

Facility Based Newborn Nursing

Facilitator's Guide
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Guidelines to use facilitator guide

How does this course differ from other training courses?

- The material in the course is not presented by lecture. Instead, each participant is given a set of self-learning modules, which have the basic information to be learned. Information is also provided through demonstrations, role-play and videotapes.
- The modules are designed to help each participant to gain knowledge and develop specific skills necessary for management of normal and sick newborn. Participants develop these skills as they read the modules, observe live and videotaped demonstrations, and practice skills in written exercises, group discussions, or role-plays.
- After reading the modules, participants practice the skills in a real clinical setting, with supervision to ensure correct practices.
- Each participant works at his own speed.
- Each participant discusses any problems or questions with a facilitator, and receives prompt feedback from the facilitator on completed exercises. (Feedback includes telling the participant how well he has done the exercise and what improvements could be made).

Who is a FACILITATOR?

A facilitator is a person who helps the participants learn the skills presented in the course. The facilitator spends much of his time in discussions with participants, either individually or in small groups. For facilitators to give enough attention to each participant, a ratio of one facilitator to 3 to 6 participants is desired. In your assignment to teach this course, YOU are a facilitator.

As a facilitator, you need to be *very* familiar with the material being taught. It is your job to give explanations, do demonstrations, answer questions, talk with participants about their answers to exercises, conduct role-plays, lead group discussions, organize and supervise clinical practice in hospital, and generally give participants any help they need to successfully complete the course. You are not expected to teach the content of the course through formal lectures. (Nor is this a good idea, even if this is the teaching method to which you are most accustomed.)

What, then, DOES a FACILITATOR do?

As a facilitator, you do 3 basic things:

1. You INSTRUCT

- Make sure that each participant understands how to work through the materials and what he is expected to do in each module and each exercise.
- Answer the participant's question as they occur.
- Explain any information that the participant finds confusing, and help him understand the main purpose of each exercise.
- Lead group activities, such as group discussions, video exercises, and role-plays, to ensure that learning objectives are met.
- Promptly assess each participant's work and give correct answers.
- Discuss with the participant how he obtained his answers in order to identify any weaknesses in the participant's skills or understanding.
- Provide additional explanations or practice to improve skills and understanding.
- Help the participant to understand how to use skills taught in the course in his own clinic.
- Explain what to do in each clinical practice session.
- Model good clinical skills, including communication skills, during clinical practice session
- Give guidance and feedback as needed during clinical practice sessions.

2. You MOTIVATE

- Compliment the participant on his correct answers, improvements or progress.
- Make sure that there are no major obstacles to learning (such as too much noise or not enough light).

3. You MANAGE

- Plan ahead and obtain all supplies needed each day, so that they are in the classroom or taken to the postnatal ward when needed.
- Make sure that movements from classroom to hospital and back are efficient.
- Monitor progress of each participant.

How do you do these things?

- Show enthusiasm for the topics covered in the course and for the work that the participants are doing.
- Be attentive to each participant's questions and need. Encourage the participants to come to you at any time with questions or comments. Be available during scheduled times.
- Watch the participants as they work, and offer individual help if you see a participant looking troubled, staring into space, not writing answers, or not turning pages. These are clues that the participant may need help.
- Promote a friendly, cooperative relationship. Respond positively to question (by saying, for example, "Yes, I see what you mean," or "That is a good question."). Listen to the questions and try to address the participant's concerns, rather than rapidly giving the "correct" answer.
- Always take enough time with each participant to answer his questions completely (that is, so that both you and the participant are satisfied).

What NOT to do...

- During times scheduled for course activities, do not work on other projects or discuss matters not related to the course.
- In discussions with participants, avoid using facial expressions or making comments that could cause participants to feel embarrassed.
- Do not call on participants one by one as in a traditional classroom, with an awkward silence when a participant does not know the answer. Instead, ask questions during individual feedback.
- Do not lecture about the information that participants are about to read. Give only the introductory explanations that are suggested in the Facilitator Guide. If you give too much information too early, it may confuse participants. Let them read it for themselves in the modules.
- Do not review text paragraph by paragraph. (This is boring and suggests that participants cannot read for themselves.) As necessary, review the highlights of the text during individual feedback or group discussions.
- Avoid being too much of a showman. Enthusiasm (and keeping the participants awake) is great, but learning is most important. Keep watching to ensure that participants understand the materials. Difficult points may require you to slow down and work carefully with individuals.
- Do not treat participants as if they are children. They are adults.
- Do not talk too much. Encourage the participants to talk.
- Do not be shy, nervous, or worried about what to say. This Facilitator Guide will help you remember what to say. Just use it!

How can this FACILITATOR GUIDE help you?

This Facilitator Guide will help you teach the course modules, including the video segments.

