem.
> - Facilitate a **discussion** and summary in plenary.

- This is one of the most common reasons women stop breastfeeding or start complementary foods early.
- A misconception: Almost all mothers can produce enough breastmilk for one or even two infants.
- Signs that infant may not be getting enough breastmilk
  - Reliable signs
    - Poor weight gain: less than 500 g per month for the first 6 months
    - Small amount of concentrated urine: infant urinates fewer than 6–8 times per 24 hours
  - Possible signs
    - Infant dissatisfied after breastfeeds
    - Frequent crying (look for other reasons why infant is crying)
    - Very frequent breastfeeds
    - Very long breastfeeds
    - Infant's refusal to breastfeed
    - Hard, dry, or green stool in infant
    - No milk when mother tries to express
    - No breast enlargement during pregnancy
    - No milk "coming in" after delivery

- Reasons why infant may not get enough breastmilk
  - Breastfeeding factors

    - Delayed start
    - Infrequent feeds
    - No night feeds
    - Short feeds
    - Poor attachment
    - Use of bottles or pacifier
    - Complementary feeds

  - Psychological factors in mother
    - Lack of confidence
    - Worry or stress
    - Dislike of breastfeeding
    - Rejection of infant
    - Tiredness

  - Mother's physical condition
    - Combined oral contraceptives in the first 6 months post-partum
    - Severe malnutrition
    - Smoking and alcohol
    - Retained piece of placenta (rare)
    - Poor breast development (very rare)

  - Infant's condition
    - Illness
    - Abnormality

- Management of "not enough milk"
  - Withdraw any supplement, water, formulas, or tea.
  - Feed infant on demand, day and night.
  - Increase frequency of feeds.
  - Make sure infant latches on to the breast correctly.
  - Correctly position infant.
  - Wake the infant up if he/she sleeps throughout the night.
  - Reassure mother that she is able to produce sufficient milk.
  - Encourage support from family to perform non-infant-care chores.
  - Explain growth spurts.

Handout 12.2 Checklist for Common Breastfeeding Conditions: Insufficient Breastmilk

- Refusal to breastfeed

Training methods

- Ask two participants to **role-play** a mother and health worker. The mother complains that her infant refuses to nurse, and the health worker responds.
- Lead a group **discussion**, asking participants to fill in the gaps in the dialogue.

- In some communities this is a common reason for mothers to stop breastfeeding or start complementary foods early. Mixed feeding is thought to irritate the infant's gut and allow easier access of the HIV virus, though this is not known for sure.

- Kinds of refusal to breastfeed
  - Infant may attach to breast but not suckle or swallow or suckle very weakly.
  - Infant may cry and fight at the breast when mother tries to breastfeed.
  - Infant may suckle for a minute and then come off the breast choking or crying (may do this several times during a single feed).
  - Infant may take one breast but refuse the other.

- Reasons why an infant may refuse to breastfeed
  - Infant
    - Illness
    - Pain
    - Blocked nose or sore mouth
    - Sedation

  - Poor breastfeeding technique: possible causes
    - Feeding from a bottle or suckling on a pacifier
    - Not getting enough milk because of poor attachment
    - Mother holding and shaking the breast interferes with attachment
    - Restricting breastfeeding (e.g., breastfeeding only at certain times)
    - Too much milk coming too fast because of oversupply
    - Early difficulties in coordinating suckling (some infants take longer than others to learn how to suckle effectively)
    - Infant refusing one breast but not the other

Handout12.2 CHECKLIST FOR COMMON BREASTFEEDING CONDITIONS: INSUFFICIENT BREASTMILK

Symptoms	☐ Mother's feeling of not having enough milk ☐ Insufficient weight gain ☐ Number of wet diapers (fewer than 6 a day) ☐ Dissatisfied (frustrated and crying) infant
Causes	☐ Infrequent breastfeeding ☐ Tiredness, stress, hunger, and pain of mother ☐ Incorrect positioning and attachment ☐ Giving infant pacifiers or bottles
Counseling	☐ Feed infant on demand, day and night. ☐ Increase frequency of feeds. ☐ Stop giving water, other liquid, formulas, and pacifiers. ☐ Wake infant up to feed if infant sleeps too long. ☐ Make sure infant is correctly positioned and attached to the breast. ☐ Reassure mother that she can produce sufficient milk regardless of breast size. ☐ Understand growth spurts, especially between 3 and 5 months. ☐ Remove milk from one breast first (infant takes fore and hind milk) before offering the second breast. ☐ Check how many diapers the infant wets a day: 6 or more indicates infant is getting enough milk.
Prevention	☐ Breastfeed more frequently. ☐ Give only breastmilk: no water, liquids, or foods ☐ Breastfeed on demand, day and night ☐ Correctly position and attach infant to the breast. ☐ Encourage family to help with household chores. ☐ Do not give bottles or pacifiers.

- A change may have upset the infant
  - Infants are very sensitive and may refuse to breastfeed if upset.
  - Infant 3–12 months old may not cry, but simply refuse to suckle (sometimes called a "nursing strike").
  - Possible causes of upset
    - Separation from mother (e.g., when she starts to work away from home)
    - New caregiver
    - Change in family routine
    - Illness of mother or breast infection
    - Change in mother's smell (e.g., from different soap or different food)
    - Family stress

- Management of refusal to breastfeed
  - Reassure mother and build her confidence for breastfeeding to continue.
  - Help mother identify the cause and treat accordingly.

12.4 Materials and recommended reading

- Overhead projector and transparencies
- Flipcharts and markers
- Handouts "Common Breastfeeding Positions" and "Checklist for Common Breastfeeding Conditions: Insufficient Breastmilk"
- Video or television with VCR
- "Infant Cues: A Feeding Guide." 1997. Video. Mark-It TV, UK
- Righard, Lennart. "Delivery, Self-Attachment" video
- Academy for Educational Development/LINKAGES. 2002. "Facts for Feeding: Recommended Practices to Improve Infant Nutrition during the First Six Months." Washington, DC
- Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International
- Riordan, Jan, and Kathleen Auerbach. 1999. *Breastfeeding and Human Lactation*. Sudbury, MA: Jones and Bartlett
- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press
- WHO, BASICS, UNICEF. 1999. *Nutrition Essentials: A Guide for Health Managers*. Geneva: WHO

SESSION 13: BREAST CONDITIONS AND THEIR MANAGEMENT

Duration: 2¼ hours

13.1 Introduction

Managing breast conditions is especially important for mothers who are HIV positive and who choose to breastfeed. Cracked nipples and mastitis, for example, have been associated with a higher rate of transmission of the virus to the infant. Clinicians who work with breastfeeding women agree that breast and nipple problems are common barriers to successful breastfeeding. Participants are reminded that in breastfeeding as anywhere else, "an ounce of prevention is worth a pound of intervention" and learn how women can prevent breast conditions.

13.2 Learning objectives:

- List breast conditions and health in relation to lactation.
- Describe factors that may lead to breast conditions.
- Describe how to prevent and manage breast conditions.
- Describe breast conditions that could facilitate MTCT of HIV.

13.3 Training methods and content

- Form a **panel** of five participants who have been given lead time to prepare and ask each member to discuss one of the following common breastfeeding conditions and its prevention, symptoms, and management.
  - Full breast and engorgement
  - Sore or cracked nipples
  - Blocked ducts that can lead to breast infection and mastitis
  - Abscess
  - Candidiasis or thrush
- Ask participants to **fill in a checklist** for each breast condition during panel.
- Lead a **discussion** and summary of the presentations in plenary.
- Show **slides** of various breast conditions and ask the participants to **identify** each condition.

13.3.1 Early post-partum conditions: full breasts, engorged breasts, sore nipples, cracked and bleeding nipples

- Full breasts
  - Symptoms
    - Breasts may feel hot, heavy, hard, or as if they are full of stones.
    - There is NO FEVER.
    - In most cases milk continues to flow, and infant can feed normally.
  - Causes
    - Late initiation
    - Plenty of milk

- Poor attachment
- Infrequent removal of milk
- Restricted length of feeds

➢ Engorged breasts

- Breasts are over-full, partly with milk and partly with increased tissue fluid and blood that interfere with the flow of milk.

- Symptoms
  - Both breasts are involved.
  - Breasts are painful.
  - Breasts look tight and shining because of edema in the tissue.
  - Milk may stop flowing.
  - Mother has fever ("milk fever") for 24 hours, probably caused by substances from the milk passing into her blood. The fever stops without treatment. If it continues more than 48 hours, look for infection.

- How engorgement leads to breastfeeding failure
  - Areola is tight, and it is difficult for infant to stretch the breast out for a teat.
  - Infant suckles in poor position and attachment that can damage the nipple skin and may cause a fissure.
  - Mother feeds the infant less because of pain.
  - Inhibitor takes over, and milk supply decreases.
  - Breast may become infected.

- Causes
  - Late initiation
  - Plenty of milk
  - Poor attachment
  - Infrequent removal of milk
  - Restricted length of feeds

- Differences between full and engorged breast

Full breast	Engorged breast
Hot	Painful
Heavy	Edematous
Hard	Tight, especially nipple
	Shiny, may look red
Milk flowing	No milk flowing
No fever	May have fever for 24 hours

Handout 13.1: Results of Poor Breastfeeding Management: Engorged Breasts

Handout 13.1: RESULTS OF POOR BREASTFEEDING MANAGEMENT: ENGORGED BREASTS

Photo: Mwate Chintu, LINKAGES

- Management of breast engorgement
  - The best management is prevention.
  - Start breastfeeding soon after birth.
  - Ensure good attachment and positioning.
  - Practice unrestricted breastfeeding.
  - Express breastmilk to relieve discomfort.
  - Do not wear tight brassieres.
  - Take a warm shower.
  - Hold a cold compress on breast.
  - Massage neck and back and lightly massage breast.
  - Try to relax.

Handout 13.2: Checklist for Common Breastfeeding Conditions: Engorgement

- Sore nipples
  - Symptoms
    - Pain when infant starts to feed or throughout feeding
    - Reddened skin, sometimes with small blood spots
  - Causes
    - Pressure applied to the same point at every feed
    - Washing of nipples with soap
    - Use of sensitive creams
    - Nipples wet all the time
    - Improper attachment of infant
  - Management
    - Change feeding position at each feeding or even during a feeding.
    - Ensure the infant is properly latched on.
    - Keep nipples dry (no creams, no washing before and after feeding).

- Cracked and bleeding nipples
  - Symptoms
    - Opening in the skin that may bleed
  - Causes
    - Prolonged soreness of the nipple
    - "Barracuda" infants who vigorously and promptly grasp nipple and areola energetically for 10 to 20 minutes
    - Poor latch-on attachment
  - Management
    - Examine breast, nipple, and nursing scene.
    - Check for Candida and tongue-tie.

Handout 13.3: Checklist for Common Breastfeeding Conditions: Sore and Bleeding Nipples

Handout 13.2 CHECKLIST FOR COMMON BREASTFEEDING CONDITIONS: ENGORGEMENT

Engorgement	
Symptoms	☐ Swelling, tenderness, warmth, redness, throbbing pain, low-grade fever, flattening of the nipple ☐ Taut skin on breasts ☐ Usually begins within a few days after birth
Causes	☐ Poor positioning and attachment ☐ Delayed initiation of breastfeeding ☐ No removal of milk ☐ Infrequent feeding
Counseling	☐ Apply warm compresses to breast(s) and gently stroke the breast to get the milk flowing. ☐ Apply a warm jar to help get the milk out. ☐ Express some milk. ☐ After expressing milk, apply cabbage leaves or cold compresses to reduce swelling. ☐ Breastfeed more often or longer. ☐ Improve infant positioning and attachment. ☐ Massage breasts.
Prevention	☐ Correct latching on and positioning in the first few days ☐ Breastfeeding immediately after birth ☐ Breastfeeding on demand (as often and as long as infant wants) day and night, a minimum of 8 times in 24 hours

Handout 13.3 CHECKLIST FOR COMMON BREAST CONDITIONS: SORE OR CRACKED NIPPLES

Sore or Cracked Nipples	
Symptoms	☐ Breast or nipple pain ☐ Cracks in the nipples ☐ Occasional nipple bleeding ☐ Reddened nipples
Causes	☐ Improper positioning and attachment ☐ Washing breast with soap and antiseptics ☐ Thrush (fungal infection)
Counseling	☐ Begin to breastfeed on the side that hurts less. ☐ Make sure infant is positioned and attached correctly to the breast. ☐ Let infant come off the breast alone after feeding. ☐ Apply drops of hind-milk to nipples and allow to air dry. ☐ Expose breasts to air and sunlight. ☐ Do not wait until the breast is too full to breastfeed. If it is too full, express some milk first. ☐ Do not stop breastfeeding. ☐ Do not use soap or cream on nipples.
Prevention	☐ Correct positioning of infant ☐ Correct attachment to the breast ☐ No use of soap on nipples

- Treat for Candida if there is itching or deep pain.
- Build mother's confidence.
- Improve attachment.
- Express mother's milk and apply on the cracked nipple and areola and allow to dry.
- Apply dry heat for 2 minutes after feeding.

13.3.2 Later post-partum conditions: blocked ducts, mastitis, breast abscess, Candidiasis or thrush

➢ Blocked ducts

- Symptoms
  - Noticeable tender lump in the breast or areola that looks red and feels sore

Blocked duct → Milk stasis → Non infectious mastitis → Infectious mastitis

Lump → Progresses to → Hard swelling

Localized redness
No fever
Feels well

Severe pain
Red area
Feels ill
Fever

- Causes
  - Milk stasis as a result of infrequent, skipped, or delayed breastfeeding
  - Poor drainage of an area of the breast (breastmilk not emptied)
  - Local pressure on the breast from a tight brassiere
  - Plugged or blocked ducts from engorgement

- Management
  - Check for tight clothes, maternal stress, or fatigue.
  - Prevent engorgement or manage early.
  - Offer the affected breast first to ensure really strong sucking.
  - Gently massage lump toward the nipple with hot/cold compress.
  - DO NOT STOP BREASTFEEDING.
  - Alternate sleep positions using a pillow to relieve pressure.

Handout 13.4 Checklist for Common Breastfeeding Conditions: Plugged Ducts

➢ Mastitis

- An infection of the breast tissue, not the milk
- Abrupt weaning or temporary interruption of breastfeeding may slow healing or lead to further complications

Handout 13.4 CHECKLIST FOR COMMON BREASTFEEDING CONDITIONS: PLUGGED DUCTS

Plugged Ducts	
Symptoms	☐ Breast pain in affected area ☐ Redness in affected area ☐ Swelling ☐ Warmth to the touch ☐ Hardness with a red streak
Causes	☐ Tight clothing and brassieres ☐ Pressure on the ducts in the breasts
Counseling	☐ Give affected breast first during feeding. ☐ Massage lump toward nipple as infant is feeding. ☐ Rest (mother). ☐ Breastfeed more frequently. ☐ Properly position and attach infant. ☐ Use a variety of positions to hold infant to rotate pressure points on breasts.
Prevention	☐ Ensure correct positioning and attachment. ☐ Breastfeed on demand. ☐ Avoid holding the breast in scissors hold. ☐ Avoid tight clothing and brassieres. ☐ Avoid sleeping on stomach (mother). ☐ Use a variety of positions to hold infant to rotate pressure points on breasts.

- Symptoms
  - Inflammation of breast tissue surrounding the milk ducts
  - Tender, reddened area of the breast
  - Fever, chills, headache, fatigue and generalized body pains (flu-like symptoms)

Handout 13.5: Mastitis…Often Leads to Breast Abscess

Handout 13.5

Mastitis... often leads to breast abscess

Photos: Mwate Chintu, LINKAGES

- Causes
  - Engorged breast or blocked duct
  - Poor drainage of part or all of breast
  - Overabundant milk supply
  - Stress or fatigue
  - Overwork
  - Nipple trauma
  - Nipple fissure that allows entry to bacteria

- Forms
  - Non-infectious: Because of engorgement milk stasis
  - Infectious: Inflammation of the breast from bacterial infection
    - Onset: Suddenly after 10 days
    - Unilateral
    - Localized tenderness and redness
    - Hot (> 38.4°C) and swollen
    - Bacteria enters through crack on the nipple
    - Staphylococcus or streptococcus bacteria

- Management:
  - Rest in bed for at least 24 hours.
  - Drink fluids.
  - Remove milk from the breast.
  - Review proper positioning.
  - Apply moist warm packs before and during feeding.
  - Take a mild analgesic, antibiotics, or anti-inflammatory drugs.
  - CARESS
    C – Compresses
    A – Antibiotics
    R – Rest
    E – Effective and frequent removal of breastmilk
    S – Stress identification and management
    S – Support and follow up

Handout 13.6 Checklist of Common Breast Conditions: Mastitis

➢ Breast abscess
- Causes
  - Improperly treated mastitis

- Management
  - Antibiotics
  - Incision and drainage (management of I/D)
  - Provision for infant feeding while mother is in surgery
  - Warm packs
  - Complete removal of milk every 2–4 hours
  - Rest

Handout 13.6: CHECKLIST FOR COMMON BREASTFEEDING CONDITIONS: MASTITIS

Mastitis	
Symptoms	☐ Breast pain ☐ Redness in one area of the breast ☐ Swelling ☐ Warmth to the touch ☐ Hardness with a red streak ☐ General feeling of malaise ☐ Fever
Causes	☐ Plugged ducts and engorgement if not properly treated ☐ Infection
Counseling	☐ Continue breastfeeding, even on the affected breast. ☐ Apply heat before breastfeeding. ☐ Breastfeed more frequently. ☐ Correctly position and attach infant. ☐ Seek medical treatment; antibiotics may be necessary. ☐ Increase fluid intake (mother). ☐ Rest (mother).
Prevention	☐ Breastfeed frequently. ☐ Treat engorged and plugged ducts. ☐ Ensure correct positioning and attachment.

- Candidiasis or thrush
  - Cause
    - Fungal infection: Candida albicans
  - Location
    - Infant's mouth
    - Infant's diaper area
    - Mother's breast
    - Mother's genital area
  - Transmission
    - Mother to infant through birth canal
    - Infant to mother through breastfeeding
  - Management
    - Always treat mother and infant.
    - Apply gentian violet, nystatin cream, or clotrimazole cream 1 percent.
    - Encourage mother to expose breasts to air and sun after each feed.
    - Encourage mother to wash bras and nightclothes in very hot water.
    - Encourage mother to use a different washcloth to bathe genital area.
    - Encourage mother to wash hands after changing infant.
    - If mother has a vaginal infection, treat according to protocol.
    - Encourage mother to express and heat treat breastmilk.

13.4 Materials and recommended reading

- Slides of breast conditions
- Handouts: "Results of Poor Breastfeeding Management: Engorged Breasts," Mastitis Often Leads to Breast Abscesses," "Checklists for Common Breastfeeding Conditions"
- Cabbage leaves
- 1-liter bottle
- Jugs of cold water and hot water
- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press
- Academy for Educational Development/LINKAGES. 2002. "Facts for Feeding: Recommended Practices to Improve Infant Nutrition during the First Six Months." Washington, DC
- Riordan, Jan, and Kathleen Auerbach. 1999. *Breastfeeding and Human Lactation*. Sudbury, MA: Jones and Bartlett

SESSION 14: THE BABY-FRIENDLY HOSPITAL INITIATIVE (BFHI) IN THE CONTEXT OF HIV

Duration: 1 hour

14.1 Introduction

The Baby-Friendly Hospital Initiative (BFHI) was launched in 1991 in recognition of the importance of good maternity care and exclusive breastfeeding to maternal and infant health. This session explains the continued importance of BFHI in light of the HIV pandemic, a topic that has confused some health workers.

14.2 Learning objectives

- Discuss the importance of BFHI in child survival and safe motherhood.
- Discuss the 10 steps to successful breastfeeding and BFHI in the context of HIV.

14.3 Training methods and content

- Ask the participants to **brainstorm** the Ten Steps in the Baby-Friendly Hospital Initiative and **discuss** each step in the context of HIV and AIDS.
- Make a **presentation** on BFHI.

14.3.1 Long-term BFHI goal

- To contribute to achieving the global breastfeeding goal for the 1990s as stated in the Innocenti Declaration and adopted by the World Summit for Children:

  "All women should be enabled to practice exclusive breastfeeding and all infants should be fed exclusively on breastmilk for 6 months. Thereafter, children should continue to be breastfed while receiving appropriate and adequate complementary foods up to 2 years of age and beyond."

14.3.2 BFHI objectives

- Transform hospitals and maternity facilities into baby-friendly institutions by implementing the Ten Steps to Successful Breastfeeding according to BFHI Hospital Global Assessment Criteria
- Establish Lactation and Resource Centers
- Enact necessary laws, regulations, and procedures envisaged in the Innocenti Declaration
- End distribution of free and low-cost supplies of breastmilk substitutes to maternity and health facilities in all countries, as embodied in the WHO/UNICEF International Code of Marketing of Breast-Milk Substitutes

14.3.3 BFHI implementation at hospitals and health facilities

- Advocacy
- Coordination
- Demonstration of benefits to the facility

- Establishment of facility BFHI committee
- Development of facility-base strategy, including training strategy to ensure long-lasting changes in facility practices
- Links with community support systems

14.3.4 Ten Steps to Successful Breastfeeding in the context of HIV

- Step 1
  - Have a written breastfeeding policy that is routinely communicated to all health care staff.

  In the context of HIV the policy should include the following:
  - Make available HIV testing and counseling to help women make their own infant feeding decisions.
  - Support HIV-infected mothers in their infant feeding decisions.
  - Continue to protect, support, and promote breastfeeding for the majority of women, who are not infected with HIV.
  - Do not accept free supplies of formula from manufacturers, give mothers free samples of formula, or allow promotion of formula, even if some mothers are using replacement feeds. Most mothers should purchase their own formula.

- Step 2
  - Train all health care staff in skills necessary to implement this policy.

  In the context of HIV the policy should include the following:
  - Train all health care staff in breastfeeding counseling to support all women: those who are HIV negative, those who are of unknown HIV status, and those who are HIV positive and choose to breastfeed.
  - Inform all health care staff of the routes of HIV transmission and the risk associated with infant feeding decision.
  - Train all health care staff to help HIV-infected mothers assess the risks to their infants of not breastfeeding and to guide and support their decision.
  - Train all health care staff to guide mothers and caregivers in preparing and using adequate replacement feeding.
  - Inform all health workers of the spillover effect (choice of mothers to not breastfeed, breastfeed for a short time only, or mix-feed because of unfounded fears or misinformation about HIV or the ready availability of breastmilk substitutes)
  - Inform all health workers of the need to keep infant formula and equipment out of sight of non-HIV-infected mothers and conduct demonstrations of replacement feeding in private.

- Step 3
  - Inform all pregnant women about the benefits and management of breastfeeding.

  In the context of HIV the policy should include the following:

- Inform all antenatal women about the benefits and management of breastfeeding to give them the confidence and knowledge to breastfeed their infants successfully from birth.
- Include in this information how to exclusively breastfeed successfully for 6 months and how to express breastmilk for sick or low birthweight infants.
- Provide antenatal women information on prevention of HIV.
- Offer all antenatal women HIV testing and counseling.
- Provide individual infant feeding counseling if necessary.
- Inform all antenatal women about the dangers of replacement feeding and the importance of an adequate supply of breastmilk substitutes to last at least 6 months and preferably 1 year.

➢ Step 4

- Help mothers initiate breastfeeding within a half hour of birth. (This includes helping all breastfeeding mothers to hold their infants skin to skin immediately after delivery and correctly position and attach their infants to the breast.)

In the context of HIV the policy should include the following:

- Inform health workers during antenatal care or on admission of the feeding method chosen by an HIV-infected mother.
- Allow women who are not going to breastfeed to bond with their infants skin to skin immediately after birth.
- Dry infants well before skin-to-skin contact.
- Show mother how to suppress lactation.
- Suction infants only if necessary (for example, if they need to feed).
- Encourage women who are HIV infected and decide to breastfeed to breastfeed exclusively and provide additional support to prevent breast problems.

➢ Step 5

- Show mothers how to breastfeed and maintain lactation even if they are separated from their infants.

In the context of HIV the policy should include the following:

- Help and support all breastfeeding mothers, including those who are HIV infected and have chosen to breastfeed, to establish breastfeeding and breastfeed exclusively and on demand.
- Help and support all breastfeeding mothers, including those who are HIV infected and have chosen to breastfeed, to position and attach their infants correctly to prevent nipple damage and mastitis.
- Help and support all breastfeeding mothers, including those who are HIV infected and have chosen to breastfeed, to express breastmilk.
- Assist HIV-infected mothers to express and heat-treat breastmilk if they choose this option.
- Show mothers who are HIV infected and have decided not to breastfeed how to choose and prepare replacement foods appropriate to their situation, giving instructions privately and confidentially to avoid

stigmatizing the mothers and adversely influencing breastfeeding mothers.

- Help mothers who have decided not to breastfeed with breast care while waiting for milk production to cease.

➢ Step 6

- Give newborns no food or drink other than breastmilk unless medically indicated.

In the context of HIV the policy should include the following:

- If a mother has been counseled and tested, found HIV positive, and chosen not to breastfeed, this is an acceptable medical reason for giving the infant other milk in place of breastmilk. Give newborns of HIV-infected mothers who decide not to breastfeed the mother's replacement feed of choice.
- Give replacement feed of choice according to infant's age and weight.
- Discourage mothers with full-blown AIDS from breastfeeding.

➢ Step 7

- Allow mothers and infants to remain together (rooming in) 24 hours a day.

In the context of HIV the policy should include the following:

- All healthy infants benefit from physical contact with their mothers to help bonding. Encourage HIV-infected mothers who have chosen not to breastfeed to room in or bed in with their infants without breastfeeding.
- Give mothers who have chosen not to breastfeed the responsibility of preparing feeds and cup feeding their infants while in hospital.

➢ Step 8

- Encourage breastfeeding on demand.

Breastfeeding on demand helps mothers establish a good milk supply.

In the context of HIV the policy should include the following:

- Encourage mothers of artificially fed infants to prepare feeds as often as the infants need.
- Show HIV-positive mothers who decide not to breastfeed how to prepare the replacement feed of their choice and how to feed their infants by cup according to the infants' age and weight.

➢ Step 9

- Give no artificial teats or pacifiers (dummies or soothers) to breastfeeding infants. Teats, bottles, and pacifiers can carry infection and are not needed, even for non-breastfeeding infants.

➢ Step 10

- Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

In the context of HIV the policy should include the following:

- Practice caution to maintain confidentiality while-providing support to an HIV-infected mother.

The following ten additional steps are suggested in relation to HIV:

- Step 11
  - All mothers should be taught the technique of expressing and storing breastmilk.

- Step 12
  - Mothers and babies should not be separated from each other, even when they are ill.

- Step 13
  - Mothers with multiple births and Caesarian babies should be encouraged to breastfeed.

- Step 14
  - Parents with known HIV/AIDS infection should receive special counseling on breastfeeding.

- Step 15
  - Post-natal and children's clinic visits should assess breastfeeding practices.

- Step 16
  - Community support should be provided for continued and sustainable breastfeeding.

- Step 17
  - All workplaces should facilitate women's continued breastfeeding.

- Step 18
  - All health pre- and post-natal service curriculum should include lactation training.

- Step 19
  - All manufacturers and distributors should comply with the code of marketing of breast-milk substitutes.

- Step 20
  - The government shall monitor the implementation of the policy.

14.4 Materials and recommended reading

- DCI-USA, *The Effects of Maternity Mortality on Children in Africa*
- UNAIDS, UNFPA, UNICEF, and WHO. 2003. *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*. Geneva
- WHO. 1989. "Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services. " Joint WHO/UNICEF Statement. Geneva
- World Alliance for Breastfeeding Action (WBA). 2000. "Baby-Friendly Initiative Action Folder." Schaumburg, IL

14.5 Annex

- BFHI actions at global level
  - UNICEF and WHO guidelines on implementation
  - Joint statement of Ten Steps to Successful Breastfeeding used as a yardstick
  - International BFHI Advisory Group established
  - BFHI Principles developed
  - Hospital self–appraisal questionnaire developed
  - Training manual developed
  - Master trainers in BFHI and assessment trained
  - BFHI implementation initiated in first 12 lead countries.
  - Hospital assessment criteria and designation procedures developed and field tested throughout the world
  - UNICEF and WHO headquarters support for country level activities
  - Advocacy at all levels
  - Policy framework developed
  - Target goals established
  - Free and low-cost supplies of breastmilk substitutes discontinued after consultative meetings with stakeholders, including governments and infant food manufacturers.

- Four stages of BFHI implementation
  - Stage I
    - Identify country-level BFHI goals.
    - Develop and conduct a rapid baseline survey.
    - Identify support and status.

  - Stage II
    - Identify national BFHI authority to oversee hospital assessment and designation.
    - Distribute hospital self-appraisal and questionnaire.

  - Stage III
    - Assess hospital conformity with hospital criteria.
    - Identify first- and second-tier hospitals.
    - Develop a training strategy.

- Stage IV
  - Coordinate on-site appraisal of hospital conformity with assessment criteria.
  - Award BFHI achievement awards and certificate of commitment.

➢ Program guidelines
- BFHI Principles
  - Hospital self-appraisal
  - Hospital assessment criteria
  - Country program, country situation analysis, or country studies
  - Data on breastfeeding prevalence, duration, and trends
  - Government policy
  - Coordination
  - Status of hospital practices
  - Integration with other programs
  - Skilled personnel

- Government planned
  - Through networks of national development groups, clubs, breastfeeding associations, etc.
  - Through health services (especially public health centers, and trained traditional birth attendants)
  - Baby-Friendly Hospital Initiatives
  - Other baby-friendly workplaces

➢ History of BFHI

1979 – Joint WHO/UNICEF meeting on Infant and Young Child Feeding (Geneva)
1981 – Adoption of International Code of Marketing of Breast-Milk Substitutes
1989 – Joint WHO/UNICEF statement on the Special Role of Maternity Services to Protect, Promote, and Support Breastfeeding (Ten Steps to Successful Breastfeeding)
1990 – Innocenti Declaration
1990 –World Summit for Children declaration ("Empowerment of all women to breastfeed their children exclusively for 6 months and continue breastfeeding for with complementary food well into the second year")
1991 – Launch of Baby-Friendly Hospital Initiative with 12 lead countries (Bolivia, Brazil, Côte d'Ivoire, Egypt, Gabon, Kenya, Mexico, Nigeria, Pakistan, Philippines, Thailand, and Turkey)
1992 – FAO/WHO International Conference on Nutrition (ICN) Declaration adopting breastmilk as food security for infant from birth to 6 months

➢ History of BFHI in country
(Year) – Adoption of Innocenti Declaration
(Year) – BFHI based on 10 Steps launched
(Year) – National Coordinator for Breastfeeding Programs formally appointed
(Year) – Breastfeeding Task Force formalized

(Year) – Draft Breastfeeding Policy based on the Ten Steps to Successful Breastfeeding, with 20 additional steps
(Year) – Draft Code of Marketing of Breast-Milk Substitutes (voluntary)
(Year) – BFHI status attained by __ health facilities
(Year) – BFHI National Program external review
(Year) – Policy Framework and Guidelines on Infant Feeding and HIV developed
(Year)– National BFHI assessors trained

- Questions about the BFHI designation process
  - What does "designation" mean?
  - What happens if a hospital does not conform fully to all the hospital assessment criteria?
  - What determines whether a hospital should receive an achievement award or a certificate of commitment?
  - Who gives the recognition to a hospital?
  - Is a ceremony necessary to recognize baby-friendly hospitals?

SESSION 15: WOMEN, WORK, AND BREASTFEEDING: EXPRESSING AND STORING BREASTMILK

Duration: 1¼ hours

15.1 Introduction

The Universal Declaration of Human Rights states that "Everyone has the right to work, to free choice of employment, to just and favorable conditions of service, and to protection against unemployment." This session covers the need for adequate protection of mothers after childbirth, including the right to continue breastfeeding when they return to work.

15.2 Learning objectives

- Explain the difference between formal and informal employment.
- Explain the need for adequate maternity protection after delivery for the wellbeing of the infant and mother.
- Describe national maternity protection regulations.
- Discuss why women should continue breastfeeding when they return to work.
- List five obstacles to breastfeeding in the workplace.
- Describe correct expression of breastmilk.
- Describe storage of expressed breastmilk.

15.3 Training methods and content

- Arrange a **panel discussion** of three breastfeeding women who work outside the home. Ask the first woman, "Why do you breastfeed and work outside the home?", the second woman, "What advice would you give women who return to work and continue to breastfeed?", and the third woman, "What obstacles have you found to breastfeeding in the workplace?"
- Make a **summary** of the panel discussion.
- Ask a breastfeeding mother to **demonstrate** how to express and store milk.
- Ask participants to form groups of three to **role-play** a mother, a health worker and an observer. The participant playing the health worker will counsel the mother on the technique of expressing breastmilk. The participant playing the observer will fill in a **checklist** of optimal counseling behavior.
- Make a **summary** of techniques for expression and storage of breastmilk.

15.3.1 Why should women take adequate maternity leave?

- Breastfeeding is part of safe motherhood package that benefits women
- Continuation of breastfeeding benefits infants, family, and employer
- Breastfeeding has environmental benefits
- Breastfeeding has economic benefits for family, health sector, and country, which saves foreign exchange

15.3.2 Maternity protection regulations

- International Labor Organization (ILO) Convention 1919, Convention 3 revised 1952–1999–2000 (Convention 103)
- Innocenti Declaration on Protection, Promotion, and Support of Breastfeeding signed by 30 governments
- Technical meeting before Innocenti Declaration
- World Breastfeeding Week theme 1993

15.3.3 Innocenti Declaration recommendations

- Establish task force on women, work, and breastfeeding in national breastfeeding committees.
- Integrate issues relevant to employed women in all breastfeeding Promotion programs.

15.3.4 National situation (complete as appropriate)

15.3.5 Benefit to employer of women continuing to breastfeed when they return to work (See sessions on Benefits of Breastfeeding and Role of Breastfeeding in Child Survival and Safe Motherhood.)

- Reduced absenteeism
- Increased productivity

15.3.6 Advice to give mothers who will be separated from their infants

- Breastfeed exclusively and frequently for the whole maternity leave (the first 2 months are very important).
- Do not start other feedings before you really need to.
- Continue breastfeeding at night, early in the morning, and at home.
- Learn to express breastmilk soon after delivery.
- Express breastmilk before going to work.
- Breastfeed after expressing the breastmilk.
- Express breastmilk at work 2–3 times (every 3 hours).

15.3.7 Obstacles to breastfeeding in the workplace

- Maternity leave is only available to formally employed women.
- Many workplaces, especially small companies and non-formal work settings where most women work, lack child care facilities and/or feeding breaks.
- Infant food companies target employed women by promoting their products as the only solution available to working mothers (see Session 31).
- Male-oriented attitudes of government employers result in treating maternity benefits as “a favor to women” instead of an entitlement and an investment in society.
- Mothers’ reproductive role is emphasized and taken for granted, while their productive role is de-emphasized.

15.3.8 How health workers can help working women breastfeed successfully

- Make sure that women are taught how to express breastmilk correctly in the antenatal period.
- Make women aware of their rights.
- Ensure elimination of discriminatory employment practices based on women's reproductive role.
- Ensure that maternity protection is not used to justify unfavorable treatment of women in the workplace.
- Ensure that mothers are respected and supported in the workplace so that they can nurture their children with peace of mind while remaining employed.
- Call for collective action to guarantee:
  - A minimum of 4 months of paid maternity leave
  - A minimum of 2 half-hour paid breastfeeding breaks daily at work
  - A clean space or corner for breastfeeding
  - A crèche at the workplace for infants and toddlers

15.3.9 Tips for mothers to successfully combine work and breastfeeding

- Take as much leave as possible after birth.
- Maintain good health and nutrition.
- Make sure breastfeeding is well established before returning to work.
- Express and store breastmilk properly.
- Ensure that the caregiver understands and supports breastfeeding.
- Ask family members and husbands for extra support while breastfeeding.
- Breastfeed more at night.
- Use flexible working hours wisely if available.
- Form mother support groups with other breastfeeding working mothers.
- Delay the next pregnancy until you are ready to breastfeed another child.

15.3.10 Expressing and storing milk

- Advice to give mothers
  - Remember that a mother can only express milk when the oxytocin reflex is functioning.
  - Find a quiet and private place or be with a supportive friend. Some mothers can express easily in a group of other mothers who are also expressing milk.
  - Hold infant with skin-to-skin contact if possible on your lap or look at either the infant or a photograph of the infant.
  - Take a warm soothing drink (not coffee or colas).
  - Warm the breast by applying a warm compress or warm water, or have a warm shower.
  - Massage the breasts gently toward the nipple.
  - If a helper is available, ask for a back rub, sitting down and leaning forward with your arms in front and your head resting on your arms, breasts hanging loose and unclothed.

- Prepare a container for the expressed breastmilk.
  - Choose a cup, glass, jug, or jar with a wide mouth.
  - Wash the cup in soap and water and leave it in the sun to dry.
  - Pour boiling water into the container and leave it for a few minutes in the sun to kill most of the germs.
  - When ready to express milk, pour the water out of the cup.

- Express breastmilk by hand, which can be done anywhere and at any time and requires no appliance.

  Demonstration of expression of breastmilk
  - Wash hands thoroughly
  - Sit or stand comfortably and hold the cup near the breast.
  - Put thumb on the areola above the nipple and first finger on areola below the nipple.
  - Press the thumb and finger inward toward the chest wall.
  - Now press the areola behind the nipple between the finger and thumb
  - Press and release, press and release. (This should not hurt. If it does, the technique is wrong. At first no milk may come, but pressing a few times, milk starts to drip.)
  - Press the areola in the same way from the sides to make sure that milk is expressed from all segments of the breast.
  - Expressed one breast at least 3–5 minutes until the flow slows and then express the other side and then repeat both sides again. Mother can use either hand for either breast and change when the hand tires.
  - Do not slide your fingers along the skin or squeeze the nipple itself. Pressing or pulling the nipple cannot express the milk. It is the same as the infant suckling only the nipple.
  - Be patient. Expressing milk adequately takes 20–30 minutes, especially in the first few days.

- Store the expressed breastmilk.
  - At room temperature for 8 hours
  - In the refrigerator for 24 hours and more
  - In a cold space for 72 hours
  - In a freezer for 3–4 months
  - In a deep freezer kept closed for most of the time for 6 months or longer

15.3.11 1993 World Breastfeeding Week goals: Women, Work, and Breastfeeding

- Enable women to breastfeed confidently by informing them of benefits of optimal breastfeeding practices and their maternity entitlements.
- Ensure that as many countries as possible implement national legislation to protect the rights of working women to breastfeed.

- Increase public awareness of the benefits of combining work and breastfeeding for women, children, and society.
- Encourage unions and workers' groups to advocate for maternity entitlements that support women workers who breastfeed.
- Foster the establishment of mother-friendly workplaces everywhere.
- Protect cultural practices that support breastfeeding mothers working at or away from home.

15.4 Materials and recommended reading

- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press
- WHO and UNICEF. 1993. "Breastfeeding Counseling: A Training Course. WHO/CDR/93.5, UNICEF/NUT/93.5. Geneva
- Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International
- World Alliance of Breastfeeding Action (WABA). 1998. "Report of the WABA International Workshop on Breastfeeding, Women and Work: Human Rights and Creative Solutions." June 1-5, Quezon City, Philippines. Available at www.waba.org.br/ report
- International Labour Organisation, 2000. Maternity Protection Convention (No.183). Geneva
- ____. 1952. Revision of Maternity Protection Convention (No. 103). Revised. Geneva

SESSION 16: RELACTATION

Duration: 30 minutes

16.1 Introduction

Relactation is no longer a common practice. In the era of HIV and AIDS, women need counseling on issues related to breastfeeding and HIV, and relactation is one of these issues. This session discusses factors that influence milk production and steps a woman can take to relactate.

16.2 Learning objectives

- Define relactation.
- List at least four indications for relactation.
- Describe at least five factors that influence milk production.
- Demonstrate how to use a supplementer to stimulate a mother's milk supply.

16.3 Training methods and content

- Ask participants to **brainstorm** indications for relactation and factors influencing milk production.
- Ask participants to **listen** to a woman or women describe their experience of relactating.
- Facilitate a group **discussion** and summary of the women's experiences in plenary.

16.3.1 Definition of terms

- Induced lactation: Establishing lactation in a woman who has never been pregnant
- Relactation: Re-establishment of milk production in a mother who has stopped breastfeeding for days, months, or years; important for a woman who has previously given birth
- Wet nursing: Breastfeeding of an infant by another woman who is breastfeeding her own child

10.3.4 Indications for relactation

- Illness leading infant to stop breastfeeding
- Intolerance of artificial milks
- Separation of infant from mother
- Emergency situation
- Mother's decision to breastfeed after formula feeding
- Adoption

16.3.3 Factors that increase mother's milk supply

- Infant
  - Willingness to suckle

- Age
- Breastfeeding gap (time since the infant stopped breastfeeding}
- Feeding experience during the gap

➢ Mother
- Motivation
- Lactation gap (time since she stopped breastfeeding: a woman who has stopped breastfeeding recently can begin to secrete milk more easily than a woman who has not breastfed for 15 years)
- Support from family, community, or health worker
- Lactogogues (in some cultures)

16.3.4 How to start relactation

➢ Build mother's confidence.
➢ Encourage mother to put the infant to the breast at least 8–12 times a day.
➢ Show mother how to position and attach the infant to the breast correctly.
➢ Explain infant's need for supplementary feeds during the first few days until breastmilk starts to flow.
➢ Reduce supplementary feeds as breastmilk increases
➢ In some cases, give mother drugs to increase her milk supply.
- Chlorpromazine (Largactil): 25 mg 3 times a day for 1 week
- Metoclopramide (Plasil): 10–15mg 3 times a day for up to 3 months

➢ Provide a lot of support from family members and health care providers to women who stopped breastfeeding a long time ago.

16.3.5 Nursing supplementer (illustration)

➢ Can help a mother build up her milk supply
➢ Consists of a fine tube from a cup of milk (diluted cow's milk or formula) to the infant's mouth that works like a drinking straw
➢ How to use a nursing supplementer
- Use the very fine infant feeding tube. If the tube is wide, tie a knot in it to control the milk flow.
- Put the end of the tube along the mother's nipple so that the infant suckles the breast and the tube at the same time.
- Clean and sterilize the tube and cup for each use.
- Make sure the milk supply is higher than the infant's suckling (gravity).

16.4 Materials and recommended reading

➢ Gotsch, Gwen, et al. 2002. *The Womanly Art of Breastfeeding*. 7th revised edition. Schaumburg, IL: La Leche League International
➢ Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press
➢ WHO. 1998. "Relactation: A Review of Experience and Recommendations for Practice." Geneva
➢ Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International

SESSION 17: ANTENATAL, LABOR AND DELIVERY, AND POST-NATAL PREPARATION FOR BREASTFEEDING IN AREAS AFFECTED BY HIV

Duration: 2 hours

17.1 Introduction

This session introduces participants to the essential antenatal care (ANC) package and interventions to prevent mother-to-child transmission (PMTCT) of HIV during the antenatal, labor and delivery, and post-natal periods. Participants learn that PMTCT can only be integrated into maternal and child health (MCH) services when basic services such as family planning, antenatal, delivery, postnatal care, health education, and ongoing health and nutrition care for children are available for all women.

17.2 Learning objectives

- Describe the essential antenatal care package in relation to breastfeeding and HIV.
- List essential health education topics.
- Describe management of breastfeeding and prevention of MTCT during the first, second, and third stage of labor
- Discuss resuscitation of a newborn infant in the context of HIV.

17.3 Training methods and content

- Ask participants to form four **working groups** to respond to the question, "What interventions in the antenatal, labor and delivery, and post-partum care packages are specific to breastfeeding and HIV and AIDS?"
- Ask the working groups to **list** essential health education topics to cover in the context of HIV.
- Facilitate **group presentations** and **discussion** in plenary.

17.3.1 Essential antenatal care package

- Number and time of visits
  - At least 4 visits recommended for every pregnant woman
  - First visit within first 16 weeks of pregnancy
  - Second visit between 24 and 28 weeks
  - Third visit at 32 weeks
  - Fourth visit at 36 weeks
  - Other visits as problems arise

- First visit
  - History (including traditional breastfeeding beliefs and practices)
  - Physical, obstetrical, and routine laboratory examinations according to protocols
  - Examinations should check for
    - Inverted, long, or flat nipples
    - STIs (treat)
    - Anemia (treat or refer if necessary)

- HIV testing and counseling and infant feeding counseling
- Care according to protocols, including ARVs for HIV-positive pregnant women

➢ Subsequent visits
- Health education talks in large and small groups, according to protocols
- Reinforcement of counseling on infant feeding and HIV (partner invited)
- Early detection and treatment of STIs and opportunistic infections

17.3.2 Essential health education topics

➢ Usual health education messages given at all antenatal clinics

➢ Infant feeding options
- Exclusive breastfeeding
  - Advantages of breastfeeding
  - Importance of early initiation and proper positioning and attachment
  - Importance of rooming in and bedding in
  - Breastfeeding and its child spacing effects (LAM)

- Modified breastfeeding
  - Expressing and heat treating breastmilk
  - Early cessation of breastfeeding
  - Wet nursing

- Replacement feeding
  - With commercial infant formula
  - With home-prepared breastmilk substitutes

➢ PMTCT
➢ Benefits and sources of HIV testing and counseling
➢ Maternal nutrition
➢ Breastfeeding myths, misconceptions, and positive practices

17.3.3 Management of breastfeeding and prevention of MTCT in labor

➢ First stage of labor, according to protocol and specifically:
- Cervical dilatation between 0 and 10 cm
- Infant feeding method established
- Minimal vaginal examinations
- Vaginal cleansing (washing) with chlorhexidine hydrochloride
- Membranes kept intact for as long as possible
- Introduction of Nevirapine 200 mg stat orally at onset of labor (at least 4 hours before delivery) if code on mother's health card reads "HIV positive." If taken 1 hour before delivery, early dose of Nevirapine 0.6 ml orally for infant

- Second stage of labor (from full cervical dilation to delivery of infant)
  - Use client's preferred delivery position (squatting may prevent unnecessary episiotomies and lacerations).
  - Delay rupture of membranes.
  - Support infant's head to prevent laceration.
  - Avoid instrumental delivery, including episiotomy, vacuum extraction, or forceps.
  - Wipe infant with a cloth or a towel to reduce contact with maternal fluids.
  - Clamp the cord early to reduce transmission of placental blood to the infant.
  - Do not milk the cord.
  - Put infant in skin-to-skin contact with the mother.
  - Delay procedures such as weighing infant.
  - Teach mother proper positioning and attachment.
  - Initiate breastfeeding within 30 minutes of delivery.

- Third stage of labor (from birth to delivery of placenta)
  - Put the infant on the breast to suckle.
  - Deliver the placenta by controlled cord traction.

17.3.4. Resuscitation of the newborn

- Make a quick assessment (Apgar scoring).
- Follow ABC-D of resuscitation with specific attention to:
  - Suction only if necessary
  - No sharing of tubing
- Dry infant to prevent contact with maternal fluid.

17.3.5 Post-natal

- Assist with infant feeding method of choice.
- Provide nutrition counseling and support.
- Provide family planning counseling, including condom promotion for all women.
- Support mother who has inverted, long, or flat nipples.
- Give vitamin A supplementation to mother before discharge.
- Make a post-natal visit within 3 days of delivery to follow up Nevirapine for HIV-positive mothers.
- Make other follow ups through growth monitoring promotion points with shared confidentiality.
- Make the next follow up at 18 months to test the infant.
- Ensure correct recording.

Handout 17.1: Interventions to Reduce MTCT

Handout 17.1 INTERVENTIONS TO REDUCE MTCT

In pregnancy	*In labor and delivery*	*Post-natally*
• HIV testing and counseling • Primary prevention • Prevent, monitor, treat: STIs, malaria, opportunistic infections • Provide essential ANC, including nutrition support • ARV • Counseling on safe sex, partner involvement, infant feeding, family planning, self care, preparing for future	• ARV • Keep normal • Minimize invasive procedures: AROM Episiotomy Suctioning • Elective Caesarean • Vaginal cleansing • Minimize infant exposure to maternal fluids	• BFHI • Early BF initiation • Support for EBF • Prevent, treat breastfeeding conditions • Care for thrush and oral lesions • Support replacement feeding if that is infant feeding choice • Give ARV • Address gender issues and sexuality • Counsel on complementary feeding after 6 months

17.4 Materials and recommended reading

- Transparencies
- Delivery bag
- Linen
- Suction tubes
- Neonatal ambubag
- Doll
- Handout: “Interventions to Reduce MTCT”
- Healthlink Worldwide. nd. “HIV and Safe Motherhood.” London

SESSION 18: PREPARING TO ASSESS AND OBSERVE BREASTFEEDING

Duration: 1¼ hours

18.1 Introduction

This session helps participants remember what they learned in previous sessions about proper positioning and attachment and breast conditions. Participants are helped to assess a breastfeeding to decide whether the mother needs help and how to help her.

18.2 Learning objectives

- Assess a breastfeed by observing a mother breastfeeding her infant.
- Recognize signs of good and poor positioning and attachment.
- Demonstrate use of the B-R-E-A-S-T-FEED observation form.
- Identify a mother who may need help.