For each module, this Facilitator Guide includes the following:

- A list of the procedures to complete the module, highlighting the type of feedback to be given after each exercise.
- Guidelines for the procedures. These guidelines describe: - How to do demonstrations, role-plays, and group discussions, - Supplies needed for these activities. – How to conduct the video exercises, – Points to make in group discussions or individual feedback.
- Answer sheets (or possible answer) for most exercises
- A place to write down points to make in addition to those listed in the guidelines

On pages 6 to 7 of this Facilitator Guide is a section titled "Guidelines for All Modules" (session I). This section describes training techniques to use when working with participants during the course. It also includes important techniques to use when:

- Participants are working individually.
- You are providing individual feedback,
- You are leading a group discussion,
- You are coordinating a role-play

To prepare yourself for each module, you should:

- Read the module and work the exercises
- Read in this Facilitator Guide all information provided about the module
- Plan exactly how work on the module will be done and what major points to emphasize
- Collect all necessary supplies for exercises in the module, and prepare for any demonstrations or role-plays
- Think about sections that participants might find difficult and questions they may ask
- Plan ways to help with difficult sections and answer possible questions
- Think about the skills taught in the module and how they can be applied in participants' own practice.

Ask participants questions that will encourage them to think about using the skills in their practice. Questions are suggested in appropriate places in the Facilitator Guide.

Guidelines for All Modules

When participants are working

- Look available, interested and ready to help.
- Watch the participants as they work, and offer individual help if you see a participant looking troubled, staring into space, not writing answer or not turning pages. These are clues that the participant may need help.
- Encourage participants to ask questions whenever they would like some help.
- If important issues or questions arise when you are talking with an individual, make note of them to discuss later with the entire group.

When providing individual feedback

- Before giving individual feedback, refer to the appropriate notes in this guide to remind yourself of the major points to make.
- Compare the participant's answers sheet provided. If the answer is labeled "Possible Answer" the participant's answer does not need to match exactly, but should be reasonable. If exact answers are provided, be sure the participant's answer matches exactly.
- If the participant's answer to any exercise is incorrect or is unreasonable, ask the participant questions to determine why the error was made. There may be many reasons for an incorrect answer. For example, a participant may not understand the question, may not understand certain terms used in the exercise, may use different procedures at his clinic, may have overlooked some information about a case, or may not understand a basic process being taught.
- Once you have identified the reason(s) for the incorrect answer to the exercise, help the participant correct the problem. For example, you may only need to clarify the instructions. On the other hand, if the participant has difficulty understanding the process itself, you might try using a specific case example. After the participant understands the process that was difficult, ask him to work the exercise or part of the exercise again.
- Summarize, or ask the participant to summarize, what was done in the exercise and why. Emphasize that it is most important to learn and remember the process demonstrated by the exercise. Give the participant a copy of the answer sheet, if one is provided.
- Always reinforce the participant for good work by (for example):
 - Commenting on his understanding.
 - Showing enthusiasm for ideas for application of the skills in his work.
 - Telling the participant that you enjoy discussing exercises with him.
 - Letting the participant know that his hard work is appreciated.

When leading a group discussion

- Plan to conduct the group discussion at a time when you are sure all participants completed the preceding work. Wait to announce this time until most participants are ready, so that others will not hurry.
- Before beginning the discussion, refer appropriate notes in this guide to remind yourself of the purpose of discussion and the major points to make.
- Always begin the group discussion by telling the participants the purpose of the discussion.
- Often there is no single correct answer that needs to be agreed on in a discussion. Just be sure the conclusions of the group are reasonable and that all participants understand how the conclusions were reached.
- Try to get most of the group members involved in the discussion. Record key ideas on a flipchart as they emerge. Keep your participation to a minimum but ask questions to keep the discussion active and on track.

- Always summarize, or ask a participant to do so, what has been discussed in the exercise.
- Give participants a copy of the answer sheet, if one is provided.
- Reinforce the participants for their good work by (for example):
 - Praising them for the list they compiled,
 - Commenting on their understanding of the exercise,
 - Commenting on their creative or useful suggestions for using the skills on the job, - Praising them for their ability to work together as a group.

When coordinating a Role-play

- Before the role-play, refer to the appropriate notes in this guide to remind yourself of the purpose of the role-play, roles to be assigned, background information, and major points to make in the group discussion afterwards.
- As participants come to you for instructions before the role-play,
 - Assign roles. At first, select individuals who are outgoing rather than shy, perhaps by asking for volunteers. If necessary, a facilitator may be a model for the group by acting in an early role-play.
 - Give role-play participants any props needed, for example, a baby doll, and drugs. - Give role-play participants any background information needed.
- (There is usually some information for the “mother” which can be photocopied or clipped from this guide.)
 - Suggest that role-play participants speak loudly.
 - Allow preparation time for role-play for the participants.
- When everyone is ready, arrange seating/placement of individuals involved. Have the “mother” and “nurse” stand or sit apart from the rest of the group, where everyone can see them.
- Begin by introducing the players in their roles and stating the purpose or situation. Interrupt if the players are having tremendous difficulty or have strayed from the purpose of the role-play.
- When the role-play is finished, thank the players and praise them for their participation. Ensure that feedback offered by the rest of the group is supportive. First discuss things done well. Then discuss things that could be improved.
- Try to get all group members involved in discussion after the role-play. In many cases, there are questions given in the module to help structure the discussion.