18.3 Training methods and content

- **Review** breastfeeding observation and the observation form.
- Ask participants to form groups of three to **role-play** a mother, health worker, and observer. The participants who role-play the mothers **practice attachment and positioning**. The participants who role-play the health workers counsel the mothers. The observers fill out the B-R-E-A-S-T-FEEDING Observation Form.
- Facilitate **discussion** and summary.

18.3.1 What do you observe about the mother?

- Age
- General health
- Nutrition
- Expression
- Comfort
- How does the mother hold the infant?
  - Close, facing her breast?
  - Securely and confidently?
  - Showing signs of bonding?
  - Supporting infant's bottom?
- How does the mother put her infant on the breast?
  - Does she try to push the nipple into her infant's mouth?
  - Does she bring her infant to her breast?
- How does the mother hold her breast during a feed?
  - Does she hold her breast very close to the areola?
  - Does she hold her breast back from her infant's nose with her finger (scissors hold)?
  - Does she support her whole breast with her hand against her chest wall?

18.3.2 What do you observe about the infant?

- General health
- Nutrition
- Alertness
- Signs or conditions that can interfere with breastfeeding
  - Blocked nose
  - Difficulty breathing
  - Thrush
  - Jaundice
  - Dehydration
  - Tongue tie
  - Cleft lip or palate

- How does the infant respond to breastfeeding?
  - Calmly
  - Rooting
  - Crying or pulling back or turning away from his mother
  - Restlessly slipping off the breast or refusing to feed

- Is the infant well attached to the breast?
  - Infant's chin touching the breast
  - Infant's lower lip turned outward
  - More areola visible above than below the infant's mouth
  - Breast appearing rounded during a feed

- Is the infant poorly attached to the breast?
  - Infant's chin not touching the breast
  - Mouth not wide open
  - Lower lip turned inward
  - Cheeks tense or pulled when suckling
  - More areola below than above the infant's mouth
  - Breast looks stretched or pulled during a feed

Handout 18.1: B-R-E-A-S-T-FEEDING Observation Form
Handout 18.2: How to Take a Breastfeeding History
Handout 18.3: Breastfeeding History Form

18.4 Materials and recommended reading

- Handouts: "B-R-E-A-S-T-FEEDING Observation Form," "How to Take a Breastfeeding History," "Breastfeeding History Form"
- Armstrong, H. D. 1992. "B-R-E-A-S-T-Feeding Observation Form," in IBFAN and UNICEF, *Training Guide in Lactation Management*. New York
- Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International
- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press, p. 18

- WHO and UNICEF. 1993. “Breastfeeding Counseling: A Training Course. WHO/CDR/93.3–6, UNICEF/NUT/93.5. Geneva

Handout 18.1 B-R-E-A-S-T-FEEDING OBSERVATION FORM

Mother's name _____ Date: _____
Infant's name _____ Age of infant _____

[Signs in brackets refer only to newborn, not to older infants]

Signs that breastfeeding is going well	*Signs of possible difficulty*
BODY POSITION	
☐ Mother relaxed and comfortable	☐ Shoulders tense, leans over infant
☐ Infant's body close, facing breast	☐ Infant's body away from mother's
☐ Infant's head and body straight	☐ Infant's neck twisted
☐ Infant's chin touching breast	☐ Infant's chin not touching breast
☐ [Infant's bottom supported]	☐ [Only shoulder or head supported]
RESPONSES	
☐ Infant reaching for breast if hungry	☐ No response to breast
☐ Infant rooting for breast	☐ [No rooting observed]
☐ Infant exploring breast with tongue	☐ Infant not interested in breast
☐ Infant calm and alert at breast	☐ Infant restless or crying
☐ Infant staying attached to breast	☐ Infant slipping off breast
☐ Signs of milk ejection [leaking,	☐ No signs of milk ejection [leaking, afterpains]
EMOTIONAL BONDING	
☐ Secure, confident hold	☐ Nervous or limp hold
☐ Face-to-face attention from mother	☐ No mother/infant eye contact
☐ Rough touching by mother	☐ Little touching, shaking, or poking infant
ANATOMY	
☐ Breasts soft after feed	☐ Breasts engorged
☐ Nipples standing out, protractile	☐ Nipples flat or inverted
☐ Skin appearance healthy	☐ Skin fissured or red
☐ Round-looking breasts during feed	☐ Stretched or pulled-looking breasts
SUCKLING	
☐ Mouth wide open	☐ Mouth not wide open, pointing forward
☐ Lower lip turned outwards	☐ Lower lip turned in
☐ Tongue cupped around breast	☐ Tongue not seen
☐ Cheeks round	☐ Cheeks tense or pulled in
☐ More areola above infant's mouth	☐ More areola below infant's mouth
☐ Slow, deep sucks, bursts with pauses	☐ Rapid sucks only
☐ Swallowing visible or audible	☐ Smacking or clicking audible
TIME SPENT SUCKLING	
☐ Infant releases breast	☐ Mother takes infant off breast
☐ Infant suckled for __ minutes	

Adapted with permission from Armstrong, H. C. 1992. "B-R-E-A-S-T-Feeding Observation Form." *Training Guide in Lactation Management*. New York: IBFAN and UNICEF.

Handout 18.2 HOW TO TAKE A BREASTFEEDING HISTORY

- *Use the mother's name and the infant's name (if appropriate).*
  Greet the woman in a kind and friendly way. Introduce yourself and ask her name and the infant's name. Remember these names and use them or address the mother in the most culturally appropriate way.

- *Ask the mother to tell you about herself and her infant in her own way.*
  Let her tell you first what she feels is important. You can learn the other things that you need to know later. Use your listening and learning skills to encourage the mother to tell you more.

- *Look at the infant's growth chart.*
  It may tell you some important facts and save you asking some questions.

- *Ask the questions that will tell you the most important facts.*
  You will need to ask questions, including some closed questions, but try not to ask too many. The Breastfeeding History Form is a guide to the facts you may need to learn about. Decide what you need to know from each of the 6 sessions.

- *Be careful not to sound critical.*
  Ask questions politely, For example, do not ask, "Why are you bottle feeding?" It is better to ask, "What made you decide to give (infant's name) some bottle feeds?" Use your confidence and support skills. Accept what the mother says and praise what she is doing well.

- *Try not to repeat questions.*
  Try not to ask questions about facts that either the mother or the growth monitor has told you already. If you do need to repeat a question, first say, "Can I make sure that I have understood clearly?" and then, for example, "You said that (infant's name) had both diarrhea and pneumonia last month?"

- *Take time to learn about more difficult, sensitive things.*
  Some things are more difficult to ask about but can tell how a woman feels and whether she really wants to breastfeed.
  - What have people told her about breastfeeding?
  - Does she have to follow any special rules?
  - What does the infant's father say? The mother's mother? Mother-in-law?
  - Did she want this pregnancy at this time?
  - Is she happy about having the infant now? About the infant's sex?

Some mothers tell you these things spontaneously. Others tell you when you empathize and show you understand how they feel. Others take longer. If a mother does not talk easily, wait and ask again later or on another day, perhaps somewhere more private.

Handout 18.3 BREASTFEEDING HISTORY FORM

Mother's name _____ Infant's name _____ Date of birth _____

Reason for consultation _____

1. *Infant's feeding now (ask all these points)*

Breastfeeds
How often? Day Night
Length of breastfeeds
Longest time between feeds (time mother away from infant)
One breast or both breasts?

Complements (and water)
What given?
When started?
How much given?
How given?

Pacifier
Yes/No

2. *Infant's health and behavior (ask all these points)*

Birthweight Weight now Growth
Premature Twin
Urine output (more/less than 6 times/day)
Stools (soft and yellow/brown or hard and green; frequency)
Feeding behavior (appetite, vomiting)
Sleeping behavior
Illnesses
Abnormalities

3. *Pregnancy, birth, early feeds*

Antenatal care (attended/not)
Delivery
Rooming-in
Prelacteal feeds
What given?
Formula samples given to mother
Post-natal help with breastfeeding

Breastfeeding discussed?
Early contact (1st ½ hour)
Time first breastfed
How given?

4. *Mother's condition and family planning*

Age
Health
Family planning method

Breast condition
Motivation to breastfeed
Alcohol, smoking, coffee, other drugs

5. *Previous infant feeding experience*

Number of previous infants
How many breastfed?
Any bottles used

Experience good or bad
Reasons

6. *Family and social situation*

Work situation
Economic situation
Father's attitude to breastfeeding
Other family members' attitudes to breastfeeding
Help with child care
What others say about breastfeeding

Literacy

SESSION 19: CLINICAL PRACTICE FOR BREASTFEEDING

Duration: 4 hours

19.1 Introduction

This clinical practice gives participants hands-on experience in their own workplaces or ones that are similar to their workplaces. After class content and practice with mothers using dolls and cloth breasts, participants apply their knowledge in a hospital setting with mothers who have had both normal and caesarian births.

19.2 Learning objectives

- Practice assessing a breastfeed, observing mother's and infant's positions, attachment, suckling, and interaction.
- Name four things to for when observing a breastfeeding mother and infant.
- Describe the difference between appropriate and inappropriate attachment and positioning.

19.3 Training methods and content

- Ask participants to form small **groups** to visit three or four labor and delivery clinics or hospitals. At each clinic or hospital, the facilitator divides the small groups into pairs, each of which will **visit** two mothers.
- Ask each pair to **check the mother's health card** for her HIV status, whether or not she is receiving Nevirapine prophylaxis, and her infant feeding choice.
- Ask one participant in each pair whose mothers have chosen to breastfeed to **assess a breastfeed** and ask the other participant to observe. Then ask the pair to reverse roles with another breastfeeding mother.
- After the assessments, help mothers who need advice on positioning and attachment with the participants observing the counseling.
- Ask participants for **feedback** on their experience with the mothers and lead a **discussion** and summary of the visit.

19.4 Materials and recommended reading

- Armstrong, H. D. 1992. "B-R-E-A-S-T-Feeding Observation Form," in IBFAN and UNICEF, *Training Guide in Lactation Management*. New York
- Savage-King, Felicity. 1992. *Helping Mothers to Breastfeed*. Oxford University Press

SESSION 20: EFFECTS OF DRUGS ON BREASTFEEDING

Duration: 1 hour

20.1 Introduction

Drugs taken by a breastfeeding mother may interfere with lactation or pass to the infant and cause harm. This session reviews drugs in common use and their possible interactions with breastfeeding.

20.2 Learning objectives

- Identify drugs commonly in clinics in antenatal and post-natal services that can interfere with breastfeeding.

20.3 Training methods and content

- Give each participant one or two **cards** with the name of a common drug used in antenatal and post-natal clinical services that can interfere with breastfeeding written on each.
- Label three tables (or sections of a wall) "Compatible with breastfeeding," "Avoid during breastfeeding," and "Don't know." Ask participants to take turns reading their cards and placing them under the appropriate labels.
- Lead a **discussion** and summary of the choices in plenary.

Handout 20.1: Drugs Commonly Found in Clinics

20.4 Materials and recommended reading

- Handout: "Drugs Commonly Found in Clinics"
- WHO. 2002. "Breast-feeding and Maternal Medication: Recommendations for Drugs in the Eleventh WHO Model List of Essential Drugs." Geneva
- Lawrence, Ruth, and Robert Lawrence. 1999. *Breastfeeding: A Guide for the Medical Profession*. Philadelphia, PA: Mosby
- Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*.

Handout 20.1 DRUGS COMMONLY FOUND IN CLINICS

Drug	Compatible?	Avoid	Not known/ data not available
1. Analgesic, antipyretic, non-steroidal anti-inflammatory			
a. Aspirin	In occasional doses	Long-term therapy	
b. Ibuprofen	x		
c. Indomethacin		Induces seizures	
d. Paracetamol	x		
e. Codeine		Apnea bradycardia, cyanosis	
f. Morphine		Apnea, bradycardia, cyanosis	
g. Pethidine		Apnea, bradycardia, cyanosis	
2. Anti-allergenics			
a. Chlorpheniramine		Drowsiness may inhibit lactation	
b. Dexamethasone			x
c. Epinephrine			x
d. Hydrocortisone			x
e. Predinisolone	x		
3. Antineoplastic and immunosuppressant drugs		x	
4. Cardiovascular drugs	x		
5. Diuretics		x	
a. Furosemide		May inhibit lactation	
b. Hydrochlorothiazide		May inhibit lactation	
6. Gastro-intestinal drugs			
a. Metoclopramide		x	
b. Promethazine		x	
c. Cimetidine		x	
d. Atropine	x drying of secretions		
7. Hormones			
a. Contraceptives (Pro-gesterone only)		x the first 6 weeks	
b. Combined oral contraceptives		x the first 6 months	
c. Clomifene		x	
d. Potassium iodine		x	
8. Psychotherapeutic drugs			

Drug	Compatible?	Avoid	Not known/ data not available
a. Chlorpromazine		x	
b. Haloperidol		x	
c. Diazepam		x	
9. Anti-infective drugs Antihelminthics			
a. Mebendazole			x
b. Others	x		
c. Antifilarials			x
d. Antischistsomiasis	x		
Antibacterials			
a. Chloramphenicol		x	
b. Ciprofloxacin		x	
c. Clindmycin		x	
d. Doxycycline		x	
e. Gentamycin	x		
f. Metronidazole		x	
g. Nalidixic acid		x	
h. Nitrofurantoin		x	
i. Cotrimoxazole		x	
j. Tetracycline		x	
k. Antitubercular drugs	x		
3. Antifungal drugs			x
4. Antiprotozoal drugs			
a. Chloroquin	x		
b. Fansidar	x		
c. Quinine	x		

SESSION 21: THE LACTATIONAL AMENORRHEA METHOD (LAM)

Duration: 1 hour

21.1 Introduction

The lactational amenorrhea method (LAM) is a family planning method that supports improved breastfeeding, healthy child spacing, child survival, and women's health. In this session participants learn the benefits of LAM and the criteria women must meet to qualify for LAM.

21.2 Learning objectives

- Define LAM.
- Describe how LAM is effective in preventing pregnancy.
- Describe the three criteria for LAM eligibility.
- Outline methods of contraception contraindicated during breastfeeding.

21.3 Training methods and content

- Ask participants to **share** their or their communities' **experience** with breastfeeding preventing pregnancy.
- **Explain** the three criteria a woman must meet to qualify for the lactational amenorrhea method (LAM).
- Divide the participants into four **small groups** and ask each group to read eight case studies on LAM criteria.
- Ask each **group** to make a **presentation** of one case study.
- Lead a **discussion** and summary of the case studies in plenary.

21.3.1 Definition of lactational amenorrhea method (LAM): A modern, temporary family planning method developed to support both breastfeeding and family planning, based on the natural infertility resulting from certain patterns of breastfeeding. "Lactational" means "related to breastfeeding," "amenorrhea" means "without menstrual bleeding," and "method" means a technique for contraception.

21.3.2 Effectiveness of LAM

- Provides family planning protection comparable to other methods

Pregnancies per 100 women in first 12 months of use:

Method	Typical use	Perfect use
Injectables	0.3	0.3
IUD	0.8	0.6
LAM	2.0	0.5
Combined oral contraceptives	6–8	0.1
Condom	14.0	3.0

Source: adapted from *The Essentials of Contraceptive Technology*, Johns Hopkins Population Information Program, 1997

21.3.3 The three LAM criteria

1. Woman's menstrual periods have not resumed.
   - Menstruation is defined for LAM use as 2 consecutive days of bleeding, or when a woman perceives that she has had a bleed similar to her menstrual bleed, either of which occurs at least 2 months post-partum.
   - Bleeding during the first 2 months post-partum is lochial discharge.

2. Infant is fully or nearly fully breastfed.[1]
   - Full breastfeeding
     - *Exclusive breastfeeding* (no other liquid or solid given to infant); not necessary for LAM to be effective, but the more exclusive the breastfeeding, the better for mother and infant. The optimal pattern is for the infant to nurse frequently and as long as the infant wants, day and night, with no night feeding interval greater than 6 hours.
     - *Almost exclusive breastfeeding* (vitamins, water, juice, or ritualistic feeds given infrequently in addition to breastfeeds)
   - Nearly full breastfeeding: vast majority of feeds given to infant are breastfeeds

3. Infant is under 6 months old
   - At about 6 months of age, infant should begin to receive complementary foods while continuing to breastfeed.
   - Introducing water, liquids, and foods can reduce suckling at the breast, triggering the hormonal mechanism that causes ovulation and menses to resume.

Handout 21.1: LAM Decisionmaking Path
Handout 21.2: Breastfeeding and Fertility
Handout 21.3: Case Studies to Identify LAM Criteria
Handout 21.4: Case Studies to Identify LAM Criteria Answer Sheet

21.3.4 Methods of contraception contraindicated during breastfeeding

- After 6 weeks post-partum: Progesterone only
- After 6 months post-partum: Combined oral contraceptives, estrogen containing contraceptives

21.3.5 Importance of strengthening and promoting family planning for mothers who are HIV positive and not breastfeeding

21.4 Materials and recommended reading

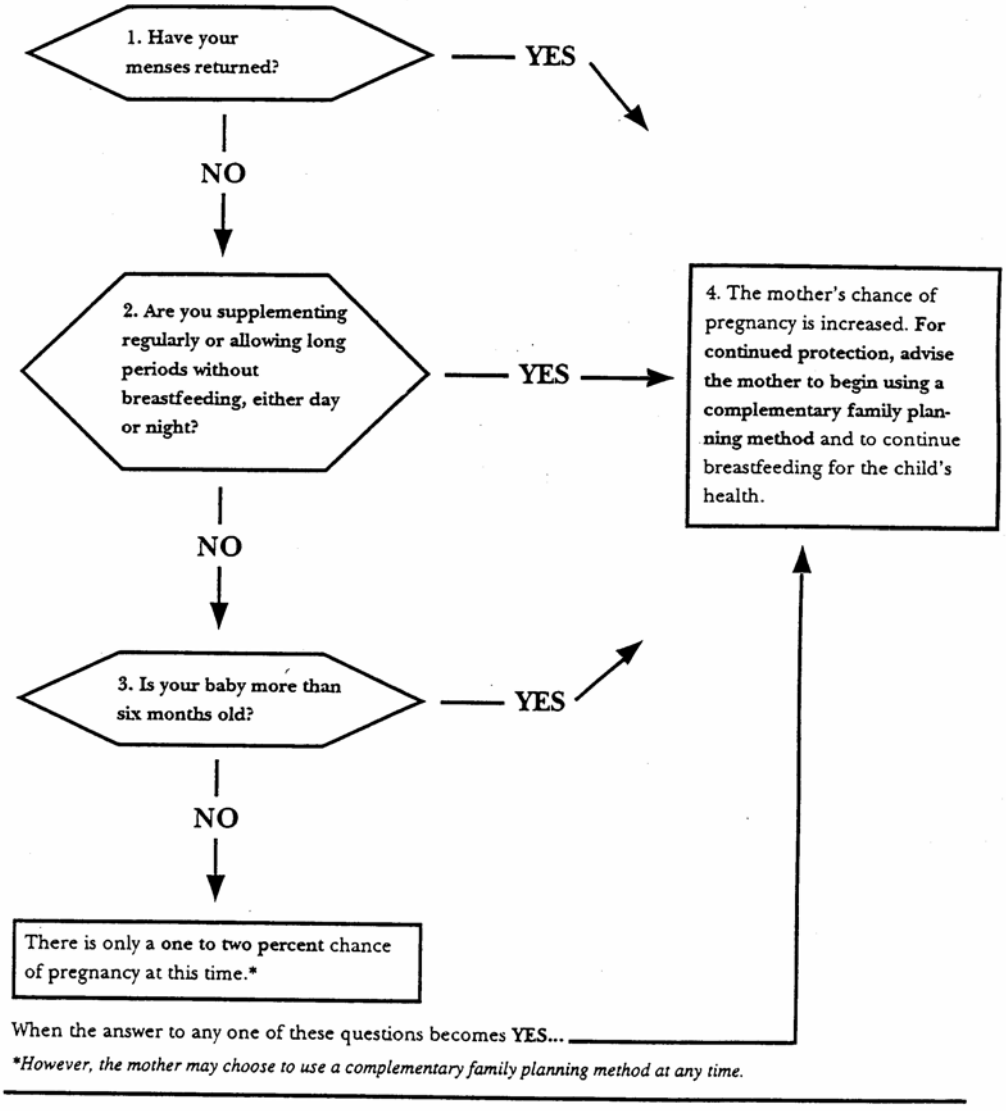
- Handouts: "LAM Decision Making Path," "Breastfeeding and Fertility," "Case Studies," "Worksheet for Case Studies"

[1] Institute for Reproductive Health, Georgetown University. 1994. "Guidelines: Breastfeeding, Family Planning, and the Lactational Amenorrhea Method (LAM)"

- Academy for Educational Development/LINKAGES Project. 2001. Frequently Asked Questions on the Lactational Amenorrhea Method (LAM). FAQ Sheet 3. Washington, DC
- ___. 2003. CD Rom on Lactational Amenorrhea Method. Available at http://www.linkages project.org

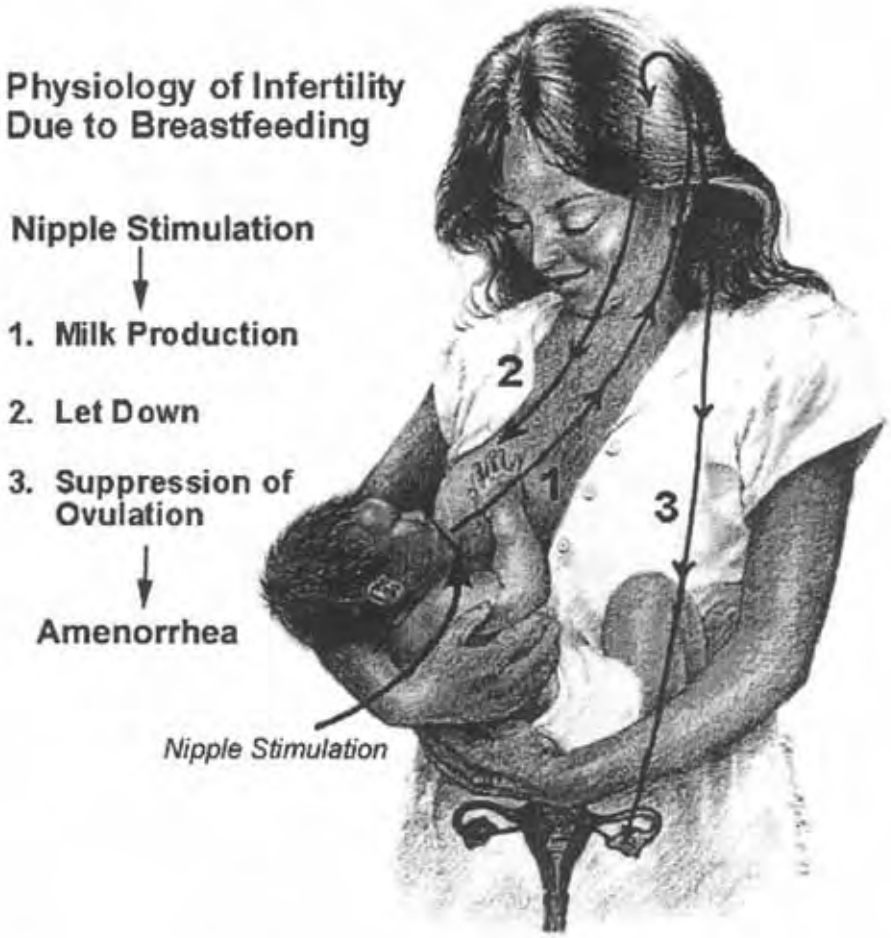
Handout 21.1 LAM Decision Making Path[1]

Ask the mother, or advise her to ask herself, these three questions:



However, the mother may choose to use a complementary family planning method at any time.

Handout 21.2 Breastfeeding and fertility



Adapted from: *Manual de Lactancia Materna*, AED and *Lactancia Materna: Materiales para Capacitación*. Sistema Nacional de Salud: Mexico. Vol. 2.

Handout 21.3 CASE STUDIES TO IDENTIFY LAM CRITERIA

Can this woman rely on LAM?

1) A mother has a 4-month-old infant and has not had her menstrual periods. She does the laundry for 3 hours and leaves the infant with his brothers and sisters. She breastfeeds the infant exclusively.

2) A mother with a 3-month-old infant fully breastfeeds and has already had her menstrual period.

3) A mother with a 2-week-old infant nearly fully breastfeeds and has vaginal bleeding.

4) A mother with a 2-month-old infant has not had a menstrual period. She breastfeeds her infant and has given him a bottle of sugar water 3 times a day.