Ask participants to summarize what they learned from the role-play.

Checklist of supplies needed for work on Modules

Supplies needed for each person include:

- Name tag and hold
- Paper
- Ball point pen
- Eraser
- Felt tip pen
- Highlighter
- One pencil

Supplies needed for each group include:

- Paper clips
- Pencil sharpeners
- Stapler and staples
- Extra pencils and erasers
- Flipchart pad and marker or blackboard and chalk
- Two rolls transparent tape
- Rubber bands
- One roll masking tape
- Scissors

Access is needed to a CD /video player. In addition, certain exercises require special supplies such as drugs, demonstration aids or a baby doll (or rolled towel to hold like a baby). These supplies are listed in the guidelines for each activity. Be sure to review the guidelines and collect the supplies needed before these activities.

Module 3: Kangaroo Mother Care

Needs/ Requirements for the module

- KMC posters
- KMC video
- Role Play: Two facilitators (including a male facilitator emphasizing the role of father in KMC); Doll with cap and socks
- Sheet as a binder
- KMC jacket/ gown (Optional)

Introduction to the Module on KMC

Facilitator will get up and greet the participants. Introduce yourself and the participants to each other. Keep on writing the surname/nickname on the board. After the round of introduction, facilitator should announce, "You will learn in this module initiation, procedures and benefits of Kangaroo Mother Care. This module is for you to keep". Facilitator should distribute the module to each participant.

Now ask them to read page 1 to 3 and read the poster on page 4 and 5 (given as a separate sheet). There will be a demonstration on the poster.

Demonstration on the KMC Poster

Make sure that all participants have read all the pages. Gather all the participants near the demonstration aid fixed on the flip board. As a facilitator, read one of the components of poster aloud. Make sure that all the participants are looking at the poster. Then ask participants one after other to read the remaining components on the poster. Build a discussion on the various aspects of the KMC.

Ask the participants to read page 6 to 9 and do self evaluation on page 10; tell them that they would be given individual feedback after they have done the self evaluation



SELF EVALUATION*

1. Components of KMC include
 - a. Skin to skin contact**
 - b. Exclusive breastfeeding**
2. Benefits of KMC include (any four of the following)
 - a. Effective thermal control**
 - b. Increased breastfeeding rates**
 - c. Early discharge, better weight gain**
 - d. Less morbidities such as apnea, infections**
 - e. Less stress**
 - f. Better infant bonding**
3. Mother should practice KMC at least for **1 hr** in one sitting.
4. Do you need additional staff for implementing KMC in your unit: **No**
5. Who all can practice KMC?
Father, grandmother and other family members
6. A mother is practicing KMC during the day. Can she provide KMC during the night while she is sleeping?
Yes; she has to be careful and in propped up position;
7. Mention the discharge criteria from the hospital of a mother baby dyad practicing KMC
 - a) The baby's general health is good and there is no concurrent disease such as apnea or infection;**
 - b) Baby is feeding well, and is exclusively or predominantly breastfed.**
 - c) Baby is gaining weight (at least 15 to 20g/kg/day for at least three consecutive days)**
 - d) Baby's temperature is stable in the KMC position (within the normal range for at least three consecutive days)**
 - e) The mother is confident of caring her baby and would be able to come regularly for follow-up visits.**
8. Can KMC be provided in the following scenarios?
 - i. Baby on OG tube feed – **Yes**
 - ii. Baby receiving IV fluids – **Yes**
 - iii. Baby receiving free flow oxygen – **Yes**

*- while giving individual feedback, cross-check the learner's ability to analyze varied situations by asking relevant questions.

After giving individual feedback, conduct a video demonstration on 'Kangaroo mother care'



VIDEO

Organize a video show for all participants. One of facilitator should announce "There will be a video demonstration on initiation, procedure of KMC, perceptions of family, health professionals about KMC. After the video there will be a discussion".

After the show, the facilitator should initiate a discussion with the group. Encourage the participants to share their own experience; perception about KMC. You should take their opinion on various aspects of the video demonstration.

*After video demonstration, conduct a role-play on
'Counseling and preparing a mother for KMC'.*



Two facilitators should demonstrate role-play on KMC. One of facilitators should moderate the discussion and take feedback from every participant on their comments.

Introduce the two facilitators doing role-play to the group:

-----is mother; -----is nurse. She has a premature baby 1.2 kg admitted in Nursery. Nurse will motivate and counsel the mother for KMC. All the participants will record the feedback in ALPAC format in the learner module page 12.

AL: Ask and listen (and accept mother's concern).

P: Praise the mother for her right practices, concern or enthusiasm for the baby.

A: Give a few practical advices that she can understand and follow easily.

C: Confirm whether she has understood

Introduction of KMC to mother

Nurse: Hello Anita, how are you?

Mother: I am fine, thank you.

Nurse: Have you seen your baby today, how does he look?

Mother: Yes Sister, he looks much better now. His breathing problem has now settled and he is breathing on his own. He is 5 days old but still losing weight. His weight was 1200 grams at birth and today his weight is 1080 grams.

Nurse: Don't worry Anita. Most babies do lose weight in the first week of life. You can help in care of the baby. Since when are you coming to see your baby?

Mother: I have been coming to see the baby since last 24 hour. Initially I was scared to touch the baby. The nurses have helped me to overcome that fear and now I am able to touch and caress my baby. Today I also changed his nappy.

Nurse: That's very good Anita. Do you feel your baby require different kind of care than that of other babies?

Mother: Yes, he is too small. The sister asked to me to wash and warm before each handling. They are keeping my baby in this machine to keep him warm and also feeding him every 2 hourly.

Nurse: Did you hold your baby?

Mother: No I am scared.

Nurse: Do you want to take the baby in your lap?

Mother: Yes, but I am scared to do it

Nurse: There are things you can do for the baby which will help him gain weight and remain well. There is a method of care called Kangaroo Mother Care. It is based on the method by which kangaroos care for their babies. Have you heard about the animal kangaroo?

Mother: Yes. It is an animal found in Australia. But how does this method of care help me and my baby?

Nurse: The mother kangaroo carries the baby in her pouch, where the baby stays warm and gets breast-feeding and grows bigger till the time he starts coming out. We have tried to adopt a similar method of care for our human babies. I can explain that method of care to you.

Mother: Is that method safe?

- Nurse:** That is a very important question. We have found this method to be safe. Initially you must do this under our supervision and then as you develop confidence you can do it on your own.
- Mother:** How does it help my baby?
- Nurse:** As I have already told you, this method ensures that your baby remains warm. As the baby is so close to you, this stimulation leads to improvement in breast milk output. Hence KMC helps in both warmth and breast-feeding. Both these things are most important at this stage for the baby. Do you want me to explain this method of care to you?
- Mother:** Yes
- Nurse:** You must wear a gown, which can be opened from the front. The baby should be prepared for this. He should be wearing a nappy to prevent soiling you and socks and cap to keep him warm. All other clothes should be removed
- Mother:** Would the baby not get cold if all his clothes are removed?
- Nurse:** I understand your concern. However your skin temperature is 37°C which is just accurate for the baby. By remaining in touch with you, the baby gets warmth from you and he does not get cold. In addition, your clothes cover him. The baby should be put upright on the chest between the breasts. Care should be taken to ensure that the head is slightly extended and turned to one side. This ensures that the baby continues to breathe. You can also observe his breathing in this position. Now wrap your gown over the baby. How are you feeling now?
- Mother:** I am comfortable but still I am not confident? What if he stops breathing?
- Nurse:** While the baby is in this position, you can keep a watch on the baby's breathing. While you are in the unit the doctors and nurses will also help you in the monitoring of the baby. As the baby grows older and puts on weight, you would become more confident. In fact you can then sense his breathing movements without observing them. In addition, your own breathing movements will stimulate the baby to breathe.
- Mother:** Does this method help my baby to put on weight?
- Nurse:** You are right. This helps your baby to put on weight. During KMC, the baby may start breast-feeding. In addition, you can express breast milk into a container and the baby can be fed the same milk by a tube. You would have more milk and we can then give more breast milk to your baby. This would help the baby to put on more weight
- Mother:** Does this mean that I can get discharged sooner if my baby starts gaining weight?
- Nurse:** Definitely. If your baby starts sucking and you are confident then we can also discharge you sooner.
- Mother:** I am feeling better now nurse. How often should I do this KMC?
- Nurse:** Try to do this procedure for three to four times a day and each time do it for 1-2 hour. In fact your husband can also help you. If you get tired or you are busy with something else, your husband or other family members can do it for you.
- Mother:** Thank you sister. Your explanation has really satisfied me and I am very relieved. I would like to definitely help in the care of my baby. I now feel that I can contribute to the care of my baby. This makes me feel better.
- Nurse:** You can also speak to a few mothers who are practicing KMC. It will give you more confidence. Please do not hesitate to talk to me or to any one of us if you have any doubts regarding this or anything else. I hope that you have a good experience and that your baby gets well soon. Thank you.