5) A mother with a 4-month-old infant fully breastfeeds, and the infant sleeps from 2 midnight until 6 am. The mother has not had a menstrual period.

6) A mother with a 3-month-old infant breastfeeds exclusively. She had her menstrual period last week.

7) A mother with a 4-month-old infant breastfeeds exclusively day and night and has not yet had a menstrual period.

8) A mother is nearly fully breastfeeding her 4-month-old infant. She saw a little spotting 1 day last month.

On the following worksheet for each case (1–8), mark with an X each criteria that is met.

Worksheet for case studies to identify LAM criteria

Case Number

1	2	3	4	5	6	7	8

1	2	3	4	5	6	7	8

The woman's menstrual periods have not resumed.
The baby is fully or nearly fully breastfed, preferably exclusively, frequently day and night.

1	2	3	4	5	6	7	8

The baby is less than six months old.

Source: AED *Manual de Lactancia Materna*

Handout 21.4 CASE STUDIES TO IDENTIFY LAM CRITERIA ANSWER SHEET

Can this woman rely on LAM?

1) A mother has a 4-month-old infant and has not had her menstrual periods. She does the laundry for 3 hours and leaves the infant with his brothers and sisters. She breastfeeds the infant exclusively.
   A: Yes

2) A mother with a 3-month-old infant fully breastfeeds and has already had her menstrual period.
   A: No, because her menstrual periods have returned.

3) A mother with a 2-week-old infant nearly fully breastfeeds and has vaginal bleeding.
   A: Yes. Bleeding during the first 2 months post-partum is not considered menstrual bleeding.

4) A mother with a 2-month-old infant has not had a menstrual period. She breastfeeds her infant and has given him a bottle of sugar water 3 times a day.
   A: No, because breastfeeding is not full or nearly full.

5) A mother with a 4-month-old infant fully breastfeeds, and the infant sleeps from 2 midnight until 6 am. The mother has not had a menstrual period.
   A: Yes, because she meets all the criteria

6) A mother with a 3-month-old infant breastfeeds exclusively. She had her menstrual period last week.
   A: No, because her menstrual periods returned.

7) A mother with a 4-month-old infant breastfeeds exclusively day and night and has not yet had a menstrual period.
   A: Yes, she meets all three criteria.

8) A mother is nearly fully breastfeeding her 4-month-old infant. She saw a little spotting 1 day last month.
   A: Yes, because menstruation as defined for use in LAM is 2 consecutive days of bleeding after 2 months post-partum, or when a woman perceives that she has had a bleed similar to her menstrual period.

SESSION 22: BREASTFEEDING IN SPECIAL SITUATIONS

Duration: 1 hour

22.1 Introduction

This session discuss the most important maternal and infant conditions that can affect breastfeeding, including health problems of the mother and infant, low birthweight, malnutrition, and multiple births.

22.2 Learning objectives

- Identify special situations that can interfere with breastfeeding.
- Discuss infant feeding options in these special situations.

22.3 Training methods and content

- Ask participants to **brainstorm** conditions affecting mothers and infants that could affect breastfeeding.
- Divide the participants into two **groups** and divide each group into two **teams**. Give each group a set of **paper fish** cut out of manila board. Attached to the underside of each fish is a maternal or infant condition that affects breastfeeding. Paper clips are attached to the "mouths" of the fish and to the string of a wooden or plastic "fishing pole."
- Ask one participant from each team at a time to "**fish"** for a condition, fitting the paper clip from the fishing pole onto the clip in the mouth of one of the fish, and to tell (with the help of the team if needed) how this condition can affect breastfeeding.
- Ask the "opposing" team to decide whether the answer is correct and, if not, to complete the information correctly.
- Facilitate a **discussion** and summary in plenary.

22.3.1 Breast conditions (see previous session on Breast Conditions and Their Management)

22.3.2 Caesarean delivery

- The type of anesthesia used during the operation affects how soon mother can begin breastfeeding.
- Mother and infant should be together 24 hours a day (rooming-in).
- Mother needs to find a comfortable nursing position.

22.3.3 Cancer

- Breastfeeding can continue through most diagnostic tests, biopsy, or surgery.
- If radioactive compounds are used, infant needs to be weaned temporarily.
- Mother on antineoplastic and immunosuppressant drugs should avoid breastfeeding.
- Prolactin, along with sex steroid, can accelerate malignant growth (breast cancer)

22.3.4 Cardiovascular problems

- The relaxation that breastfeeding provides is a special advantage for the woman with cardiac problems or hypertension.
- Many medications for cardiovascular problems are compatible with breastfeeding.

22.3.5 Cholera

- Breastfeeding protects the infant from cholera.

22.3.6 Typhoid

- Breastfeeding is likely to protect the infant from typhoid.

22.3.7 Hepatitis B

- An infant born to a mother who had hepatitis B during her pregnancy may be exposed to the disease through contact with maternal fluids at birth.
- The infant should receive hepatitis B hyper-immune gamma globulin within the first 12 hours of life, followed by 3 doses of hepatitis B vaccine.
- The infant may be breastfed.

22.3.8 Malaria

- A mother with malaria may continue breastfeeding.
- Breastfeeding may be difficult if the mother has cerebral malaria.

22.3.9 Tuberculosis

- If the mother is allowed to be with her infant, she can safely breastfeed.
- If the mother has active pulmonary tuberculosis, she should be separated from her infant and express her breastmilk during the first week of treatment.

22.3.10 HIV and AIDS

- See session on infant feeding options for the HIV-positive mother.
- Mother with full-blown AIDS should avoid breastfeeding.

22.3.11 Life-threatening or debilitating illness

- Mother may need to avoid lactation (a clinical judgment to be made with the mother and the father).

22.3.12 Maternal malnutrition

- The malnourished mother can breastfeed.
- Only in famine situations might a mother not produce enough milk.

22.3.13 Pregnancy

- A mother can continue to nurse during pregnancy.
- Pregnant and nursing mothers should eat more food.

22.3.14 Neonatal jaundice

- Early and frequent breastfeeding prevents exaggeration of physiological jaundice.
- Colostrum and mature milk stimulate more bowel movements, speeding the elimination of bilirubin.
- The infant should not receive water supplements because 98 percent of the infant's bilirubin is eliminated through bowel movements and only 2 percent through urine.

22.3.15 Low birthweight

- Less than 2.5 kg
  - May be premature (born before 36 weeks of gestation)
  - May be small for full-term gestational age.

- Problems with low birthweight
  - Hypothermia
  - Hypoglycemia
  - Low immunity to infection
  - Feeding problems

- Management of low birthweight
  - Almost all low birthweight infants can be fed with their mothers' milk, which prevents infection.
  - Most mothers can produce breastmilk within a day with help and support.
  - In prime ups, milk production takes a bit longer.
  - Mother should give infant even a small amount of milk produced.
  - Mothers who feed and care for their own infants are less likely to abandon or abuse them.
  - Infants are able to suckle and swallow from about 24 weeks gestational age but may not be able to suckle well enough to feed themselves completely until about 27 weeks (or weight of 1.80kg).
  - An infant weighing less than 1.6 kg may not be able to suckle at all and may need to be fed by cup or, in rare cases, a nasogastric tube.
  - A mother with a low birthweight infant needs extra encouragement to believe that:
    - She can breastfeed her small infant.
    - Her milk is the best food, especially for a weak, small infant.
    - Infants need a small amount of milk at first.
    - Expressing will help her milk supply to build up.
    - Breastfeeding will be easier when the infant is big enough to suckle and stimulate the nipple.

- Benefits of early feeding of low birthweight infants on pre-term breastmilk
  - Superior rate of weight gain

- No hypoglycemia
- Low unconjugated bilirubin
- No dehydration
- Reduced incidences of diarrhea and vomiting
- Long-term achievement of motor and mental milestones
- Faster gastric emptying with breastmilk
- Wide range of hormones and growth factors
- "Kangaroo" care provides warmth and comfort through skin-to-skin contact and opportunities for early breastfeeding.

22.3.16 Cleft lip or cleft palate

- A common birth defect that may occur separately or with other birth defects
- In severe cases of cleft palate, breastfeeding may not be possible, although the infant would still benefit greatly from breastmilk.
- An infant with a cleft lip can usually breastfeed even before surgery if the mother can find a way to use her thumb or her breast to fill in the defect and form a seal.
- Mother should be encouraged to begin breastfeeding as soon as possible, trying different positions.
- Feeding will be time consuming in the early weeks.
- The cleft palate (scissors) hold and modified football position can help

22.3.17 Neurological impairments (Down syndrome, keruicterus, neonatal meningitis)

- Breastfeeding provides special benefits to the neurologically impaired infant.
  - Improves neuromuscular coordination
  - Allows closeness between mother and infant
- A sick infant should breastfeed more frequently in small amounts.
- Patience is needed to feed the neurologically impaired infant.

22.3.18 Multiples

- Breastfeeding early and frequently is especially important.
- Mother should avoid bottles and pacifiers to establish a healthy milk supply and encourage the infants to suck effectively.
- Multiple infants can breastfeed simultaneously or separately.
- Several nursing positions are possible.
  - Combination cradle and football hold
  - Criss-cross, with both infants in cradle hold
  - Parallel hold
- Triplets and quadruplets can be breastfed. Infants need to breastfeed often and effectively.

Handout 22.1: Breastfeeding in Special Situations

Handout 22.1 BREASTFEEDING IN SPECIAL SITUATIONS

Sick infant

- Infant under 6 months: If the infant has diarrhea or fever, the mother should breastfeed exclusively and frequently to avoid dehydration or malnutrition.
- Breastmilk contains water, sugar and salts in adequate quantities, which will help the infant recover quickly from diarrhea.
- If the infant has severe diarrhea and shows any signs of dehydration, the mother should continue to breastfeed and provide oral rehydration salts (ORS) either with a spoon or cup.
- Infant older than 6 months: If the infant has diarrhea or fever, the mother should breastfeed frequently to avoid dehydration or malnutrition. She should also offer the infant bland food (even if the infant is not hungry).
- If the infant has severe diarrhea and shows any signs of dehydration, the mother should continue to breastfeed and add frequent sips of ORS.

Sick mother

- When the mother is suffering from headaches, backaches, colds, diarrhea, or any other common illness, she should CONTINUE TO BREASTFEED HER INFANT.
- The mother needs to rest and drink a large amount of fluids to help her recover.
- If the mother does not get better, she should consult a doctor and say that she is breastfeeding.

Premature infant

- Mother needs support for correct latch-on.
- Breastfeeding is advantageous for pre-term infants; supportive holds may be required.
- Direct breastfeeding may not be possible for several weeks, but expressed breastmilk may be stored for use by the infant.
- If the infant sleeps for long periods, he/she should be unwrapped to encourage waking and held vertically to awaken.
- The mother should watch the infant's sleep and wake cycle and feed during quiet-alert states.

Note: Crying is the last sign of hunger. Cues of hunger include rooting, licking movements, flexing arms, clenching fists, tensing body, and kicking legs.

Malnourished mothers

- Malnutrition does not change the composition of the milk significantly.
- Malnutrition can affect the total volume (amount) of milk produced.
- In extreme cases of famine, milk quality may decrease and supply may eventually decrease and stop.

Mothers separated daily from their infants

- The mother should express or pump milk and store it for use while separated from the infant; the infant should be fed this milk at times when he/she would normally feed.
- The mother should frequently feed her infant when she is at home.
- The mother who is able to keep her infant with her at the work site should feed her infant frequently.

Mothers who will be away from their infants for an extended period expresses her breastmilk. Caregiver feeds expressed breastmilk from a cup.

- The mother expresses breastmilk by following these steps:
    a. Wash hands
    b. Prepare a clean container
    c. Gently massage breasts in a circular motion
    d. Position her thumb on the upper edge of the areola and the first two fingers on the underside of the breast behind the areola
    e. Push straight into the chest wall
    f. Avoid spreading the fingers apart
    g. For large breasts, first lift and then push into the chest wall
    h. Roll thumb and fingers forward as if making thumb and fingerprints
    i. Repeat rhythmically: position, push, roll; position, push, roll
    j. Rotate the thumb and finger positions
- Mother stores breastmilk in a clean, covered container. Milk can be stored 8–10 hours at room temperature in a cool place and 72 hours in the refrigerator.
- Mother or caregiver gives infant expressed breastmilk from a cup. Bottles are unsafe to use because they are difficult to wash and can be easily contaminated.

Twins

- Breastfeeding twins does not depend on milk supply but on time and support to the mother.
- The mother can exclusively breastfeed both babies.
- THE MORE THE INFANT NURSES, THE MORE MILK IS PRODUCED.

Pregnancy

- THE MOTHER MAY CONTINUE TO BREASTFEED HER INFANT.

  Note: Some infants who breastfeed while their mother is pregnant may have more bowel movements than usual. This does not mean they have diarrhea. This is a normal reaction of the colostrum the mother is producing and will last only a few days.

Inverted nipples

- Detect during pregnancy

- Try to pull the nipple out and rotate (like tuning a radio).
- Make a hole in the nipple area of a bra. When a pregnant woman wears this bra, the nipple protrudes through the opening.
- If acceptable, ask someone to suckle the nipple.

Infants who refuse the breast

- Position the infant properly.
- Treat engorgement (if present).
- Avoid giving the infant teats, bottles, or pacifiers.
- Wait for the infant to be wide awake and hungry (but not crying) before offering the breast.
- Gently tease the infant's bottom lip with the nipple until he/she opens his/her mouth wide.
- Do not limit duration of feeds.
- Do not insist more than a few minutes if infant refuses to suckle.
- Avoid pressure to potential sensitive spots (pain due to forceps, vacuum extractor, clavicle fracture).
- Express breast milk, and give by cup

Medications

- Three things are known about drugs and human milk:
  1. Most drugs pass into breastmilk.
  2. Almost all medication appears in only small amounts in human milk, usually less than 1% of the maternal dosage.
  3. Very few drugs are contraindicated for breastfeeding women.

22.4 Materials and recommended reading

- Paper fish with a special maternal or infant situation written on the underside of each
- Flipchart and markers
- Handout: "Breastfeeding in Special Situations"
- Mohrbacher, Nancy, and Julie Stock. 2003. *The Breastfeeding Answer Book*. Schaumburg, IL: La Leche League International
- Lawrence, Ruth, and Robert Lawrence. 1999. *Breastfeeding: A Guide for the Medical Profession*. Philadelphia, PA: Mosby

SESSION 23: NUTRITIONAL STATUS OF WOMEN AND CHILDREN: TRADITIONS AND TRENDS

Duration: 1 hour

23.1 Introduction

This session gives participants background on the country situation analysis of women's and children's nutrition and looks at the impact of maternal nutrition on infant and child health.

23.2 Learning objectives

- Outline the national nutrition situation of children and women.
- Describe the implications of a women's nutrition status on her infant's health.
- Discuss traditional practices that influence pregnant and lactating women's nutritional status.
- Discuss other factors that affect women's nutritional status.

23.3 Training methods and content

- Make a brief **presentation** on a transparency of country statistics on maternal and child nutrition.
- Discuss Handout 23.1: "Major Causes of Child Deaths" and 23.2: "Age Pattern of Growth Faltering"
- Ask participants to **brainstorm** food beliefs and taboos related to pregnancy and lactation that influence women's nutritional status.
- Have participants form small **working groups** to **list** factors that affect women's and children's nutritional status and suggested interventions to promote optimal maternal and child nutrition.
- Lead a **discussion** and summary in plenary.

23.3.1 Nutrition situation of children in country

- Prematurity: __ percent
- Low birthweight: __ percent
- Stunting (height for age) indicating chronic malnutrition: __ percent
  - Severe stunting: __ percent
  - Stunting in infants under 3 months old: __ percent
- Wasting (weight for height) indicating acute malnutrition: __ percent
- Underweight indicating either chronic or acute malnutrition: __ percent

23.3.2 Major nutritional problems in the country

- Protein-energy malnutrition
- Micronutrient deficiencies
  - Vitamin A deficiency in children: __ percent
  - Vitamin A deficiency in women: __ percent
  - Iron deficiency in children: __ percent
  - Iron deficiency in pregnant women: __ percent

- Iodine deficiency: __ percent

➢ Malnutrition-related deaths of children
- 60% of global child deaths attributed to malnutrition
- More than 80 percent occur in children who are mildly or moderately underweight.
- Growth faltering occurs mainly during infancy (Handout 23.2), implying that prevention requires improvements in infant nutrition.
- Factors contributing to malnutrition-related deaths of children
  - Suboptimal breastfeeding practices
  - Poor quality of complementary foods
  - Detrimental feeding practices
  - Contaminated foods

See session on Growth Monitoring and Promotion.

Handout 23.1: Major Causes of Child Deaths
Handout 23.2: Age Pattern of Growth Faltering

23.3.3 Nutrition situation of women in the country

➢ Should be respected by health workers

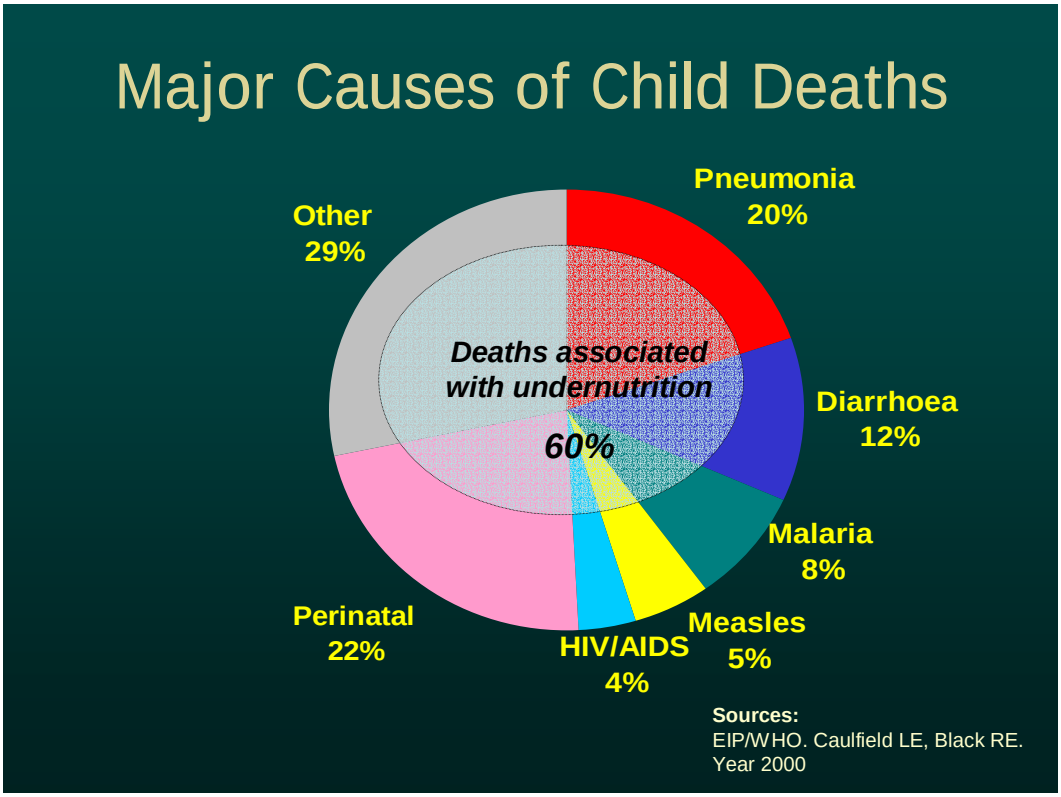
23.3.4 Major micronutrient deficiencies in the country

23.3.5 Common beliefs and taboos that influence nutritional status

➢ Should be respected by health workers

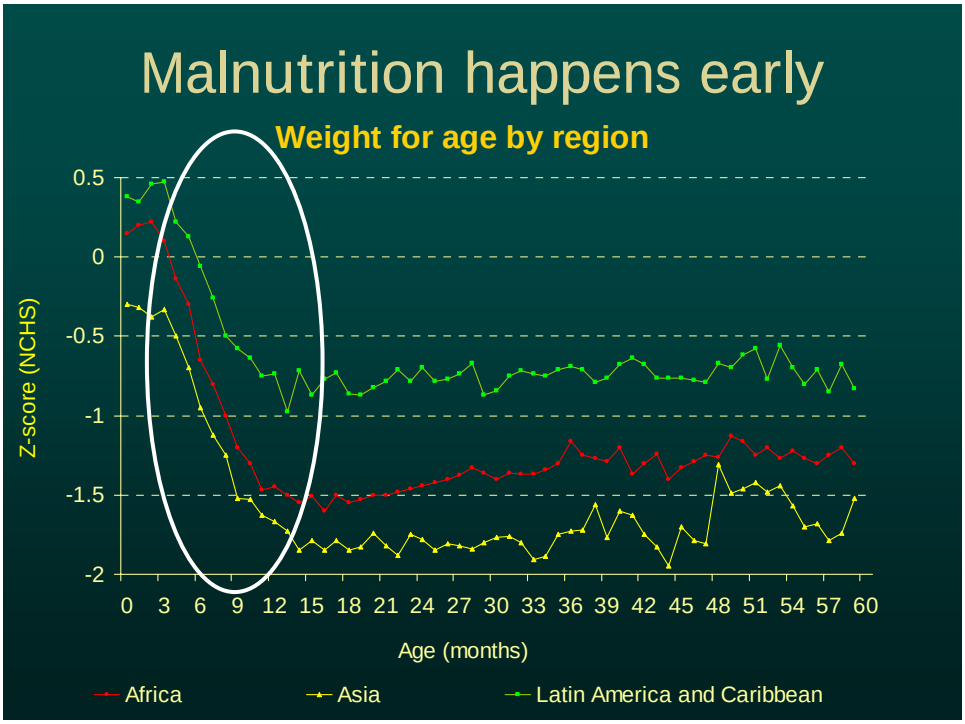
➢ Food beliefs relating to women
- During pregnancy
  - Eating eggs may cause an infant to be born without hair.
  - Pregnant women should not eat fish heads.
  - Pregnant women should not eat raw groundnuts.
  - Pregnant women should eat less so their infants will not be too big.
- Family should not eat until head of house is present.
- Women and children should eat last.
- Good food should be given to the husband.

Handout 23.1: MAJOR CAUSES OF CHILD DEATHS



Source: Caulfield and Black 2000 (EIP/WHO)

Handout 23.2: AGE PATTERN OF GROWTH FALTERING



- Food beliefs relating to children
  - Children should be given leftovers.
  - Children should not eat egg whites, only yolks.
  - Children should eat less than adults.
  - Children should not eat fish heads, which are for adults.
  - Gizzards should only be eaten by adults or household heads.
  - Boys should not eat okra, which weakens manhood.
  - Children should only eat gravy.

23.3.6 Factors affecting women's nutritional status

- Household food security
- Reproductive factors
- High fertility rate
- Adolescent pregnancy
- Traditional beliefs and practices
- Female empowerment
- Lactation
- Productive factors
- Community and social roles

23.3.7 Suggested interventions and strategies to promote maternal and child nutrition

- Package of essential MCH services
- Baby-Friendly Hospital Initiative
- Optimal infant feeding
- Growth monitoring and promotion
- Micronutrient supplementation (eating vitamin C-rich food with iron supplement enhances absorption of iron)
- Food processing, preservation, storage, and consumption
- Supplementary feeding
- Food fortification
- Immunization
- Oral rehydration salts (ORS)
- Information, education, and communication (IEC)
- Behavior change strategies

23.4 Materials and recommended reading

- Flipcharts and markers
- Transparencies
- Demographic and Health survey
- Handouts: "Major Causes of Child Death," "Age Pattern of Growth Faltering"
- Academy for Educational Development/Food and Nutrition Technical Assistance (FANTA). 2004. *HIV/AIDS: A Training Manual*. Washington, DC

- Riordan, Jan, and Kathleen Auerbach. 1999. *Breastfeeding and Human Lactation*. Sudbury, MA: Jones and Bartlett
- UNICEF, 2001. *State of the World's Children*. New York

SESSION 24: MATERNAL NUTRITION AND BREASTFEEDING

Duration: 1¼ hours

24.1 Introduction

Women's nutritional status is a major determinant of both maternal and infant health. Malnutrition is responsible for a wide range of negative short-term and long-term consequences for women, including increased reproductive risk, morbidity, and mortality. Women's nutritional status affects the morbidity and mortality of children through the impact of birth weight. In this session participants learn how current and past nutritional status determines the ease with which a woman conceives and carries an infant to term, her own and her infant's chance of survival and good health, and her capacity to breastfeed successfully.

24.2 Learning objectives

- Recognize the importance of maternal nutrition for pregnant and lactating women.
- Describe the consequences of maternal malnutrition for maternal and child health.
- Discuss the relationship between maternal nutrition and breastfeeding.