Ask to stop role-play

Lead a discussion how the role-play was conducted. Ask the participants to comment on how the role-play was performed. Ask them to elaborate on what has been done well and what needs to be improved upon. Build up the discussion by involving each participant. Write comments of participant on the flip chart under two headings (Good things and things need to be improved).

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After the discussion, ask the participants to evaluate the role-play with principles of counseling (ALPAC) by writing on the Learners Guide.

Encourage participant to share their own experience and summarize the key points to the group.

Role-play by participants

- *Ask the participants to volunteer for next role-play. Give a situation; assign one to be the nurse and the other to be a mother.*
- *Assignment of roles should be done much in advance (during tea/lunch breaks). Following instructions should be provided in writing to the participants of role play.*

Instruction for Mother

You have delivered a baby 5 days ago weighing 1800 g, who is feeding well and active. You have observed a mother in the postnatal ward keeping her baby on her chest. Ask the Nurse what Seema is doing and can you also do this.

Instruction for Nurse

As a nurse you have to counsel the mother to initiate and practice KMC, her baby is 1800g, 5 day old, active & feeding well.

Lead a discussion how the role-play was conducted. Ask the participants to comment on how the role-play was performed. Ask them to evaluate the role-play with principals of counselling(ALPAC).By writing on the learner's guide.

Discuss with the participants how to ensure privacy in hospital setting for the mother and use of different apparel for providing KMC.

SUMMARIZING THE MODULE

Once all the participants complete the module, one of the facilitator should get up and summarize the module. "So we have learnt in this module about benefits and procedure of KMC. Tomorrow we will see actual demonstration in hospital setting.

Emphasize that that babies on orogastric feeds, intravenous fluids and oxygen by cannula/ tube can receive KMC.

Module 2: Thermal Protection

Introduction

In this module you would learn about thermal protection. We know maintenance of normal temperature is essential for newborn babies. Hypothermia as well as hyperthermia is bad for babies. As a staff nurse we can prevent these by simple measures. Use the highlighter pen to highlight important points in the module for yourself.

Needs/ Requirements for the module

- Wet doll, towel, cap, metal table, sheet, cot, hand rub
- Doll- thermometer, gauze (clean and dry), spirit, thermometer
- Video on how to measure the temperature in a neonate

*Ask the participants to start reading pages 1 to 3.
Once everybody has finished reading, demonstrate the
'Mechanisms of heat loss and the ways to prevent them'*



DEMONSTRATION

Place a naked wet doll on the table. Discuss the four ways a baby can lose heat and demonstrate how to prevent these.

Ask four participants the following question adding a different way of losing heat each time, giving examples.

Ask: *What are the four ways a baby can lose heat?*

Evaporation

- Not drying the baby after delivery when it is wet.
(Dry the doll with a towel)

Radiation

- Not covering the baby's head so that its body heat is able to pass into the surrounding air.
(Put a hat onto the baby's head)

Convection

- Leaving the baby in a draught.
(Take the baby away from an open door or window)

Conduction

- Leaving the baby on a cold surface, particularly metal.
(Take the baby off the table top, wrap it up and indicate you have put it in a cot temporarily)

*Ask the participants to read pages 5. Then conduct a demonstration on
'Measurement of axillary temperature using a thermometer'*



DEMONSTRATION

Ask co-facilitator to record the axillary temperature. Lead a discussion about what steps were done correctly and what were wrong. Facilitator should lead a discussion & emphasize correct steps of recording temperature.

- Use a mannequin or doll and a thermometer.
- Follow the points given in the box '*Recording the axillary temperature*'.
- A participant to read out each point as it is demonstrated.



Organize a video show for all participants. One of facilitator should announce "There will be a video demonstration on how to measure axillary temperature in a neonate. After the video there will be a discussion".

After the show, the facilitator should initiate a discussion with the group. Encourage the participants to share their own experience and fallacies in measurement of temperature. You should take their opinion on various aspects of the video demonstration.

Ask them to read page 7, 8; after they have finished reading, conduct a demonstration on 'Temperature regulation and warm chain' using the poster



DEMONSTRATION

Make sure that all participants have read page 7 and 8 and seen the contents of poster. Gather all the participants near the demonstration aid fixed on the flip board. As a facilitator, read one of the components of poster aloud. Make sure that all the participants are looking at the poster. Then ask participants one after other to read the remaining components on the poster. Build a discussion on the various aspects of warm chain.

After the demonstration, conduct an oral drill on 'Hypothermia and its management'.



ORAL DRILL

One of facilitators should conduct the oral drill. Ask all participants to open the module on page 11. Facilitator can also have a look on the table on page 11. Tell them that you will ask them a question and they need to answer from the table. Before you start asking questions, summarize the table by saying aloud: 'this table has 5 columns namely category, temperature range, feel by touch, clinical features, and action. It describes how to categorize the infants based on temperature, how to assess the temperature by touching the abdomen and extremities, what would be the clinical features in each category, and what action a nurse should take in these cases'.