24.3 Training methods and content

- Ask participants the following **questions**:
  - "What are the consequences of maternal malnutrition for maternal and infant health?
  - "Can a malnourished mother breastfeed her infant?"
- Brainstorm health sector and maternal actions to ensure adequate food intake during pregnancy and lactation.
- Facilitate a **discussion** and summary of the answers in plenary.

24.3.1 Consequences of maternal malnutrition for maternal and infant health

- For maternal health
  - Increased risk of maternal mortality
  - Increased infections
  - Anemia
  - Compromised immune function
  - Lethargy and weakness
  - Lower productivity

- For infant health
  - Increased risk of fetal and neonatal death
  - Intrauterine growth retardation
  - Low birthweight
  - Pre-term birth
  - Compromised immune function
  - Birth defects

- Cretinism and reduced IQ

24.3.2 Infections and the dietary needs of women

- Infections put additional burdens on the dietary needs of women.
- Many infections, especially those with fever (e.g., malaria, HIV and AIDS), decrease appetite.
- Gastrointestinal infections reduce nutrient absorption.
- The metabolic stress of illness increases energy and nutrient needs.

24.3.3 Actions to improve maternal nutrition

- Essential health sector actions
  - Encourage increased food intake during pregnancy and lactation, when nutritional demands increase.
  - Encourage HIV-infected pregnant and lactating women to maintain energy and nutrition balance. HIV infection increases energy and nutrient needs.
  - Monitor women's weight gain.
  - Counsel women to reduce their energy expenditure.
  - Facilitate partner support for women's increased food intake and reduced workload.

- Maternal actions
  - Eat at least one extra serving of staple foods daily during pregnancy and the equivalent of an extra meal a day during lactation.
  - Gain at least 1 kg a month during the second and third trimesters of pregnancy.
  - Rest more during pregnancy and lactation.

24.3.4 Health care provider actions to improve women's micronutrient intake during pregnancy and lactation

- Ask women during antenatal, immediate post-partum, post-natal and family planning contacts about their diets and affordable food.
- Counsel women on ways to increase their consumption of fruits, vegetables, animal products, and fortified foods.
- Explain that increasing daily consumption of green leafy vegetables and yellow or orange fruits will improve women's micronutrient status.
- Explain that increased vitamin C consumption from fruits and vegetables will enhance the iron bioavailability of other foods.
- Explain that animal products, when they are affordable, are excellent sources of protein, fat, and micronutrients.
- Encourage women to consume iodized salt to meet their iodine needs during pregnancy.

24.3.5 Maternal nutrition and breastfeeding

- Unless extremely malnourished (in famine conditions), virtually all mothers can produce adequate amounts of breastmilk.
- Giving a malnourished breastfeeding mother more food is safer, easier, and cheaper than exposing her infant to risks associated with breastmilk substitutes.
- Although some maternal micronutrient deficiencies can affect the quality of breastmilk, more risks are associated with breastmilk substitutes.
- Lactation places high demands on maternal stores of energy and protein, which need to be replenished so the mother's nutritional status is not depleted.
- Delaying the first birth and practicing adequate birth spacing help ensure adequate maternal stores for healthy pregnancy and lactation.
- Breastfeeding provides health benefits to the mother as well as to the infant.

24.4 Materials and recommended reading

- Overhead projector
- Transparencies
- Academy for Educational Development/ LINKAGES Project. 2002. "Breastfeeding and Maternal Nutrition: Frequently Asked Questions." Washington, DC
- UNICEF. 1991. *State of the World's Children*. New York

SESSION 25: INFANT FEEDING OPTIONS IN THE CONTEXT OF HIV

Duration: 1 hour

25.1 Introduction

UNAIDS, UNFPA, UNICEF, and WHO (2003) have declared that "All women and men, irrespective of their HIV status, have the right to determine the course of their reproductive life and health and to have access to information and services that allow them to protect their own and their family's health. Where the welfare of children is concerned, decisions should be made that are keeping with children's best interest." In this session participants learn about the UN recommendations for infant feeding in areas affected by HIV.

25.2 Learning objectives

- Describe UN recommendations for infant feeding in the context of HIV
- Describe infant feeding options for HIV positive women.
- List questions to ask mothers before recommending replacement feeds.

25.3 Training methods

- Ask participants to form four **working groups** to answer the question, "What infant feeding options does a mother have in an area affected by HIV?"
- Ask the participants to **report** the results and **discuss** in them in plenary.
- **Clarify** infant feeding terms in plenary.
- Make a brief **presentation** of UN guidelines and recommendations for infant feeding in areas affected by HIV.

2

25.3.1 Definition of terms (see also Glossary)

- Artificial feeding: feeding an infant a breastmilk substitute
- Breastmilk substitute: any food marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not it is suitable for that purpose
- Cessation of breastfeeding: stopping breastfeeding
- Commercial infant formula: a breastmilk substitute formulated industrially in accordance with applicable Codex Alimentarius standards to satisfy the nutritional requirements of infants up to 6 months old
- Complementary food: any manufactured or locally prepared food suitable as a complement to breastmilk or infant formula when the latter are no longer sufficient to satisfy the infant's nutritional requirements (previously referred to as weaning food or breastmilk substitute)
- Cup feeding: feeding an infant from an open cup
- Exclusive replacement feeding: giving an infant a breastmilk substitute (commercial infant formula or home-prepared formula only, with no breastmilk
- HIV testing and counseling: Testing for HIV that is voluntary, confidential, based on fully informed consent, and accompanied by pre- and post-test

counseling; the term encompasses the terms *voluntary counseling and testing* and *voluntary and confidential counseling and testing*

- Home-prepared formula: infant formula prepared at home from fresh or processed animal milks suitable diluted with water and with sugar added
- Infant: a child from birth through 12 months of age
- Mother-to-child transmission (MTCT) of HIV: Transmission of HIV to an infant from an HIV-positive woman during pregnancy, labor and delivery, or breastfeeding (also referred to as vertical transmission)
- Replacement feeding: feeding a child who is not receiving any breastmilk with a diet that provides all the needed nutrients (during the first 6 months, this should be a suitable commercial or home-prepared breastmilk substitute with micronutrient supplements)
- Universal precautions: simple guidelines for preventing transmission of blood-borne infections that are applicable in all health care settings and the home
- Wet nursing: breastfeeding of an infant by a woman other than the mother who is breastfeeding her own child

25.3.2 Infant feeding options for HIV-positive mothers[2]

- Option 1: Breastmilk only until replacement feeding can meet AFASS (acceptable, feasible, affordable, sustainable, and safe) criteria

  - Initiate breastfeeding within 1 hour after birth.
  - Breastfeed exclusively.
  - Position and attach the infant on the breast properly.
  - Breastfeed the infant frequently, day and night.
  - Breastfeed long enough to remove milk at each feed.
  - If you will be away from the infant, express milk and leave it behind to be given to the baby by cup.
  - Store expressed milk in a clean, covered container. Milk can be stored for 8 hours at room temperature and for up to 72 hours in a refrigerator.
  - If you have breast conditions, stop breastfeeding from the infected breast and seek prompt treatment.
  - If you have cracked nipples, mastitis (inflammation of the breast), abscess, or Candida (yeast infection of the nipple and breast), express milk and either discard it or heat-treat it before feeding.
  - Stop breastfeeding as soon as replacement foods are acceptable, feasible, affordable, sustainable, and safe or the infant begins to eat other foods at 6 months.

[2] UNAIDS, UNFPA, UNICEF, and WHO, *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*, 2003 and Academy for Educational Development/LINAKGES, forthcoming, "Infant Feeding Options in the Context of HIV"

- Option 2: Expressed, heat-treated breastmilk

  - Express milk.
  - Heat expressed milk to a boil.
  - Cool the milk immediately by standing it in cold water.
  - Give the infant the milk by cup.
  - Use the heat-treated breastmilk within 1 hour.

- Option 3: Wet nursing (breastfeeding by someone other than the biological mother)

  - Identify a woman willing to breastfeed the infant without pay.
  - Ask the woman to take an HIV test. The woman should breastfeed the infant only if she tests HIV-negative.
  - Practice all optimal breastfeeding practices and breastfeed the infant as long as needed.
  - Give the wet nurse information to enable her to practice safer sex.
  - Give the wet nurse breastfeeding support to prevent and treat cracked or bleeding nipples, mastitis, abscess, or Candida

Note: There is a small chance that an HIV-positive infant who has a sore in the mouth can pass the virus to a wet nurse, and than an HIV-positive infant can pass the virus to a wet nurse who has a breast condition.

- Option 4: Commercial infant formula (replacement feeding)

- Option 5: Home-modified animal milk (replacement feeding)

  - Give the infant foods other than breastmilk from birth (no breastfeeding). Safe replacement feeding requires access to:
    - A reliable and affordable supply of the selected replacement feeds
    - Nutritionally adequate commercial infant formula or home-modified animal milk, especially for the first 6 months.
    - Clean water to prepare the food
    - Clean utensils
    - Adequate supply of fuel
    - Good hygiene and good sanitation
    - Time to prepare and give the infant the selected foods
    - Ability to read the instruction on the selected commercial infant formula package

  Note: Preparing food for the infant in unhygienic conditions can harm the infant. The cost of replacement feeds and ability of the family to maintain the required hygiene are the key challenges facing HIV-positive mothers who chose to put their infants on exclusive replacement feeding.

25.3.3 Issues to consider in replacement feeding

- Must meet provide all infant's nutritional requirements as completely as possible.
- Breastmilk substitutes lack anti-infective antibodies and growth hormones, and because of possible contamination during preparation and storage, require access to clean water.
- Breastmilk substitutes require fuel and time for preparation.
- Buying enough breastmilk substitutes to feed an infant can cost a considerable proportion of family income.
- Because women who do not breastfeed lose the child-spacing benefits of breastfeeding, they need access to affordable and appropriate family planning methods.
- Infants who do not breastfeed can lack psychosocial stimulation and bond less satisfactorily with their mothers.
- Where breastfeeding is the norm, women who do not breastfeed may be stigmatized and marginalized.
- Replacement feeding should only be practiced if the potential risk of HIV transmission through infected milk outweighs the risk of replacement feeding so that infant morbidity and mortality do not increase.

Handout 25.1: Risks of Artificial Feeding

Handout 25.1 RISKS OF ARTIFICIAL FEEDING

"The risk of replacement feeding should be less than the potential risk of HIV transmission through infected breastmilk, so that infant illness and death do not increase; otherwise, there is no advantage in replacement feeding."

WHO/UNICEF, *HIV and Infant Feeding: A Guide for Health Care Managers and Supervisors*, 1998

25.3.3 Breastmilk banks

- Where feasible, generally used as a source of breastmilk for a short time, for example, for sick or low birthweight newborns
- Not usually an option to meet the nutritional needs of an infant for a long period
- Because of the risk of HIV transmission through unpasteurized pooled breastmilk from unscreened donors, should be considered when established and functioning in accordance with standard procedures and safety precautions
- Require screening of donors for HIV and pasteurization of donated milk

25.3.3 Key infant feeding recommendations

- Exclusive breastfeeding for 6 months for all women who are HIV negative and of unknown status
- Exclusive breastfeeding for HIV-positive women who choose to breastfeed
- Counseling of mothers who choose to stop breastfeeding early about appropriate and safe replacement feeding options and their implications
- Immediate treatment of breastfeeding infants with oral lesions or thrush and advice to mother to express and feed breastmilk by cup
- For mothers who develop breast conditions, feeding on the unaffected breast while expressing milk from the affected breast to maintain milk flow
- Exclusive feeding of replacement food of choice if mother chooses to use replacement feed
- Support for mother who chooses to replacement feed and demonstration of how to prepare the food safely
- Advice to mothers who develop AIDS-related conditions to visit a health center immediately for treatment

25.3.6 Challenge: How to implement UN recommendations in the household?

25.4 Materials and recommended reading

- Handout: “Risks of Artificial Feeding”
- Academy for Educational Development/LINAKGES Project. Forthcoming. “Infant Feeding Options in the Context of HIV.” Washington, DC
- UNAIDS, UNFPA, UNICEF, and WHO. 2003. *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*. Geneva
- UNAIDS, UNICEF, and WHO. 1997 “HIV and Infant Feeding: A Policy Statement”
- WHO. 1999. “HIV in Pregnancy: A Review.” Occasional Paper No. 2. WHO/CHS/RHR/99.15. Geneva

SESSION 26: REPLACEMENT FEEDING: TECHNIQUES AND PRACTICE

Duration: 1 hour

26.1 Introduction

WHO (2000) states that "Breastfeeding is normally the best way to feed an infant. A woman infected with HIV, however, can transmit the virus to her child during pregnancy, labour or delivery, or through breastfeeding…Given the need to reduce the risk of HIV transmission to infants while minimizing the risk of other causes of morbidity and mortality, the UN guidance states that 'when replacement feeding is acceptable, feasible, affordable, sustainable and safe, avoidance of all breastfeeding by HIV-infected mothers is recommended. Otherwise, exclusive breastfeeding is recommended during the first months of life.'" In this session participants learn how HIV-infected mothers who decide not to breastfeed can feed their infants."

26.2 Learning objectives

- Describe how milks can be modified to make them suitable for infants less than 6 months old.
- Demonstrate how to prepare fresh cow's milk, infant formula, and full cream powdered for replacement feeding.

26.3 Training methods and content

- Ask participants to **choose** milks and formulas suitable for replacement feeding from a table on which local milks (fresh, liquid, powdered, whole, low fat) and infant formulas are displayed.
- **Demonstrate** how to prepare a replacement feed from cow's milk.
- Take the participants to the **field** and divide them into three **groups**. Instruct each group to prepare cow's milk formula. Instruct the first group to use an electric burner to prepare the formula, the second group to use charcoal, and the third group to use firewood. Show each group how to **measure** the correct amount of milk, boiled water, and sugar and to track the time needed for each step.
- Facilitate a **discussion** and summary in plenary of each group's calculation of the measurements of the ingredients and the timing of each step.

26.3.1 What can be used for replacement feeding?

- Types of breastmilk substitutes
  - Commercial infant formula prepared according to instructions on tins
  - Home-prepared formula
    - Fresh cow's milk or liquid milks
    - Full-cream powdered milk

- Recipe (for an infant weighing 3 kg)
  - 150 ml/kg of body weight per 24 hrs
  - 3 kg X 150 ml = 450 ml in 24 hours
  - 450 ml ÷ 8 = 56 ml per feed

- 1 g of sugar for 120 ml feed (varies depending on spoon size)
- 10 g (2 teaspoons) of sugar for 150 ml feed (depending on spoon size)

Handout 26.1: Correct Amounts of Milk Needed for Infant in First 6 Months

Handout 26.1: CORRECT AMOUNTS OF MILK NEEDED FOR INFANT IN FIRST 6 MONTHS

Age (months)	Milk feed	Cow's milk formula needed/day
1	450 ml/day	300 ml milk + 150 ml water + 30 g sugar
2	600 ml/day	400 ml milk + 200 ml water + 40 g sugar
3–4	750 ml/day	500 ml milk + 250 ml water + 45 g sugar
5–6	900 ml/day	600 ml milk + 300 ml water + 56 g sugar
Total for 6 months	92 l milk + 9 kg sugar	

26.3.2 Demonstration of how to prepare replacement feeding

26.4 Materials and recommended reading

- Infant formula
- Liquid and powdered cow's milk (whole and low fat)
- Sugar
- Graduated jugs
- Spoons of different sizes
- Cups
- Pots
- Handout "Correct Amounts of Milk Needed for Infant in First 6 Months"
- Academy for Educational Development/ LINKAGES Project. 2001. "Breastfeeding and HIV/AIDS: Frequently Asked Questions". Washington, DC
- WHO, UNICEF, and UNAIDS. 2000. "New Data on the Prevention of Mother-to-Child Transmission of HIV and Their Policy Implications: Conclusions and Recommendations, WHO Technical Consultation on Behalf of the UNFPA/UNICEF/WHO/UNAIDS Inter-Agency Task Team on Mother-to-Child Transmission of HIV." WHO/RHR/01.28. Geneva, October 11–13

SESSION 27: COMPLEMENTARY FEEDING OF CHILDREN 6–24 MONTHS OLD

Duration: 2¼ hours

27.1 Introduction

Complementary feeding involves helping an infant make a step-by-step transition from exclusive breastfeeding to consuming foods in the family diet. The term "complementary feeding" indicates the importance of continuing to breastfeed along with giving such foods. This session provides information on the importance of introducing complementary foods at an appropriate age.

27.2 Learning objectives

- Define terms related to complementary feeding.
- Describe the dietary needs of children 6–9 months old, 9–12 months old, and 12–24 months old.
- Discuss suitable foods for children 6–24 months old and complementary mixtures (basic and multi-mixes).
- List the possible consequences of introducing complementary food too early or late.
- Discuss complementary feeding for the infant who is replacement fed.
- Discuss feeding concerns related to HIV and follow-up care.

27.3 Training methods and content

- Give each participant a local food (solid or liquid, including water) and asks him or her to place the food on one of three tables labeled "0–6 months," 6–9 months," and "9–12 months," depending on the age at which it should be given to an infant.
- Ask the participants to **discuss** their choices.
- **Discuss** combinations of foods suitable for infants: what can be added to staple foods that are local, affordable, available, and accessible.
- Ask the participants to **brainstorm** four factors to consider in choosing appropriate complementary foods (quantity, quality, consistency, and frequency).
- Ask the participants to form **groups** of three to **role-play** a mother, counselor, and observer. Ask the participants role-playing the counselor to suggest (**negotiate**) appropriate complementary feeds for an infant of 6–9 months and 9–12 months to the participant role-playing the mother. The participant role-playing the observer is asked to evaluate the quality of counseling. The participants are asked to rotate roles.
- Ask participants the **question**, "How does complementary feeding differ for infants who have been breastfed and infants who have been replacement fed?"
- **List** feeding concerns related to HIV for infants older than 6 months.

27.3.1 Definition of terms (see also Glossary)

- Active feeding: Encouraging a child to eat by talking to the child, praising, and helping the child put food on the spoon

- Complementary feeding: Providing other foods or liquids along with breastmilk from 6 to 24 months
- Complementary food: Any manufactured or locally prepared food given to an infant as a complement to breastmilk or infant formula (or animal milks) when those foods are no longer sufficient to satisfy the infant's nutritional requirements (previously referred to as weaning food or breastmilk substitute)
- Micronutrients: Nutrients required by the body in small quantities (e.g., vitamin A, iron, and iodine)
- Nutrients: Substances that come from food and are needed by the body (i.e., carbohydrates, proteins, fats, minerals, and vitamins)
- Nutritional needs: Amounts of nutrients needed by the body for normal functioning, growth, and health
- Porridge: Cereal flour, grated cassava or other roots, or grated fruit cooked with water until it is smooth and soft
- Staples: The main foods people eat, usually grains or cereals, starchy roots, and fruits

27.3.2 Complementary feeding and sustained breastfeeding

- Breastmilk provides
  - Complete nutrition for 6 months of life
  - Half an infant's nutritional needs from 6 to 12 months
  - Up to one-third of a child's nutritional needs from 12 to 24 months

- The need for complementary foods
  - As infants grow and become more active, breastmilk alone is not sufficient to meet their nutritional needs.
  - If the gap between the child's total nutritional needs and the nutrition provided by breastmilk is not filled, the child will grow slowly or stop growing.
  - Complementary foods that provide plenty of iron are needed to fill the iron gap from 6 months of age so that the child does not become anemic. Because the iron gap is greatest between 6 and 12 months, the risk of anemia is highest in this age group.
  - The quantity of food needed increases as the child gets older.

- Kinds of complementary foods
  - Specially prepared food
  - Family foods modified t make them easy for a child to eat

- Introduction of complementary foods
  - Best introduced at 6 months
  - Dangers of introducing complementary foods too early
    - The child does not need these foods, which may displace breastmilk, making the child take less breastmilk and the mother less able to produce milk, and meet the child's nutritional needs.

- In the context of HIV, introducing complementary foods too early Infant takes less breastmilk and mother produces less, making it more difficult to meet the infant's nutritional needs.
- The infant receives less of the protective factors in breastmilk, so risk of illness increases.
- The risk of diarrhea increases.
- The risk of allergies increases.
- The infant's needs are not met by thin, watery porridges or soups, which fill the stomach but provide fewer nutrients than breastmilk.
- The risk of becoming pregnant increases for mothers who breastfeed less frequently.

- Dangers of introducing complementary foods too late
  - The child does not get extra food needed to fill the energy and nutrient gaps.
  - The child stops growing or grows slowly.
  - The risk of malnutrition and micronutrient deficiencies increases.

➢ Good complementary foods
- Rich in energy, protein, and micronutrients (particularly iron, zinc, calcium, vitamin A, vitamin C, and folate)
- Clean and safe
- Not too peppery, salty, or sugary
- Easy for the child to eat
- Liked by the child
- Locally available and affordable
- Easy to prepare

➢ Available and affordable foods that can be used for complementary feeding
- Staple foods
  - Cereals such as maize, rice, and wheat
  - Tubers such as cassava
- Pulses and oil seeds
  - Groundnuts
  - Cashew nuts
  - Beans
  - Soybeans
  - Pumpkin seeds
  - Sunflower seeds
  - Watermelon seeds
- Animal foods
  - Beef
  - Pork
  - Lamb
  - Wild game

  - Chicken
  - Liver
  - Kidney and other offal
  - Insects
  - Chicken
  - Fresh and dry fish
  - Fresh milk
  - Dried skim milk
  - Eggs
- Dark green leafy vegetables
  - Spinach
  - Amaranth
  - Pumpkin leaves
  - Sweet potato leaves
  - Cassava leaves
  - Rape
- Orange vegetables and fruits
  - Pumpkin
  - Carrots
  - Sweet potatoes
  - Mangos
  - Paw-paws
  - Oranges
  - Some wild fruits
- Oils and fats
  - Margarine
  - Butter
  - Fat from meat
  - Cooking oil
  - Palm oil

➢ How much and how often to feed a child complementary foods

- The taste of a new food may surprise a child. Start by giving 1–2 teaspoons and gradually increase the amount and variety.
- The appropriate number of feeds depends on the energy density of the local foods and the usual amounts consumed at each feed.
- Recommended complementary feeding: 2–3 times a day for infants 6–8 months old and 3–4 times a day for infants and young children 9–24 months old.
- Give infants a variety of family foods by 9 months.
- Give small children small feeds frequently throughout the day.
- At first offer soft food, then mashed food, and then, when the child can chew, food cut into small pieces.
- Offer nutritious snacks (foods eaten between meals, usually self-fed, convenient, and easy to prepare) 1–2 times a day.

- Continue to breastfeed often.
- Give children their own portions and plates.
- Encourage and help young children to eat (active feeding).

27.3.2 Feeding during illness

- Increase the number of feeds.
- Offer small amounts of food frequently (every 2 hours).
- Gently encourage the child to eat even if not hungry.
- Give soft foods, especially if the mouth or throat is sore.
- Give extra fluids if the child has diarrhea or fever.
- Give foods the child likes.
- Feed when the child is alert, not sleepy.
- Make the child comfortable before feeding, for example by clearing a stuffy nose..

27.3.3 Feeding concerns related to HIV

- An HIV-infected mother should stop breastfeeding as soon as replacement feeding is acceptable, feasible, affordable, sustainable, and safe.
- There is a balance of risks between HIV transmission and death resulting from artificial feeding. In many environments replacement feeding should be recommended after 6 months, when replacement feeding is also easier and more affordable for the mother.
- A mother should continue to provide animal milk as part of the replacement diet until her infant is at least 1 year old.
- If milk is not part of the child's diet after 1 year, the mother should provide sufficient amounts of other foods rich in protein, calcium, and vitamin A.
- Children of HIV-infected mothers may be at increased risk of illness if not breastfeeding or may be infected with HIV and in need of extra care.
- A child may get receive less care from a mother with HIV opportunistic infections and risk malnutrition.
- A mother who is not breastfeeding may become pregnant, which can affect the feeding of the young child.
- Household illness and death can mean unemployment and less money to buy food.
- Older children may be responsible for caring for younger children if the parents are sick or dead.

27.4 Materials and recommended reading

- Flipcharts and markers
- Local foods (at least one per participant)
- Signs marked "0–6,""6–9," and "9–12"
- Cards marked "0–6," "6–9," and "9–12"
- UNICEF. 1991. *State of the World's Children*. New York

SESSION 28: GROWTH MONITORING AND PROMOTION (GMP)

Duration: 1 hour

28.1 Introduction

The role of growth monitoring and promotion in child survival has been often underestimated. Most parents stop taking their children for growth monitoring after the child's immunization schedule is completed. This session gives participants an idea of the role of growth monitoring in promoting child growth and health.

28.2 Learning objectives

- Define growth monitoring and promotion (GMP).
- List the essential elements of GMP.
- Explain the need for effective communication during a GMP session.
- Explain the importance of referrals.
- Explain the importance of GMP in the context of HIV.

28.3 Training methods and content

- Ask participants to **brainstorm** definitions of growth monitoring and promotion and why it is important.
- Ask participants to form small **working groups** to list the goals and components of growth monitoring and promotion.
- In plenary ask the groups to **report** their discussions.
- **Demonstrate** an interaction between a counselor and a mother in an area affected by HIV and AIDS whose infant is not gaining weight using the growth monitoring card (infant health carnet). **Demonstrate** the IPALAF method: **i**dentify the **p**roblem, discuss **al**ternatives, encourage **a**ction, and **f**ollow up.
- Instruct participants to form **groups** of three to role-play two mothers and a health worker. Ask the participant role-playing the health worker to **practice** a similar interaction with the participant role-playing mothers whose infant 1) is growing satisfactorily and 2) is failing to grow.
- Facilitate a group **discussion and summary** in plenary.

28.3.1 Definition of terms (see also Glossary)

- Growth monitoring: Regular weighing of a child and charting or plotting of the weight on an under-5 growth card
- Growth promotion: Using information from growth monitoring to counsel and motivate families to improve or maintain their children's growth

28.3.2 Importance of growth monitoring and promotion (GMP)

- To detect slowed growth early and take correct actions

28.3.3 Main goals of GMP

- To provide families with information on the growth of their children
- To prevent malnutrition through counseling mothers and caretakers to take appropriate actions to maintain or improve children's health.
- To integrate other nutrition and health promotion activities
  - Vitamin A supplementation
  - Deworming
  - Use of iodized salt
  - Use of treated bednets
  - Use of safe (boiled or chlorinated) water

28.3.4 Components of GMP package

- Essential activities
  - Regular weighing of child and plotting of weight on child's card
  - Using the information to counsel on infant feeding
  - Following up child's progress
  - Immunizing
  - Providing nutrition and health education
  - Providing routine vitamin supplementation

- Suggested weighing schedule
  - Weigh all children under 24 months every month.
  - Weigh children 25–60 months every 3 months.

28.3.5 Effective counseling

- Show respect for the mother's assessment of the situation and empathize with difficulties she expresses, such as the child's poor appetite.
- Ask about and listen to the mother's practices and situation, paying attention to her and appreciating her point of view.
- Praise appropriate practices, whether the child has gained adequate weight or not.
- Offer information and negotiate changes specific and relevant to the family situation, helping the mother understand what needs improving and allowing her to choose among available options.
- Ask about problems with the counseling, discuss the mother's doubts about or resistance to any suggestions, and explain concepts such as exclusive breastfeeding.
- Ask the mother to explain what changes she will make to check her understanding.
- Refer and follow up children with
  - Acute or chronic illness, for medical care
  - Failure to gain weight for 3 months
  - Weight loss
  - Mother with a breastfeeding problem

- Social and family problems (for example, being orphaned)
- Failure to attend 2 consecutive monthly growth monitoring sessions
- Discharge from hospital for malnutrition

28.3.6 Importance of GMP in the context of HIV

- Can demonstrate the importance of adequate and appropriate feeding in the context of HIV, for example, exclusive breastfeeding or artificial feeding during the first 6 months of life
- Is more important for children of HIV-positive mothers, especially those who are replacement fed
- Is important to check children who are not gaining enough weight for illness and refer for treatment immediately if necessary. Find out from the caretaker how she is feeding the child and help her to feed child appropriately, adequately, and frequently.

28.4 Materials and recommended readings

- Flipcharts, markers, and masking tape
- Child's health carnet

SESSION 29: CODE OF MARKETING OF BREAST-MILK SUBSTITUTES

Duration: 1 hour

29.1 Introduction

Because infants are vulnerable to infection in the early months of life, inappropriate feeding practices, including the unnecessary and improper use of breastmilk substitutes, requires special attention. This session examines the importance of the Code of Marketing of Breast-Milk Substitutes, especially in the context of HIV.

29.2 Learning objectives

- Define terms related to the Code of Marketing of Breast-Milk Substitutes.
- Discuss the aim and scope of the Code.
- Discuss the relevance of the Code in the context of HIV.
- Discuss implementation and monitoring of the Code.

29.3 Training methods and content

- Make a **presentation** on the International Code of Marketing of Breast-Milk Substitutes.
- Ask the participants to **discuss** implementation of the articles of the Code in their service delivery areas in the context of HIV.

29.3.1 Definition of terms (see also Glossary)

- Breastmilk substitute: Any food or article marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not suitable for that purpose
- Code of Marketing of Breast-Milk Substitutes: Instrument that sets out responsibilities of the infant food industry, health workers, national governments, and concerned organizations in relation to marketing of designated products
- Designated products: infant formula, follow-up formula, complementary food, any other breastmilk substitutes, feeding bottles, teats, pacifiers, and cups with spouts

29.3.2 Aim of the Code of Marketing of Breast-Milk Substitutes

- To contribute to providing safe and adequate nutrition for infants by protecting and promoting breastfeeding and ensuring the proper use of breastmilk substitutes, when necessary, based on adequate information and through appropriate marketing and distribution

29.3.3 Scope of the Code

- Applies to marketing and related practices of breastmilk substitutes, including infant formula; other milk products, foods and beverages, including bottle fed complementary foods, when marketed or otherwise represented to be suitable with or without modification for use as a partial or total replacement of breastmilk; and feeding bottles and teats. Also applies to their quality and availability and to information concerning their use.

29.3.4 Articles of the Code

- No public advertising
- No free samples to mothers
- No contact of mothers by company representatives
- No promotion of formula products in health care systems or facilities
- No free or subsidized supplies of breastmilk to hospitals
- No gifts or personal samples to health workers
- No words or pictures idealizing artificial feeding
- Only scientific and factual information given to health workers
- All information on artificial feeding including explanation of benefits and superiority of breastfeeding and costs and hazards of artificial feeding
- No advertising of formula products on donated equipment
- No donations (free or low-cost supplies) in any part of health care system
- No display of products within scope of the Code in health facilities
- Health worker instructions on use of infant formula only to mothers or family members who need to use it
- Clear explanation of hazards of improper formula use
- Responsibility of donors and concerned institutions or organizations to ensure continual supply for infants who need formula

29.3.5 The Code and HIV

- The purpose of the Code is to contribute to safe and adequate nutrition for all infants, regardless of their HIV status. Every child has a right to good health and nutrition.
- HIV-infected parents have the right to make infant feeding choices based on unbiased scientific and factual information.
- The need to use artificial feeding as a means to prevent post-natal MTCT should be recognized.
- The Code aims to regulate the distribution of free or low-cost supplies of breastmilk substitutes to help avoid diversion or spillover to infants who would benefit from breastfeeding.
- The Code aims to protect artificially fed infants by ensuring that product labels carry the necessary warnings and instructions for safe preparation and use.
- The Code aims to ensure that replacement feeding choices are made on the basis of independent medical advice rather than commercial pressure.
- The Code does not try to stop all marketing of infant formula and other infant product. Instead, it seeks to stop activities to persuade people to use breastmilk substitutes or influence their choice not to breastfeed.
- The Code does not prevent governments from making free or subsidized breastmilk substitutes available to HIV-infected mothers when the government has purchased them.

29.3.6 The responsibility of health professionals

- Continue to promote, protect, and support breastfeeding for mother who are HIV negative, do not know their status, or are HIV positive and have chosen to breastfeed.
- Learn how to counsel HIV-positive mothers about the advantages and risks of various infant feeding options and allow them to make informed decisions.
- Teach HIV-positive mothers who have chosen not to breastfeed how to use replacement feeds.
- Encourage non-breastfeeding mothers to use cups to feed their infants.
- Remove any advertisements, promotional materials, or other items bearing brand names from health facilities.
- Do not allow representatives of infant food companies to visit health care facilities.
- Refuse to accept free samples or low-cost supplies of infant formula or equipment.
- Do not give free samples or promotional materials to mothers.
- Refuse to accept or use gifts (e.g., pens, calendars, diaries) from representatives of infant food companies.
- Avoid accepting invitations, sponsorship of conferences, scholarships, or funding for research projects from infant formula companies.

29.4 Materials and recommended readings

- Transparencies
- WHO. 1981. *International Code of Marketing of Breast-Milk Substitutes*. Geneva
- National Code for Marketing of Breast-Milk Substitutes

SESSION 30: COMMUNITY SUPPORT SYSTEMS, ROLE OF MEN, AND REPRODUCTIVE HEALTH IN RELATION TO INFANT FEEDING AND HIV

Duration: 4¼ hours

30.1 Introduction

Community support is critical to sustain an integrated PMTCT project. This session examines the types of support needed for infant and child feeding and PMTCT and takes participants on a visit to community support groups who provide counseling and services for people living with HIV and AIDS.

30.2 Learning objectives

- Identify types of support needed for infant and young child feeding in areas affected by HIV.
- List types of support systems in the community.
- Describe strategies that can be used to establish a support system.
- Discuss male involvement in PMTCT.

30.3 Training methods

- Take participants to **visit** a community support group of men and women who provide services or counseling to people with HIV and AIDS and discuss community support systems and male involvement with the members. Ask the members of the group to **share** information about how their support system was established.
- Facilitate a **discussion** and summary of the group's strategies for establishing community support for people living with HIV and AIDS.

30.3.1 Kinds of support for HIV-positive mother and her partner

- Support for infant feeding options
- Psychological support against stigma if not breastfeeding or if weaning early
- Follow up of Nevirapine prophylaxis for infant
- Support to caregivers and adoptive parents and family (home-based care)

30.3.2 Types of support systems

- Community
  - Mother/father support groups
  - Neighborhood health committee (growth monitoring, home-based care, community-based distribution)
  - Mother-to-mother support group (peer counseling)
  - Nongovernmental and community-based organizations
  - Informal information, support and assistance to prevent and solve breastfeeding problems
  - Community involvement in GMP
  - Socialization and involvement of youth (Youth Corners)
  - Involvement of children
  - Involvement of males

- Health worker
  - Professional associations and individuals
  - Government-planned support
    - Networks of national development groups, clubs, breastfeeding associations
    - Health services (especially public health centers and trained traditional birth attendants)
    - Baby-Friendly Hospital Initiative

30.3.3 How to establish support systems

- Requires combined strategies
  - Implement and monitor supportive policies.
  - Involve community through participatory learning action (PLA) to identify needs and perceptions (may be related to economics and survival rather than health).
  - Foster genuine partnership and tap existing community resources.
  - Respect and listen to community norms.
  - Use existing and acceptable structures, formal or informal.
  - Encourage networking and collaboration to add strength of support groups
  - Build capacity and skills of support group members.
  - Ensure a good relationship between health workers and community service providers.
  - Mentor and supervise.

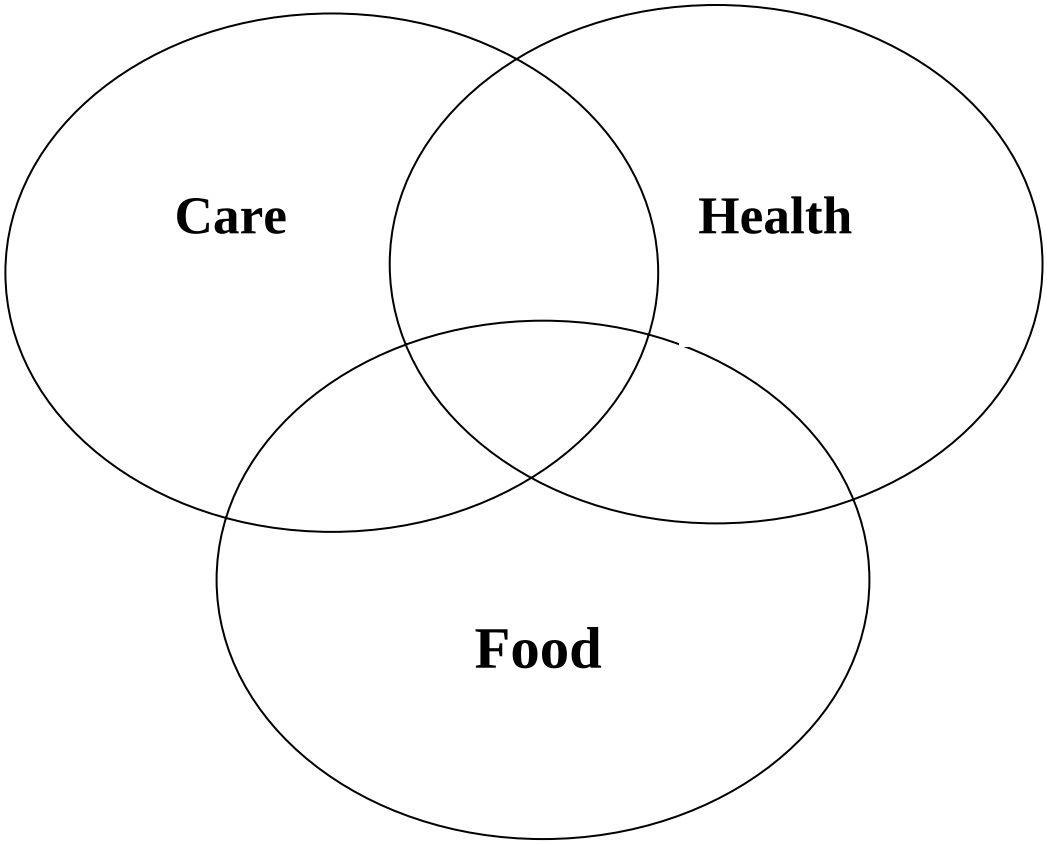
  Handout 30.1: Community Support for Infant Feeding Is about…
  Handout 30.2: Support for a Working Mother
  Handout 30.3: Social Support System
  Handout 30.4: Modern and Nontraditional Support

- Advocate for supportive policies.
- Educate people on nutritional needs of infants, emphasizing consequences of inadequate food intake.
- Involve family and community to support mother.
- Address social and economic factors, fostering networking with income-generating organizations, water and sanitation agencies, and other donor agencies.
- Seek support from donor community.
- Research shows that support improves optimal infant feeding practices.

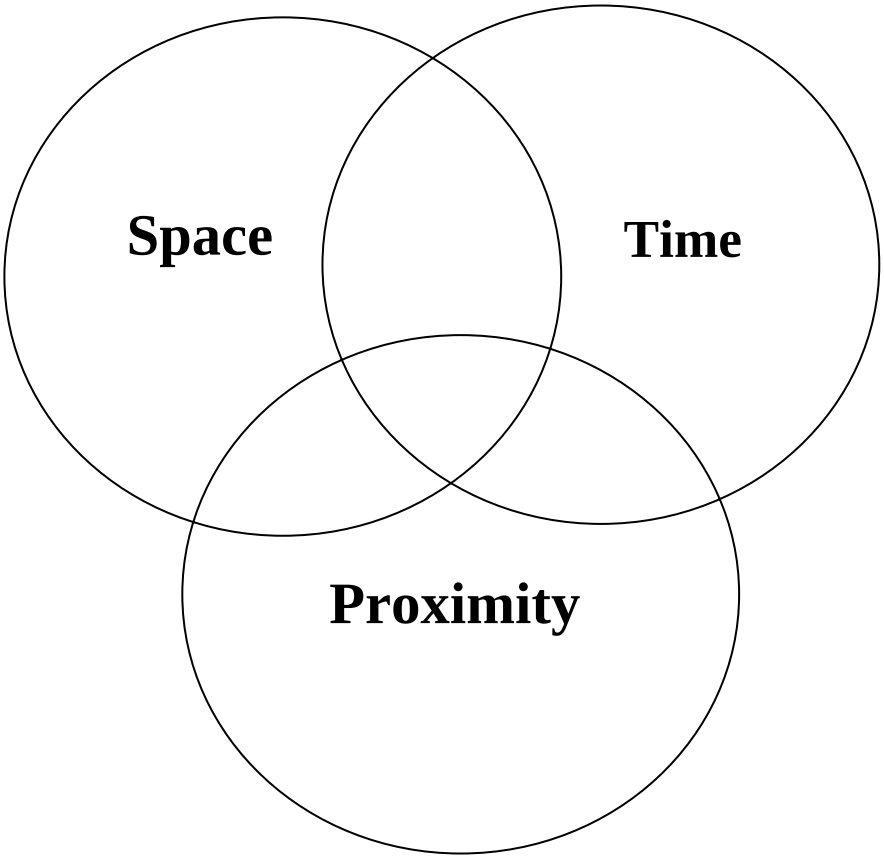
30.3.4 Male involvement in PMTCT

- Obstacles
  - Most PMTCT programs target only pregnant women.
  - Men are primarily leaders, opinion makers, and decision makers in their households and communities.

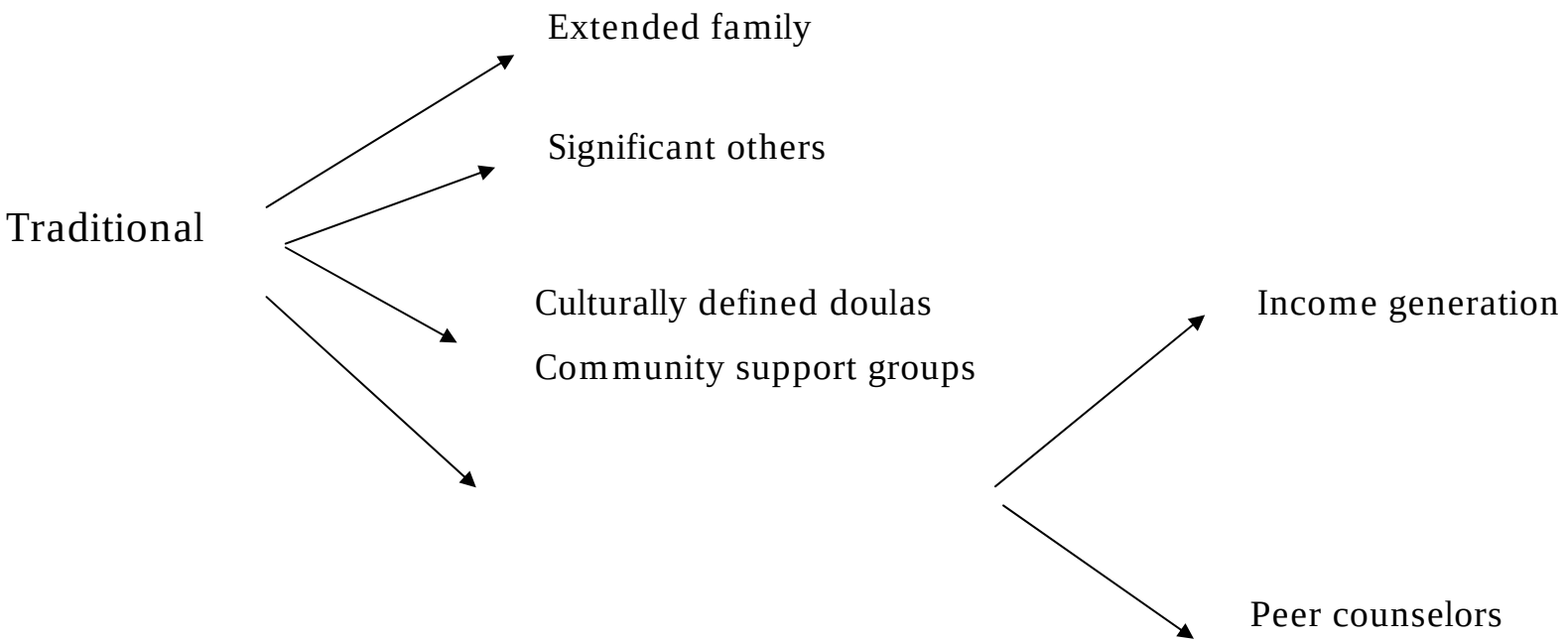
Handout 30.1 COMMUNITY SUPPORT FOR INFANT FEEDING IS ABOUT…



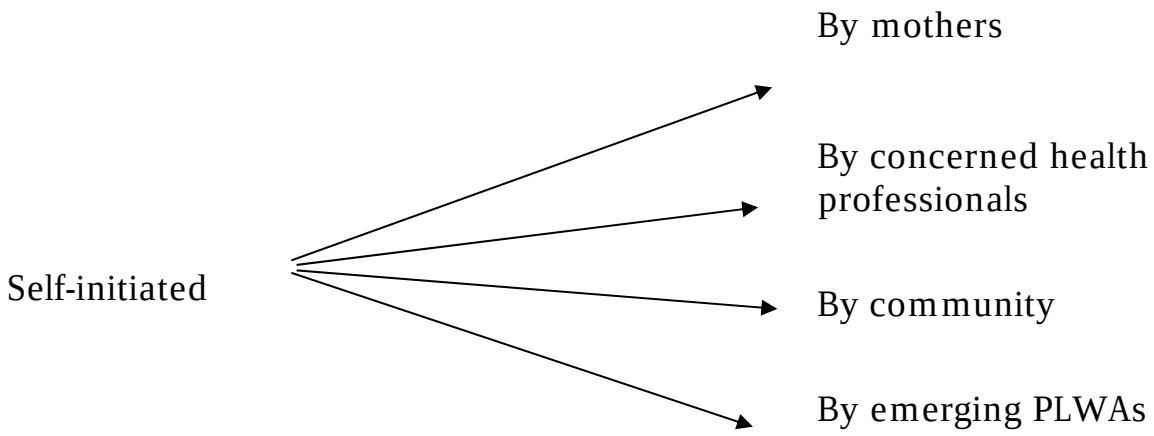
Handout 30.2 SUPPORT FOR A WORKING MOTHER



Handout 30.3 SOCIAL SUPPORT SYSTEM



Handout 30.4 MODERN AND NONTRADITIONAL SUPPORT



- Men usually make decisions about when to have sex and whether to use a condom.
- Men and families usually make decisions about infant feeding and number of children in the family.
- Some PMTCT interventions are not part of national HIV and AIDS programs, and "stand-alone" VCT programs often do not include PMTCT, ignoring men testing.
- HIV prevalence projections are based on testing women at antenatal clinics, with men largely invisible statistically.
  - This situation enables men to deny their responsibility.
  - This leads to men blaming women for being carriers of HIV, increasing stigmatization, discrimination, and violence.

➢ Addressing the obstacles

- Empowering women
- Encouraging disclosure of HIV test results to partners
- Addressing issues and concerns of men, investigating obstacles to men seeking and accessing PMTCT services and impediments to behavior change
- Fostering genuine partnership with communities, men, and implementers of VCT interventions
- Building skills of men and communities to strengthen their ability to cope with new roles and demands of PMTCT, including communicating and sharing decisionmaking in relationships
- Turning the focus on MTCT to an emphasis on parent-to-child transmission of HIV, including men to seek a holistic approach to the health of mothers, children, and partners
- Increasing participation and responsibility of men in the welfare and survival of the children and family
- Reaching out to men in the workplace, after work, and on weekends instead of waiting for men to come for services at the convenience of the service provider
- Welcoming and encouraging men to attend MCH and other service centers traditionally used by women
- Making men and communities aware of the benefits of participating in PMTCT, making the essential antenatal package and drugs for opportunistic infections available to men as well as mothers
- Increasing awareness that the majority of people are not HIV infected and that knowledge of one's HIV status may motivate maintenance of negative status
- Improving accessibility to health care services
- Focusing on men and families (TBAs, traditional healers, religious institutions, and youth)

30.3.5 Conclusions

➢ Many of these interventions go beyond what any one approach, however powerful, can achieve.

- The assumption that only replacing breastfeeding and giving ARVs to pregnant women will reduce MTCT is incorrect.
- Male and community involvement alone will not solve the problem.
- All approaches are needed: prevention, medical and social care and support, and commitment of government and policymakers in the form of supportive policies and resources.
- Genuine partnership with stakeholders is needed, and a move away from affected people as the objects of change to people as the agents of their own change.