Give an example referring to the table (e.g. in moderate hypothermia, temperature range is 32-36°C). **Make sure all participants locate this in the table.**

Now, you start asking questions; you can ask

- Q1. If baby has warm trunk and cold extremities on touch, he has
Cold stress
- Q2. What action you will undertake for a baby with cold stress?
Cover adequately, Warm room or bed, Skin-to-skin contact, Provide warmth
- Q3. A baby has been brought to emergency room with axillary temperature of 31.8 °C. Classify the hypothermia category
Severe hypothermia
- Q4. What are the clinical symptoms and signs in a baby who has axillary temperature of 34 °C
Poor feeding, weak cry, lethargy and fast breathing.
- Q5. How would a baby with normal temperature be felt on touch?
Warm trunk and warm extremities

*After the oral drill, ask the participants to do self evaluation on page 12.
Tell participants that they would be given individual feedback
after they have done the self evaluation*



SELF EVALUATION

1. Newborn baby is prone to develop hypothermia due to
 - a) **Larger surface area**
 - b) **Decreased thermal insulation due to lack of subcutaneous fat (LBW infants)**
 - c) **Reduced amount of brown fat (LBW infants)**
2. Enumerate four mechanisms of heat loss in neonates:
Radiation
Convection
Evaporation
Conduction
3. Steps of "warm chain" in hospital include the following:
Steps to prevent heat loss in labor room
 - Warm delivery room (25°C)
 - Newborn care corner temperature at 30°C
 - Drying immediately.
 - Remove the wet towel and cover with another pre-warmed towel
 - Skin-to-skin contact between mother and baby**Steps to prevent heat loss in postnatal ward**
 - Breast feeding
 - Appropriate clothing; cover head and extremities
 - Keep mother and baby together
 - Postpone bathing and weighing
4. Routine temperature should be recorded by **axillary** route.
5. Normal axillary temperature range is **36.5 to 37.5°C**.
6. How can you assess baby's temperature by touch?
By touching the abdomen and extremities of the baby using the dorsum of the examiners hand
7. A baby with cold stress will have warm abdomen and **cold** soles/palms.

After giving individual feedback, conduct a group discussion /case study (given in page 13).



GROUP DISCUSSION – CASE STUDY

Ask one participant to read the case-scenario: 'You are posted in postnatal ward. A recently born baby is irritable. On examination you found a 6 hr old, lying in a separate cot. Baby has no clothes and yet only wrapped in a hospital cotton sheet. HR is 140/minute, RR 56/minute. Extremities are blue and cold while abdomen is still warm to touch. Axillary temperature is 36.1°C. The room is cold'.

Lead a discussion by asking the following questions. Ask individual participant first and then ask the group; reach a final consensus answer and make everyone write the same on their modules.

- Q1. What is problem with the baby?
Baby is in cold stress
- Q2. What are the adverse effects of this condition?
- ***Can progress to severe degree of hypothermia***
 - ***Baby can develop low blood sugar***
 - ***Fast breathing/ apnea***
 - ***Bleeding tendency***
- Q3. What led to this situation in the baby?
- ***Room is cold***
 - ***Rooming in is not being practiced***
 - ***No clothing offered to the baby***
 - ***Breastfeeding not yet initiated***
- Q4. What will you do to rectify these conditions?
- ***Provide a heater in room to raise room temperature***
 - ***Prevent air currents in the room. Switch off the fan, close the windows etc.***
 - ***Provide adequate and warm clothing to baby (cover head and extremities)***
 - ***Skin-to-skin contact with mother***
 - ***Frequently put the baby on breast***
 - ***Frequent monitoring of baby for temperature maintenance***

You can ask more questions regarding the case and lead the discussion.

*After the group discussion, conduct a role-play on
'How to keep a baby warm in postnatal ward'*



ROLE PLAY

Objectives: To demonstrate how to keep baby warm in postnatal ward.

Time allotted: 10 minutes

One of the facilitators would act as a nurse while the other would act as the mother.

Nurse: Good morning Geeta. How are you?

Geeta: I delivered in the morning. I breastfed her and she passed black stool after that.

Nurse: That's good Geeta. Your baby looks so cute but why did not you dress her fully yet.

Geeta: My mother-in-law has just brought clothes for her but I do not know how to dress her.

Nurse: Do not worry Geeta. Your mother in law is so caring for you and your baby. I will help you how to do that.

(Demonstrate adequate clothing of the baby – woolens, cap, socks etc.)

Geeta: Thank you sister. But how would I know that the baby is not heated up in this hot season.