30.4 Materials and recommended reading

- Handouts: "Community Support for Infant Feeding Is about…," "Support for a Working Mother," "Social Support System," Modern and Nontraditional Support"
- Hunter, Susan, and John Williamson. 1998. "Responding to the Needs of Children Orphaned by HIV/AIDS," Discussion paper no. 7. Washington, DC: USAID
- UNICEF. 1999. *Baby-Friendly Hospital Initiative Case Studies and Progress Report*. New York
- Green, Cynthia P. *Interventions to Improve Breastfeeding Behaviors: Detailed Summaries of Five Studies*. Washington, DC: Academy for Educational Development
- Africa OR/TA Project. 1998. "Male Involvement in Reproductive Health Issues." New York: Population Council
- Pugin E, et al. 1996. "Does Prenatal Education Contribute to the Duration of Full Breastfeeding in a Comprehensive Breastfeeding Promotion Program?" *Journal of Human Lactation* 12:15–20
- Kistin N, R. Abramson, and P, Dublin. 1994. "Effect of Peer Counselors on Breastfeeding Initiation, Exclusivity, and Duration among Low-Income Urban Women." *Journal of Human Lactation*;10:11–5
- Defense for Children International-USA (DCI). 1991. *The Effects of Maternal Mortality on Children in Africa: An Exploratory Report on Kenya, Namibia, Tanzania, Zambia and Zimbabwe.* New York
- UNAIDS, UNFPA, UNICEF, and WHO. 2003. *HIV and Infant Feeding: Guidelines for Decision Makers: A Guide for Health Care Managers and Supervisors*. Geneva
- WHO. 1999. "HIV in Pregnancy: A Review." Occasional Paper No. 2. WHO/CHS/RHR/99.15. Geneva

SESSION 31: INTRODUCTION TO HIV AND INFANT FEEDING COUNSELING

Duration: 1 hour

31.1. Introduction

HIV and AIDS have changed family and community infrastructure and created a crisis at all levels of services. Counseling is key to helping people infected with HIV and their families solve problems and make decisions about infant feeding. This session introduces participants to the role of counselors and ideal qualities of a good counselor.

31.2 Learning objectives

- Define counseling.
- Describe the role of a counselor.
- List five qualities of a good counselor.

31.3 Training methods and content

- Ask the participants to **brainstorm** an operational definition of counseling and then compare this to WHO's definition.
- **Demonstrate** two short counseling sessions, one appropriate and one inappropriate, between a mother and a counselor.
- In plenary ask participants to **list** the characteristics of the counselor and the reaction of the mother in each counseling setting.
- Elicit a group definition of counseling and write this on a flipchart to refer to during the session.
- Ask the participants to form **groups** of three to **role-play** a mother, a counselor, and an observer. Ask the participant role-playing the counselor to **practice** active listening, respect, and caring.

31.3.1 Definition of counseling

- Process of *dialogue* and *mutual interaction* aimed at *facilitating, problem solving, understanding, motivating, and decisionmaking* (WHO)
- "…a *therapeutic* and *growth* process through which individuals are *helped to define goals, make decisions*, and resolve problems related to social, educational, and career concerns" (Hansen et al, 1982, p. 14)

31.3.2 Counseling is designed to

- Provide support in times of crisis.
- Encourage change when needed to prevent or control a problem.
- Propose a realistic action adapted to different clients and circumstances.
- Help clients accept and act on information on health and wellbeing.

31.3.3 Types of counseling

- HIV and AIDS counseling
- Pre- and post-test counseling
- Marriage counseling
- Pastoral (spiritual) counseling

31.3.4 Counselor's role in the context of HIV and AIDS

- Explore possibilities or options with the client.
- Help client find the most effective solution.

31.3.5 Qualities of an effective counselor

- Patience
- Friendliness
- Multicultural sensitivity
- Respect
- Understanding
- Acceptance
- Sincerity
- Accommodation
- Consistency
- Able to recognize limitations

31.4 Materials and recommended reading

- National HIV counseling guidelines or protocols

SESSION 32: HIV TESTING AND COUNSELING AND OTHER ISSUES RELATED TO PMTCT

Duration: 2 hours

32.1 Introduction

Voluntary and confidential HIV testing and counseling is a key intervention to reduce the number of new HIV infections. HIV testing and counseling gives people infected with and affected by HIV and AIDS a better understanding of their situation and options. This session teaches participants how HIV testing and counseling is promoted through HIV and AIDS awareness campaigns, workshops, family planning clinics, ANC clinics, and community services.

32.2 Learning objectives

- Describe HIV testing and counseling.
- Discuss the advantages and disadvantages of HIV testing and counseling.
- Discuss the relation of HIV testing and counseling to PMTCT.

32.3 Training methods and content

- Ask participants the **question**, "What is HIV testing and counseling?" and write their answers on a flipchart.
- Ask participants to **brainstorm** the advantages and disadvantages of HIV testing and counseling.
- **Demonstrate** a pre-test HIV testing and counseling session and then post-test HIV testing and counseling sessions with a negative result and a positive result.
- Lead a **discussion** and summary of the demonstrations in plenary.

32.3.1 Definition of HIV testing and counseling: voluntary and confidential testing and counseling for HIV

32.3.2 Advantages of HIV testing and counseling

- Confirms HIV serostatus
  - Allows a person who tests HIV positive to manage the infection early to slow down the onset of full-blown AIDS
  - Allows a person who tests HIV negative to take measures to prevent future infection if sexually active
- Motivates the person tested to change negative behavior or maintain positive behavior
- Clearly explains a medical diagnosis and management of HIV-related conditions
- Helps couples make decisions on infant feeding
- Helps couples make decisions on childbearing
- Helps a person who tests HIV positive to get access to ARVs

32.3.3 Disadvantages of HIV testing and counseling

- May result in rejection and stigma (partner abuse or abandonment, loss of home and children) of person who tests HIV positive
- Negative result may reinforce negative behavior

32.3.4 Who should be tested for HIV?

- People who want to know their HIV status
- People who are going to be married
- People who have engaged in high-risk behavior (for example, sex workers)
- People who think they may have been exposed to the HIV virus
- Blood donors
- People who present with sexually transmitted diseases
- Injecting drug users who seek treatment for their addiction and for their sexual and drug-using partners
- Tuberculosis patients
- People who received blood before blood-screening programs were instituted
- Pregnant women
- Clients seeking family planning methods other than condoms

32.3.5 Information to give the client in pre-HIV test counseling

- HIV transmission and prevention (for women and men)
  - Sexual transmission of HIV
  - Ways to prevent sexual transmission of HIV
  - Transmission of HIV virus from mother to child
  - Ways to reduce transmission of HIV from an HIV-positive mother to her infant
  - Limiting new infection by making a decision about a future pregnancy (for HIV-positive couples)
  - Appropriate infant feeding options for an HIV-positive mother
  - Assessing personal risks for HIV

- Advantages of HIV testing
  - Knowing one's HIV status allows a person to make important decisions about lifestyle, nutrition and health care, and family
  - Knowing a negative result allows a woman to breastfeed without fear of transmitting HIV to her infant
  - It is impossible to prescribe appropriate treatment or advise on appropriate infant feeding counseling unless HIV status is known.
  - Counseling on the basis of an HIV test result will build a mother's confidence that she is doing what is best for her child

- Potential disadvantages of HIV testing
  - Limitations of privacy
  - High cost of breastmilk substitutes
  - Likelihood of isolation and rejection if result is positive
  - Possibility of divorce if result is positive

32.3.6 Information to give the client in post-HIV test counseling

- Women who test HIV negative
  - Ways to prevent HIV infection
  - High risk of transmission to infant if newly infected with HIV during pregnancy or breastfeeding
  - Importance of sustained and exclusive breastfeeding from 0–6 months for infant health

- Women who test HIV positive
  - Available therapy options
    - Benefits
    - Costs
    - Importance of adhering to regimen
  - Infant feeding options
    - Health benefits and risks of breastfeeding
    - Costs of replacement feeding
    - Possibility of stigma directed against non-breastfeeding mother
    - Need for contraception
  - Ways to prevent HIV transmission to uninfected sexual partners
  - Risk of re-infection with HIV
  - Shared confidentiality
  - Referrals to support services
  - Positive living

32.3.7 Stages of counseling for clients who request an HIV antibody test

- First contact
  - Client requests HIV test counseling
  - Counselor discusses significance and possible consequences of testing
  - Counselor gives written information (literature)
  - Client's blood is collected for HIV testing

- Second contact
  - Counselor gives client the test result
  - Counselor discusses test result with client
  - Counselor counsels client about safe sex, health-boosting measures, and prevention of infection

- Third contact
  - Counselor repeats counseling as above, with partner
  - Counselor answers client's questions
  - Counselor discusses whom to tell about the test results and how
  - Counselor discusses partner testing and problem solving
  - Client makes a decision about further sessions

32.4 Materials and recommended reading

- Generic Manual for Basic HIV and AIDS Counselor

Annex 1 Counseling Issues

1. Informed consent
   Any person who wants to know his or her HIV serostatus must give consent or permission to be tested. It is important that married clients give informed consent as a couple. A qualified, trained, and practicing HIV counselor must conduct pre- and post-test counseling to ensure the client is ready to take the test and fully understands everything that HIV testing involves.

2. Confidentiality
   The counselor is required to maintain confidentiality about the client's HIV status and other issues brought up in counseling. Confidentiality begins with information about the test results. Counselors must maintain confidentiality even with other counselors. However, in PMTCT shared confidentiality should be encouraged among people dealing with the mother. Codes have been developed for this.

3. Quality assurance and confirmatory testing of the results
   Clients need to know how sensitive and specific HIV tests are. The counselor should discuss the available system for confirming test results with the client. Tests results should be interpreted with the understanding of the client; for example, the client should be able to clarify whether he or she is in the window period when the window period has to be ruled out for an HIV-negative result.

4. Self disclosure and partner notification
   It is the client's decision whether or not to discuss test results with someone else. It is also the client's responsibility to notify his or her partner of the test results and to decide when, how, and where to do this. For some clients, however, such disclosure is difficult, especially if the result is positive. In such cases the client should discuss interim measures regarding sex with the partner while waiting to disclose the test results.

5. Couples testing
   Counselors should consider the spouses of married clients to be tested for HIV. Clients should be told that their HIV test results may not be representative of their spouses' HIV status. Counseling for coping and choosing an infant feeding option is easier when both partners are aware of their HIV status.

Annex 2 Pre- and post-test counseling

1. Pre-test counseling

- This is done before the blood test. Anyone considering being tested for HIV should receive information on testing. Informed consent implies awareness of all possible implications of a test result.

- Attest the client's
  - Capacity to understand and use information
  - Motivation to change risk behavior for self protection or prevention of transmission of HIV to others
  - Opportunity to receive psychosocial support

- Using a checklist
  - The checklist below is only an example. Counselors should make their own checklists of points to cover.
  - Counselors should keep these checklists with them when they pre-test counsel until they gain more experience. They should not be embarrassed to look at the checklist when counseling. They can say, "There is a lot to explain, and I want to make sure I don't miss anything."

- Pre-test counseling checklist
  - Introduce yourself.
  - Explain that the interview is completely confidential (shared confidentiality).
  - Explore the client's reason for requesting an HIV test.
  - Ask what the client already knows about HIV infection, covering:
    - The difference between HIV infection and AIDS
    - The long incubation period
    - Routes of transmission
    - How HIV does not spread
    - The lack of a cure at present
    - The availability of treatment for opportunistic infections
    - The hope for a cure in future
    - MTCT issues, including the use of Nevirapine
  - Explain that an HIV antibody test is not a test for AIDS.
  - Explain the window period (time between infection and seroconversion, when the test is negative but the person is infected and infectious).
  - Explain policies for and support follow up and for confirmatory tests.
  - Ask about family circumstances.
  - Discuss practical issues such as how to use condoms, where to find good condoms, and how to practice family planning.
  - Discuss the importance of a healthy lifestyle (adequate nutrition, sleep, exercise).
  - Discuss infant feeding issues.
  - Discuss the use of Nevirapine.
  - Arrange a follow-up appointment.

2. Post-test counseling

- The content of a post-test counseling session varies with the client's emotional state, level of understanding, and cultural beliefs.

- Post-test counseling checklist
  - Welcome the client and discuss the test result.
  - Give the client time to react to the test result.
  - Explain that the reaction is normal.
  - Check that the client understand what the test result means and the difference between HIV infection and AIDS.
  - Ask the client what is most worrying about the result and discuss alternative ways to deal with this worry.
  - Check the client's knowledge of HIV and its transmission, explaining any facts the client has forgotten or misunderstood.
  - Ask whether the client will find it difficult to tell his or her sex partner about the result and help him or her plan to do this. Invite him or her to bring the partner for counseling.
  - Ask the client who else he or she plans to tell about the results and what emotional support family and friends can provide.
  - Ask about high-risk behavior and discuss how the client might change this behavior. Repeat information about safe sex. If relevant, show a condom and explain how to use it properly.
  - Explain the practical precautions the client needs to take in the home
  - Give the client time to ask questions.
  - Put the client in touch with local support or counseling groups.
  - Explain the medical follow-up procedure. Stress that, although there is no cure for HIV, symptoms that might develop can be treated. Advise early treatment.
  - Arrange a further appointment

- Leaflets to help clients to remember
  - Clients often forget what was said after they receive a positive result.
  - Give a literate client a leaflet with the most important facts explained simply, to read later.
  - Alternatively, tape the post-test counseling session so the client can listen to it later.

- False reassurance
  - Do not be tempted to give reassurance that is not true , for example, that the client will not become ill, because the client will lose confidence in you if this proves not to be the case.
  - False reassurance also encourages both client and counselor to avoid facing difficult issues such as dying.

SESSION 33: PMTCT BEHAVIOR

Duration: 2 hours

33.1 Introduction

This session addresses personal skills (e.g., decisionmaking, self-esteem, assertiveness), interpersonal skills (e.g., negotiation), and interventions (e.g., condom use) to prevent HIV transmission. Participants learn how these skills can contribute to behavior change.

33.2 Learning objectives

- List at least four common measures to prevent MTCT and discuss their implementation in PMTCT programs.
- Identify at least five personal and interpersonal skills for PMTCT.
- Describe how these skills contribute to behavior change.

33.3 Training methods

- Ask participants to **brainstorm** common measures to prevent HIV transmission and discuss how they are used in pMTCT programs.
- Have participants form small **working groups** to discuss skills needed to prevent MTCT (decisionmaking, assertiveness, high self-esteem, and negotiation) in relation to behavior change.
- Facilitate **report back** and **discussion** of the results in plenary.
- Make a **presentation** of the steps involved in negotiation.
- Ask participants to form **groups** of three (mother, partner, and observer) in which the mother will role-play negotiating the use of a condom with her partner. Have participants rotate roles.
- Lead a **discussion** and summary of the role-plays.

33.3.1 Predisposing factors for HIV

- Powerlessness and poverty place certain groups at high risk of HIV infection.
  - Girls and women
  - Young people
  - Poor people
  - More than 90 percent of infected adults come from less-developed nations.

- High rates of HIV infection among women and girls often has less to do with sex than with gender and imbalances of power, control, and status among women and men.
  - For every 10 men with HIV, 12 women are infected (UNAIDS 2000).
  - In Africa HIV-infected young women outnumber HIV-infected young men.

- Women's vulnerability to HIV infection is increased by cultural practices and economic or social dependence on men, which reduces women's ability to negotiate for safe sex.
- Society accepts different standards of behavior for women and men.
- Increased incidence of HIV infection in women has led to an increase in MTCT.
- Most front-line health workers are female and not aware enough of gender issues or equipped enough with negotiation skills to transfer these skills to their clients.

33.3.2 Introducing the subject of prevention to partners

- Counselors needs skill and adequate preparation to convince clients' sexual partners about
  - The importance of safe sex
  - The need to practice safe sex consistently

- Counselors should clearly identify the goals of this counseling:
  - Preventing MTCT by preventing HIV infection
  - Practicing behavior that reduces the risks of MTCT

33.3.3 Counseling skills

- Preventive personal development skills (decisionmaking, assertiveness, high self-esteem, negotiation)
  - To achieve these skills requires identifying one's values (standards, criteria, or guidelines that determine how people act on available choices, influence behavior, and are reflected in a person's judgments).

  - Decision making
    - Should be encouraged by parents and gatekeepers
    - Requires the following tools
    - Increased awareness
    - Increased personal and family values
    - Goal setting and communication skills
    - Is influenced by
      - Information
      - Social pressure from family, friends, media, culture, religion, and peers. This pressure is at work when a person
        - Feels he or she has no choice
        - Does something that is not what he or she would choose on his or her own
        - Does something that goes against his or her own values

- Assertiveness
  - Being honest, speaking one's mind directly, and allowing others to do the same

  - Assertive people
    - Say what they think, feel, and want
    - Understand that they have the right to express themselves
    - Speak honestly and tactfully, without excuses or apologies
    - Respect other people's rights
    - Do not intimidate or manipulate others
  - Why learn to be assertive?
    - To speak your mind clearly and effectively
    - To be able to say no without feeling guilty
    - To feel better about yourself
    - To improve your relationship with others
    - To disagree without seeming hostile
    - To ask for help when you need it
    - To get more respect from others
    - To feel in control of yourself

- Self-esteem
  - Self-image, or how one feels about oneself
  - Made up of thoughts and feelings about oneself, positive and negative

Positive	Negative
I am pretty.	I am ugly.
I am intelligent.	I am stupid.
I learn from my mistakes.	I am afraid to fail.
I am fun.	I am boring.

  - The more positive feelings one has about oneself, the higher one's self-esteem. The more negative feelings one has, the lower one's self esteem.

  - Why worry about self-esteem?
    - Self-esteem affects how you live.
    - High self-esteem can make you feel good.
    - Low self-esteem can make you feel ineffective, worthless, incompetent, unloved, and submissive.

  - Factors that influence self esteem
    - Relationship with family and home life from birth to the adulthood
    - Social life (relationships with childhood and adult friends, relationships with people from different cultures or religions)

        - School relationships (with classmates and teachers) and experience (with schoolwork and extracurricular activities)
        - Work relationships (with co-workers and grantees; levels of job responsibility rise with self-esteem)
        - Experiences with standards and images created by others

    - Effects of low esteem
        - Lack of self-confidence
        - Poor performance
        - Unhappy personal life
        - Distorted view of self and others

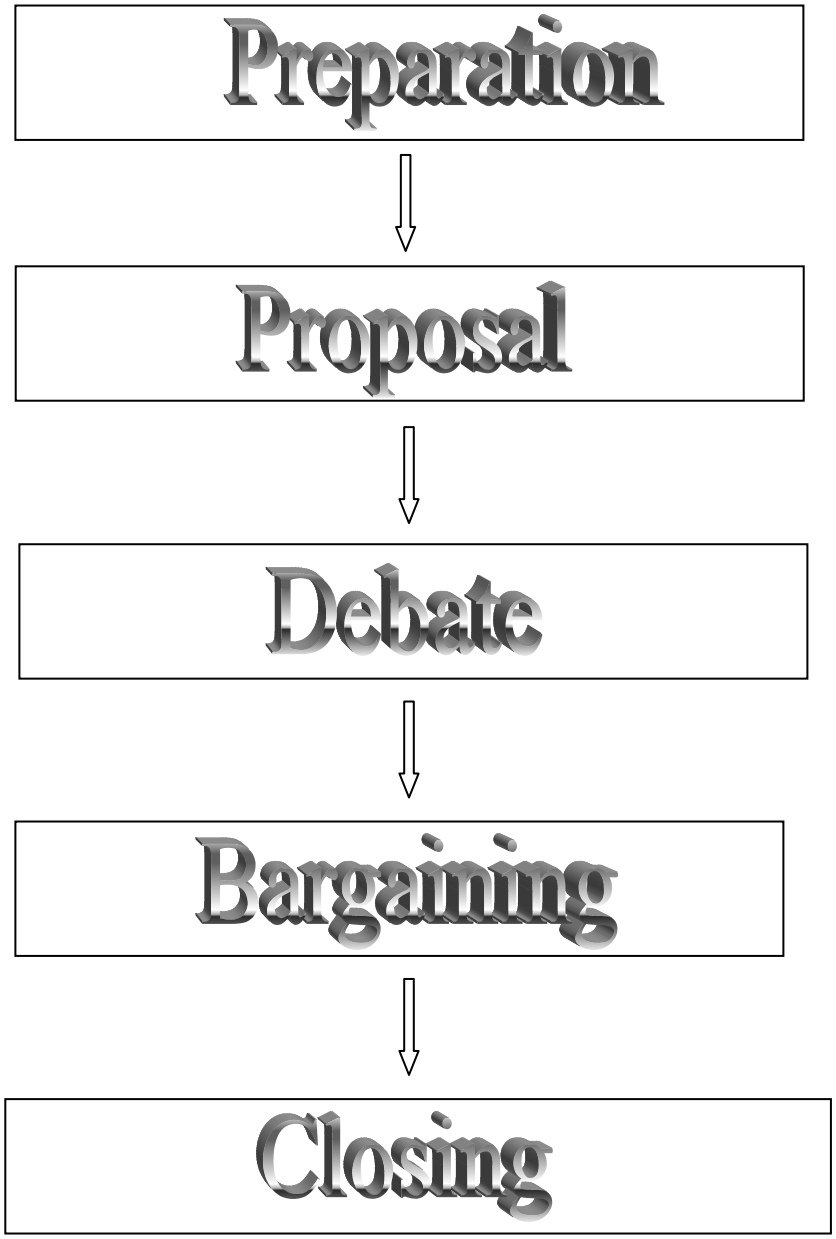
    - How to think positively about yourself
        - Acceptance: Identify and accept strengths and weaknesses.
        - Encouragement: Take a "can do" attitude and set a reasonable timetable for personal goals.
        - Praise: Take pride in achievements.
        - Update: Set realistic goals and meet them by learning new skills and developing abilities.
        - Take time: Take time out regularly to be alone with thoughts and feelings.
        - Respect: Be proud of yourself.
        - Love: Learn to love the unique person you are.

- Negotiation
    - Discussion with another person in order to reach mutual agreement on an issue
    - Stages of negotiation

      Handout 33.1: Stages of Negotiation

        - Preparation: Assess position and define goals.
            - What do you want to achieve?
            - What do you really need?
            - What are you prepared to give up to get what you want?
            - Gathering information to support your points will boost your
            - Confidence.
            - Try to anticipate all potential objections and prepare answers in advance.
            - Have alternative solutions and approaches ready.
            - Be clear about the facts of AIDS.
        - Proposal
            - Positive
                - Surroundings are private and comfortable.
                - Timing is appropriate to focus on the discussion.

Handout 33.1 STAGES OF NEGOTIATION



- Partner is informed in advance to allow time to prepare for the talk.
- You show confidence.
- Partner is encouraged to make the first contribution to the discussion to help you relax.
- You act assertive.
- You have an open mind.
- You have a positive attitude and reach an agreement on each point as you go along, helping to build a positive atmosphere.
- You try to persuade the partner, giving you both time to focus on the discussion.

▪ Negative
- There are many interruptions and distractions.
- The situation is awkward situation, for example, just after a quarrel.
- You haven't planned carefully.
- The partner is caught unaware or unprepared and is therefore is a bad mood or has a bad attitude.
- You are uninformed, beg, are afraid to offend, afraid to lose friendship, not convinced about the issue yourself.
- You do not give the partner a chance to speak.
- You have a blaming attitude.
- You are demanding or aggressive.
- You are not used to asserting your own views and opinion.
- You are not ready to listen.
- You lose your temper and lose control.
- You intimidate the partner into agreeing.
- You feel unsupported.
- You feel helpless, isolated, or alone.

° Debate
° Bargaining
° Closing

33.3.4 Measures to prevent HIV transmission

➢ Education targeted to specific at-risk groups
- Army recruits, sex workers, truck drivers
- Resulted in a drop in rates of infection among army recruits in Thailand from 12.5 percent in 1993 to 6.7 percent in 1995

➢ Comprehensive sex education
- For community-based organizations, schools, colleges, universities
- Results
  - Less risky sex
  - More safe sex

- Delayed sexual activity
- Decrease in sex partners
- Abstinence

➢ Peer influence
- Identifying opinion leaders and training them to set a trend that peers can easily follow

➢ Condom use
- With constant, consistent, correct use, about 98 percent effectiveness
- Users must be well informed

➢ Faithfulness to one sexual partner
- Requires couples' knowledge of HIV status to be effective

➢ STI prevention and early treatment
- Based on well documented relationship between STIs and HIV

➢ Antiretrovirals
- Demonstrated in MTCT programs

➢ Safe blood transfusions
- All blood donors must be screened to ensure no risk to receivers

➢ Development of vaccines to prevent transmission and boost immunity
➢ Male circumcision as a public health intervention
➢ Post-exposure prophylaxis

33.3.5 Gender issues

➢ Definition of gender: Concept that develops in either sex depending on the social roles assigned to boys and girls that make them masculine or feminine

➢ Gender factors that put women more at risk for HIV
- Cultural beliefs that teach women to be submissive deprive women of control over their lives.
- Women are expected to please their male sexual partners, even when risk is involved.
- Women are taught never to refuse sex with husbands, regardless of husbands' other sexual partners.
- Dry sex increases the risk of HIV transmission.
- Exchanging sex for money or gifts is more common among women than among men.

➢ Effects of HIV and AIDS on women
- Food insecurity (women are major food producers in most families)
- Inadequate care of the sick (this is considered women's responsibility)

- Resource-poor households headed by AIDS widows (lack of access to food and basic services)
- Infrequent voluntary remarriage of widows (widows are usually inherited)
- Vulnerability of girls in HIV and AIDS-affected households to commercial sex
- Tendency of girls to marry early for convenience
- Fewer daughters than sons attending school (limited resources in HIV and AIDS-affected homes)

33.3 Materials and recommended reading

- Handout: "Stages of Negotiation"
- Buchbinder, Susan. 1998. "Avoiding Infection after HIV Exposure." *Scientific American* 279:104
- Coates, T.J., and C. Collins. 1998. "Preventing HIV Infection." *Scientific American* 279:96–97
- Van Dam, Johannes, and Marie Anastasi. 2000. *Male Circumcision and HIV Prevention: Directions for Future Research.* New York: Horizons

SESSION 34: FIELD VISIT

Duration: 4 hours

34.1 Introduction

This field visit gives participants a firsthand view of the interventions involved in an integrated PMTCT program. Participants observe health education talks, infant feeding counseling, and obstetric procedures. During the visit health workers are available to answer participants' questions about the program.

34.2 Learning objectives

- Describe implementation of the integrated PMTCT program at various clinics.
- Relate program successes and obstacles described by health workers and community service providers.

34.3 Training methods and content

- Divide the participants into **groups** to **visit** three or four labor and delivery clinics or hospitals and community groups that provide support to the integrated pMTCT program. The groups will observe an educational talk, small group discussions, and one-on-one counseling rooms.
- Facilitate **discussion** between the participants and health personnel in the clinics or hospital of counseling pregnant women on infant feeding options.
- Facilitate **discussion** between participants and community groups of support provided to the integrated pMTCT program.
- In plenary ask participants for **feedback** on these visits, lead a **discussion** of the results, and summarize the exercise.

SESSION 35: MANAGEMENT OF BURNOUT

Duration: 1 hour

35.1 Introduction

Health workers and people working in the field of HIV/AIDS are exposed to a great deal of stress in their relations with clients. This session teaches participants how to manage burnout on the job.

35.2 Learning objectives

- Define burnout.
- Identify causes of burnout.
- Describe symptoms of burnout.
- Explain how to prevent and manage burnout.

35.3 Content and training methods

- Ask participants to **brainstorm** a definition of burnout.
- Display three flipcharts labeled "Causes," "Symptoms," and "Prevention and Management" and ask participants to **brainstorm** additions and decide where each idea belongs. Ask one participant to write down the ideas on each flipchart.

35.3.1 Definition of burnout

- An individual stress experience resulting from an emotionally demanding interpersonal relationship with clients
- Also called "caregiver's disease"
- Tends to be experienced by people who enter into a counseling career with high expectations, goals, and motivation
- Occurs because of emotional demands that arise in the interaction with clients

35.3.2 Causes of burnout in HIV/AIDS counseling

- Same factors that cause burnout prevent people from achieving goals and expectations

- High level of commitment to work

- Stressful tasks
  - Talking to clients about life-threatening illnesses
  - Talking to clients about sensitive sexual issues
  - Caring for a acutely ill people who will die
  - Helping young people face disfigurement and death
  - Lacking skills to counsel clients and their families
  - Lacking ability to reassure clients about their condition

- Organizational difficulties
  - Inadequate resources to meet clients' needs

- Lack of recognition and appreciation
- Pressure to provide other health services in addition to counseling
- Lack of supervision
- Long working hours
- Shortage of counselors

➢ Personal issues
- Anxiety about being infected with HIV by clients
- Anxiety about becoming infected in personal life
- Anxiety about spouse or child becoming infected with HIV
- Over-identification with clients

35.3.3 Symptoms of burnout

➢ Physical symptoms
- Exhaustion
- Frequent headaches and backache
- Insomnia (sleeplessness)

➢ Behavioral symptoms
- Tendency to be irritated or frustrated
- Increased alcohol or drug use
- Rigidity in problem solving
- Withdrawal from colleagues and social activities (depression and anxiety)

➢ Cognitive and affective symptoms
- Emotional paralysis and forgetfulness)
- Emotional hypersensitivity (irritability and anger)
- Pessimism, helplessness, and hopelessness
- Denial of feelings (loss of libido or sexual pleasure)

35.3.4 Prevention and management of burnout

➢ Professional supervision and emotional support
- External and internal facilitators
- To individual or group
  - Regular or on demand
  - Same or mixed professions
- Discussion of professional issues, feelings, and coping with strategies
- Clear expectations and structure

➢ Management
- Limiting working hours
- Pre-work training and orientation
- Training in stress recognition and management

- Confidential support structures
- Work variations
- Time away from work (break)

➢ Environment
  - Teamwork
  - Opportunities for skills development
  - Appropriate work environment

35.3.5 Barriers to staff support

➢ Lack of staff knowledge of need for support
➢ Lack of trust among colleagues
➢ Stigma about showing or admitting professional uncertainties
➢ Lack of time
➢ Role conflicts

35.3.6 Conclusion

➢ Counselor should be able to identify signs and symptoms of burnout in self and others and be able to deal with it.
➢ Prevention is better than cure.

SESSION 36: POST-TEST

Duration: 1 hour

36.1 Introduction

At the beginning of the training course, participants' knowledge of key content issues 0was assessed and their strengths and weaknesses identified. This session assesses the participants' knowledge, strengths, and weaknesses at the end of the training.

36.2 Learning objective

- Assess post-training knowledge of infant feeding and PMTCT.

36.3 Training methods and content

- Give the participants the **questionnaire** they filled in during the pre-assessment test and ask them to complete the post-assessment in the same amount of time.
- After the session, compare the results (in percentages) for each question with the results of the pre-assessment test.
- The following day, **share** the results with the participants during the final evaluation of the training.

36.4 Materials and recommended reading

- Pre- and post-test questionnaires

Handout 36.1: Post-test Assessment Form

Handout 36.1 POST-TEST ASSESSMENT FORM

PROFESSIONAL DEVELOPMENT TO INTEGRATE INFANT FEEDING AND HIV (PMTCT) INTO HEALTH CARE AND COMMUNITY SERVICES

1. What is MTCT?

   _____

2. What is the estimated percentage of HIV vertical transmission from HIV-positive women?

   a. In pregnancy _____%

   b. During labor and delivery _____%

   c. Through breastfeeding _____%

3. In sub-Saharan Africa the estimated HIV prevalence in adults ages 15–49 is: (*Circle only one correct answer*)

   a. 1 out of 10
   b. 4 out of 5
   c. 1 out of 7

4. Risk factors that influence mother-to-child transmission of HIV include: (*Circle the most appropriate*)

   a. Maternal clinical condition
   b. Maternal immune system
   c. Mode of delivery
   d. Viral burden
   e. Duration of rupture of membranes
   f. All of the above
   g. a and d

5. Name two (2) antiretroviral drugs given to HIV-positive pregnant women to reduce the risk of mother-to-child transmission.

   _____

   _____

6. What should be the minimum hemoglobin level in an HIV-positive pregnant woman before she is started on AZT therapy? (*Circle the correct answer*)

   a. 6.g/dl
   b. 8.g/dl
   c. 11.g/dl

7. Define the following terms:

   a. Window period

   _____

   _____

   b. Seroconversion

   _____

   _____

8. What is the estimated duration of the window period for most HIV-infected people?

   _____

9. What test is used to detect the HIV virus in infants younger than 18 months old?

   _____

10. Circle the characteristic that is NOT correct for the hormone prolactin.

    a. Secreted in response to infant suckling on the breast (areola/nipple area)
    b. Secreted during pregnancy
    c. Secreted in response to infant crying or other psychological stimuli
    d. Responsible for milk production

11. Circle the characteristic that is NOT correct for the hormone oxytocin.

    a. Secreted in response to infant suckling on the breast
    b. Secreted in response to infant crying or other psychological stimuli
    c. Responsible for milk production
    d. Responsible for milk ejection

12. If you discover during an antenatal examination that a mother has inverted nipples, you tell her that she will not be able to breastfeed. (*Circle "True" or "False"*)

    a. True b. False

13. Circle the statements that are essential messages to give to every pregnant woman.

    a. Breastfeeding should be initiated within 30 minutes after birth.

b. Exclusive breastfeeding is recommended for the first 6 months.
c. Breastfeeding the infant on demand is the best feeding schedule to follow.
d. Colostrum is the infant's first immunization.
e. A woman who does not know her HIV status should breastfeed her infant exclusively for about 6 months.
f. All of the above
g. Only b, c, and d

14. Circle acceptable reasons NOT to encourage a mother to hold and breastfeed her infant on the delivery table (couch).

    a. The infant will get too cold.
    b. The mother is exhausted from her labor.
    c. The nurse/midwife is too busy with other important activities to stay by the mother and help her.
    d. The infant should be weighed and bathed first.
    e. The mother is HIV positive.
    f. None of the above
    g. Only c and e

15. To improve absorption of supplemental iron used to treat iron-deficiency anemia, a woman should be instructed to: (*Circle the most appropriate*)

    a. Take an iron supplement with meals.
    b. Take an iron supplement between meals.
    c. Take an iron supplement with a vitamin C-rich food
    d. Take an iron supplement in divided doses, not to exceed 30 mg/dose.
    e. Both b and c
    f. Both b and d

16. Candidiasis of the lactiferous ducts is NOT manifested by: (*Circle the most appropriate answer*)

    a. A burning pain that gets worse with breastfeeding
    b. No visible skin changes
    c. Fever
    d. Infant diaper rash

17. Which of the following will NOT help a mother increase her milk supply?

    a. Rest and relaxation
    b. Breast massage before expression
    c. Sleeping through the night to rest
    d. Increased frequency of milk removal

18. HIV-positive mothers should be advised NOT to breastfeed. (*Circle "True" or "False"*)

    a. True b. False

19. What is the recipe for modifying cow's milk to feed a newborn per kg of body weight, as per UN guidelines on replacement feeds?

    _____

    _____

20. If a mother is breastfeeding exclusively, how often should she be advised to breastfeed to ensure adequate quantity of breastmilk? (*Circle the appropriate answer*)

    a. On demand or every 2 hours
    b. Every 3 hours
    c. Every 4 hours
    d. None of the above

21. What is the most common reason for failure of early initiation of breastfeeding for mothers who have had a Caesarean section? (*Circle the appropriate answer*)

    a. They have too much incisional pain.
    b. No health worker has provided additional support.
    c. There is no convenient position for them to attach the infant adequately to the breast.
    d. The IV drip tubing makes it impossible for them to hold their infants.
    e. None of the above

22. What is the Code of Marketing of Breast-Milk Substitutes?

    _____

    _____

24. What is the aim of the Code?

    _____

    _____

25. Companies that manufacture infant formula should donate free infant formula to all infants born to HIV-positive mothers. (*Circle "True" or "False"*)

    a. True b. False

26. List at least five (5) designated products covered under the Code.

_____

_____

_____

_____

_____

27. The Code of Marketing of Breast-Milk Substitutes prohibits the sale of infant formula. (*Circle "True" or "False"*)

a. True b. False

28. In industrialized countries the risk of respiratory infection and diarrhea is higher in bottle-fed infants than in breastfed infants. (*Circle "True" or "False"*)

a. True b. False

29. Circle the illnesses in children and adults for which breastfeeding reduces the risk.

a. Lymphomas (cancers)
b. Diabetes
c. Respiratory tract infections
d. Otitis media (ear infection)
e. Diarrheal diseases
f. All of the above
g. Only b and c

30. From a nutritional point of view, breastmilk is excellent for the first 3 months of an infant's life, but supplementing breastmilk with another food from 3 months onward ensures better growth. (*Circle "True" or "False"*)

b. True b. False

30. Circle the characteristics colostrum does NOT have compared to mature milk.

a. Is lower in volume
b. Is higher in water
c. Is higher in protein
d. Is higher in vitamin A

32. Circle the characteristics human milk does NOT have compared with cow's milk.

a. Is higher in lactose
b. Contains growth factors
c. Is higher in protein
d. Small amount of iron is well absorbed

33. Circle the INCORRECT statements about the anatomy of the female breast.

a. Montgomery glands are located on the areola and secrete a lubricating and protective substance.
b. Lactiferous sinuses extend from the outer part of the breast to under the areola.
c. Breast size increases during pregnancy.
d. Breast size does not relate to milk production.
e. None of the above

34. Maria, a 32-year-old woman who is breastfeeding her 2-month-old son, comes to your clinic concerned about a lump in her breast. She has no family history of breast cancer or fibrocystic breast. You let her remove milk by breastfeeding and then examine her breast. You feel a 2cm mass in the outer quadrant. What do you do?

a. Treat breast for plugged duct and check after 1 week.
b. Advise her to discontinue breastfeeding.
c. Order mammography.
d. Get a surgical consultation

35. Name the most common micronutrient deficiency associated with increased rates of mother-to-child transmission of HIV.

_____

36. HIV-positive women should be discouraged from getting pregnant because they will infect their infants in any case. (*Circle "True" or "False"*)

b. True b. False

37. The most common type of HIV in sub-Saharan Africa is: (*circle the correct answer*)

e. Type 12
f. Type 10
g. Type 1
h. Type 2

38. List one (1) biological factor that makes women more susceptible to HIV infection.

_____

_____

39. List four (4) components of the minimum antenatal care package, two (2) of the intra-partum care package, and three (3) of the post-natal care package.

_____

_____

_____

40. List three (3) advantages of exclusive breastfeeding.

_____

_____

_____

44. List three (3) consequences of poor positioning and attachment of the infant to the breast.

_____

_____

_____

45. What percentage of HIV is transmitted through breastfeeding?

_____

46. To reduce HIV transmission through breastfeeding, mothers should be advised to alternate breastfeeds with infant formula. This reduces the viral load in breastmilk taken in by the infant. (*Circle "True" or "False"*)

a. True b. False

47. MTCT interventions should only take place where antiretroviral drugs are available. (*Circle "True" or "False"*)

a. True b. False

48. What is the correct dosage of Nevirapine for the mother to prevent transmission of HIV to her infant?

_____

49. What should a health worker do if an HIV-positive mother delivers within 1 hour of taking Nevirapine?

_____

50. How many doses of Nevirapine should be given to the mother? (*Circle the appropriate answer*)

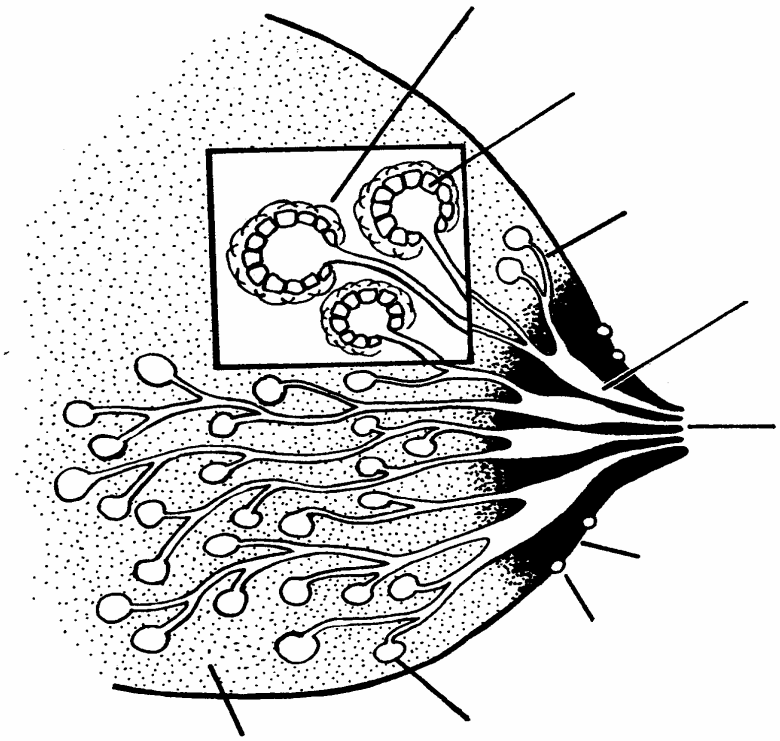
    a. One
    b. Two
    c. Three

51. What is the correct dosage of Nevirapine syrup for the infant in PMTCT, and when is it given?

_____

_____

52. Label the parts of the breast in the diagram below.



SESSION 37: INFANT FEEDING AND HIV CASE STUDIES

Duration: 2 hours

37.1 Introduction

To prepare participants for counseling mothers on infant feeding options in the context of HIV, this session introduces real situations (case studies) in which the participants role-play and receive feedback from facilitators and peers.

37.2 Learning objective

- Demonstrate how to counsel a mother on infant feeding options in the context of HIV.

37.3 Training methods and content

- Give participants copies of the five case studies below.
- **Demonstrate** a role-play of one case study in plenary and then ask participants to **role-play** another case study.
- Lead a **discussion** of the role-plays and solicit **feedback.**
- Ask the participants to form **groups** of three (mother, counselor, and observer) to **role-play** three other case studies. The participant role-playing the observer should give feedback on the counseling. Ask participants to rotate roles.
- Lead a **discussion** of the role-plays in plenary.

Handout 37.1: Infant Feeding and HIV Case Studies

37.4 Materials and recommended readings

- Handout: ”Infant Feeding and HIV Case Studies”

Handout 37.1 INFANT FEEDING AND HIV CASE STUDIES

Case study no. 1. Chikondi, a 24-year-old mother with a 3-month-old infant, comes to your office in the MCH clinic. She is exclusively breastfeeding. She received health education on MTCT of HIV during antenatal and post-natal sessions. Yesterday she overheard that her husband has a girlfriend who is dying with AIDS in Mulanje Mission Hospital. Chikondi wants to stop breastfeeding because she thinks she might be infected and pass the infection to her infant through breastfeeding.

- Discuss the key issues to consider in counseling this mother.
- Set up a counseling scene to address infant feeding issues with this mother.

Case study no. 2. Mrs. Mabvuto, a first-time mother, comes to your clinic for a post-natal checkup. She is accompanied by her grandmother. Mrs. Mabvuto complains that her infant cries too much and is not gaining weight. On examination of the mother, you find that she has an abscess on her right breast and that her left breast is engorged. Because of the breast problem the grandmother decided to put the infant on *dawale*.

- Identify the main feeding problem for this infant.
- Describe how you can help the mother with the grandmother feed the infant.
- Describe the key issues to consider in counseling this mother.
- Set up a counseling session to address infant feeding issues.

Case study no. 3. Mrs. Khama found out she was HIV positive when she was 36 weeks pregnant and decided not to tell anyone, including her husband. She had decided to formula feed her infant. After delivery she told her husband that her breastmilk had dried up and asked him to buy infant formula. The husband bought the formula but comes to ask you to help his wife breastfeed because he can't afford the formula.

- Describe the key issues to consider in counseling this mother.
- Set up a counseling session to address infant feeding issues.

Case study no. 4. When Mrs. Khasu was found to be HIV positive, she and her husband decided to formula feed their infant. They were helped to buy formula by her uncle. After 2 months the uncle was no longer able to supply the couple with formula. Mrs. Khasu and her husband want to start breastfeeding the infant because they cannot afford to buy milk, but they are afraid of infecting the infant through breastfeeding.

- Describe the key issues to consider in counseling this mother.
- Set up a counseling session to address infant feeding issues.

Case study no. 5. Chimwemwe has had a second infant, who is 4 weeks old. Chimwemwe was tested for HIV and found to be positive. She had chosen to breastfeed but feels guilty about knowingly infecting her infant with HIV. Suddenly she

finds that her breastmilk is not flowing. She has bought a sachet of Anchor powdered milk to start feeding the infant.

- Describe the key issues to consider regarding
  - Breastfeeding
  - Artificial feeding
  - Mother's guilt feelings
- Describe the key issues to consider in counseling this mother.
- Set up a counseling session to address infant feeding issues.

GLOSSARY

Active feeding: Encouraging a child to eat by talking to the child, praising, and helping the child put food on the spoon

Artificial feeding: Feeding an infant a breastmilk substitute

Behavior change communication: Transfer of messages or meaning that fosters a change in behavior in individuals, families, or communities

Bottle feeding: Feeding an infant a liquid (e.g., expressed breastmilk, water, formula) from a bottle

Breastmilk substitute: Any food marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not it is suitable for that purpose.

Cessation of breastfeeding: Completely stopping breastfeeding

Commercial infant formula: A breastmilk substitute formulated industrially in accordance with applicable Codex Alimentarius standards to satisfy the nutritional requirements of infants up to 6 months old

Communication: Transfer of messages or meaning from one person to another; interaction around messages and meaning transferred from one person to another

Complementary feeding: Giving an infant other liquids and foods along with breastmilk or other form of a milk diet beginning at around 6 months of age

Complementary food: Any manufactured or locally prepared food suitable as a complement to breastmilk or infant formula when the latter are no longer sufficient to satisfy the infant's nutritional requirements (previously referred to as weaning food or breastmilk supplement)

Cup feeding: Feeding an infant from an open cup.

Demand feeding: Breastfeeding an infant whenever and as long as the infant wants to nurse

Exclusive breastfeeding: Giving an infant no food or drink except breastmilk, not even water or breastmilk substitute, with the exception of drops or syrups containing vitamins, mineral supplements, or medicine

Exclusive replacement feeding: Giving an infant a breastmilk substitute (commercial infant formula or home-prepared formula) only, with no breastmilk

Gender: Concept that develops in either sex depending on the social roles assigned to boys and girls that make them masculine or feminine

Germinated seeds and flour: Seeds that have been soaked and allowed to sprout and flour prepared from the dried and milled sprouted seed

Human immunodeficiency virus (HIV): In this document, refers to HIV-1, as cases of mother-to- child transmission of HIV-2 are rare

HIV testing and counseling: Testing for HIV that is voluntary, confidential, based on fully informed consent, and accompanied by pre- and post-test counseling; the term encompasses the terms *voluntary counseling and testing* and *voluntary and confidential counseling and testing*

HIV negative: Tested for HIV with a negative result

HIV positive or HIV infected: Tested for HIV with a positive result (also referred to as "living with HIV)

HIV status unknown: Refers to a person who has not been tested for HIV or who has been tested but does not know the result

Home-prepared formula: Infant formula prepared at home from fresh or processed animal milks suitably diluted with water and with sugar added

Induced lactation: Lactation established in a woman who has never been pregnant

Infant: A child from birth to 12 months of age

Infant feeding counseling: Counseling on breastfeeding, complementary feeding, and (for women who are HIV positive) on HIV and infant feeding

Micronutrients: Nutrients required by the body in small quantities (e.g., vitamin A, iron, iodine)

Mother-to-child transmission (MTCT): Transmission of HIV to an infant from an HIV-positive woman during pregnancy, labor and delivery, or breastfeeding (also referred to as vertical transmission); the term is used because the mother is the immediate source of the infant's HIV infection and implies no blame of the mother

Nutrients: Substances that come from food and are needed by the body (i.e., carbohydrates, proteins, fats, minerals, and vitamins)

Nutritional needs: Amounts of nutrients needed by the body for normal functioning, growth, and health

Opportunistic infections: Infections that take advantage of the compromised immune system of someone infected with HIV and are caused by germs that are normally found in the environment without causing any problem

Partial breastfeeding: Giving an infant some breastfeeds and some artificial feeds (milk, cereal, or other food)

Porridge: Cereal flour, grated cassava or other roots, or grated fruit cooked with water until it is smooth and soft

Predominant breastfeeding: Feeding an infant mostly breastmilk, although the infant may also receive water or water-based drinks (e.g., sweetened or flavored water; fruit juice; tea; infusions; liquid folk remedies); oral rehydration salts; or drop and syrup forms of vitamins, minerals, and medicines) in limited quantities

Replacement feeding: Feeding a child who is not receiving any breastmilk with a diet that provides all the nutrients the child needs. For the first 6 months this diet should be a suitable breastmilk substitute, either commercial or home-prepared formula with micronutrient supplements. After 6 months the diet should be a suitable breastmilk substitute complemented with appropriately prepared and nutrient-rich family foods 3 times a day. If suitable breastmilk substitutes are not available, the infant should receive appropriately prepared and further enriched family foods 5 times a day.

Seroconversion: The development of antibodies to a particular antigen as a result of infection or immunization. When people develop antibodies to HIV, they "seroconvert" from antibody-negative to antibody-positive.

Spillover: Choice of mothers not to breastfeed, breastfeed for a short time only, or mix- feed because of unfounded fears or misinformation about HIV or the ready availability of breastmilk substitutes

Staples: The main foods people eat, usually grains or cereals, starchy roots and fruits

Universal precautions: Simple guidelines for preventing transmission of blood-borne infections that are applicable in all health care settings and the home

Wet nursing: Breastfeeding of an infant by a woman other than the mother who is breastfeeding her own child

Window period: Time between becoming infected with HIV and having a blood test showing a positive result, from 3 weeks to 3 months

Viral load: Amount of HIV virus in the blood of an HIV-infected person