Nurse: Babies usually need little more cloths than adults even in summer month. You can assess temperature of baby by touching his abdomen and hands and face. If she appears too warm than you can decrease the clothing a little bit. If he is appropriately clothed he will not get cold and will be comfortable.

Geeta: How will I know that my baby is cold?

Nurse: I will demonstrate this to you. See, touch with your dorsum of hand on abdomen and extremities of baby. If abdomen is warm but the extremities are cold then your baby is in cold stress. Give extra clothes or keep baby next to you in skin-to-skin contact.

Geeta: When should I give bath

Nurse: Tomorrow and make sure that baby has warm soles and abdomen.

After the role-play, ask the participants to evaluate it by using the principles of counseling (ALPAC) and write on the Learners Guide. Ask them to read page no. 15 & 16 and the posters on hypothermia and hyperthermia on oapage 17, 18

SUMMARIZING THE MODULE

Once all the participants have completed the module, one of the facilitator should get up and summarize asking participants the key messages. Facilitator should keep writing on board. Then again ask one participant to open the learning objectives and read. In end tell 'We will see clinical demonstration of what you have learnt in hospital tomorrow; now we will start next module'

FREQUENTLY ASKED QUESTIONS

1. Why should one keep the thermometer parallel and not perpendicular?

Once the thermometer is kept parallel to the chest in-between the chest and arm the tip is well within the axilla, whereas once perpendicular the tip may go beyond the armpit and measure the environmental temperature.

2. Why rectal temperature is not preferred now days?

The procedure may cause discomfort, the site is not hygienic and presents an infectious hazard; an outbreak of Salmonella cross infection has been reported in newborn infants and the transmission of human immunodeficiency virus through this route remains a concern. In addition, it is time consuming, requires privacy, and has been reported to cause rectal perforation; it also varies depending how deeply the thermometer is inserted into the rectum, local blood flow, and the presence of stool and diarrhea. It may lag behind a rising and a falling core temperature.

3. How rectal thermometer differs from clinical thermometer?

- Most oral thermometers have an elongated tip to ensure optimum contact whereas rectal thermometers have a blunt, rounded, thick tip so as to prevent any damage to the rectum wall.
- Most anal thermometers have a red tip or mark, to remind you that they are anal thermometers. Most oral thermometers have a blue tip or mark.

4. Why is mercury thermometer not preferred?

- Mercury is well documented as a toxic, environmentally-persistent substance. Several states prohibit the sale of mercury-containing thermometers.

Module 4: Feeding of Normal and LBW babies

Introduction to the module:

Introduce by saying aloud: 'In this module, you will learn feeding of normal and low birth weight babies. We are aware that most of the knowledge and skills you already possess, but still this module is very important to learn'.

Needs/ Requirements for the module

- Doll- clothes, cap
- Paladai and orogastric tube of sizes 5, 6
- Breast model (made from cotton socks)
- Wall charts on decision of the initial feeding method and progressive increase in feeds

*Ask the participants to start reading pages 1 to 4.
Once everybody has finished reading, conduct a demonstration on
'Anatomy of breast and physiology of lactation'.*



DEMONSTRATION

Make sure that all participants have read pages 1 to 4. Ask them to open page 2 (*Figure 2*) of the module. Gather all the participants near the demonstration aid fixed on the flip board. As a facilitator, read one of the components of figure aloud pointing where that structure is. Make sure that all the participants are looking at the demonstration aid. Then ask participants one after other to indicate the remaining structures on the figure.

Similarly using demonstration aids on prolactin and oxytocin reflex build a discussion among the participants.

*After you have finished the discussion, ask the participants
to read page 5 and do the exercise on page 6;
tell them that they will be given individual feedback*



SELF-EVALUATION

1. Benefits of breast feeding for baby and mother are:

To baby

Complete food

Easily digested

Protects against infection

Promotes emotional bonding

To mother

Delays pregnancy

Lowers risk of breast and ovarian cancer

Decreases mother's work load

Better involution of uterus

2. How long should exclusive breast-feeding be continued for babies?

For at least 6 months

3. Milk secretion is caused by **Prolactin** hormone, while milk ejection (letdown) by **Oxytocin** hormone.

4. Enumerate factors, which enhance "milk secretion reflex" by increasing prolactin production

Suckling, expression of milk, emptying of breast, night feeds

5. Oxytocin reflex is stimulated by:

Mother thinks lovingly of baby

Sound of the baby.

Mother is relaxed/comfortable

Confidence

6. Look at the picture. Is Malti doing correct? Yes/No

No.

How many times she should breast feed in a day?

(ANSWER NOT GIVEN IN MODULE; Announce the correct answer at the end)

As frequently as baby demands day and night (at least 8 times in a day)

*After individual feedback, ask the participants to read pages 7 to 11;
once they finished reading, conduct a video demonstration on
'Initiation of breast feeding and good positioning and attachment'*



VIDEO

Introduce by saying aloud: 'The first video will demonstrate you how to counsel and support a mother for initiation of breast feeding; the second video will demonstrate the correct position of mother and baby and signs of good attachment and effective sucking'.

After the show the facilitator should initiate a discussion with the participants. Encourage the participants to share their own experiences, perceptions about breastfeeding and lead a discussion. You should take their opinion on various aspect of the video.

After the video demonstration, ask the participants to read pages 13 to 15, read the poster on page 16 and do the self-evaluation on page 17. Give individual feedback.



SELF-EVALUATION

1. Can a mother feed her baby in lying down position? **Yes**
2. Enumerate the four key points of positioning of baby for breastfeeding
 - i. Supporting whole of the baby's body**
 - ii. Head, neck and back are in the same plane**
 - iii. Entire baby's body should face mother**
 - iv. Baby's abdomen touches mother abdomen**
3. Signs of good attachment are
 - i. Baby's mouth wide open**
 - ii. Lower lip turned outward**
 - iii. Baby's chin touches mother's breast**
 - iv. Majority of areola inside baby's mouth**
4. What differences do you see?
 1. Baby sucking on **nipple & areola (good attachment)**
 2. Baby sucking on **nipple only (poor attachment)**
5. Enumerate problems associated with poor attachment.
Sore nipple, breast engorgement, poor milk supply, refusal to suck
6. How will you assess the adequacy of breastfeeding?
If the baby
 - i. Passes urine 6-8 times in 24 hours.**
 - ii. Goes to sleep for 2-3 hrs after the feeds.**
 - iii. Gains weight @25-30 gm/day After 7-10 days**

iv. Crosses birth weight by 2 weeks.

7. How many times should a baby be breastfed?
At least 8 times in 24 hours
8. Can mother skip one or two night feeds? **No**
9. What advice will you give to a mother who develops heaviness and pain in breast on third day after delivery?
Frequent breastfeeding, correct attachment, hot fomentation, expression of milk and paracetamol for pain
10. How you will manage a mother with sore nipple?
Correct positioning and attachment
Apply hind milk to the nipple
Expose the nipple to air between feeds

After giving individual feedback, conduct a role-play on 'Not enough milk'



ROLE PLAY

Give a brief introduction: 'A common complaint of mothers in the postnatal ward is "Not enough milk". We shall perform a role-play to address this problem'.

Introduce the Facilitator I as Nurse and Facilitator II as Mother. Ask the participants to observe: .

- Nurse:** Hello Meena! How are you today?
Mother: I am fine sister, but I am slightly worried about my baby
Nurse: Meena, why are you worried?
Meena: My baby has been crying all night. I have been feeding the baby but I think my milk is not enough for the baby.
Nurse: Don't worry Meena. I am here to help you. Let us see what the problem is. Now tell me, has the baby passed urine during the day and night
Meena: Yes sister, the baby has passed urine. In fact he has passed urine 2 times last night.
Nurse: How many times did the baby pass urine in the last 24 hours?
Mother: The baby has passed urine 5-6 times in the last 24 hours.
Nurse: Excellent. Meena, if the baby is passing urine 5-6 times in 24 hours, then the baby is receiving sufficient milk. Even if the baby passes urine 4 times in 24 hours, the baby is getting adequate milk. So Meena, your baby is getting enough milk.
Mother: But sister, my baby has been crying all night.
Nurse: Meena, I can understand your worry. But the baby could be crying because of other reasons. The baby could be crying because of a wet nappy, or because he is feeling cold. Was the baby crying because of a wet nappy last night?
Mother: Yes sister, 1-2 times the baby was crying because of a wet nappy. But he was still crying at other times.
Nurse: OK Meena, show me how you were feeding the baby?
(Mother demonstrates the positioning, attachment of the baby)

- Nurse:** Very good, Meena. You are doing very well. Your baby is sucking very well. **But** he is going off to sleep.
- Mother:** This is what usually happens. He sucks for some time and then goes off to sleep. Then he wakes up after 30 minutes and starts crying again.
- Nurse:** Meena, your observation is *very* correct. A baby must suck for at least 7-10 minutes on each breast to get a full feed. Most babies sleep off during the feed and they must be continuously stimulated to enable a baby to take a complete feed. If a baby takes a complete feed, he will be satisfied and will usually sleep for 2-3 hours.
- Mother:** I get tired also. Why can't I give top feed during the night?
- Nurse:** Meena that may be *very* harmful. Most babies are more active at night and would take a feed more often during the night. This sucking helps in milk production. Also, hormones for milk production are also released more during the night. Hence it is *very* important that the baby should suck more often and especially during the night to help in milk production. The best solution for not enough milk is to let the baby suck more often at the breast.
- Meena:** So, sister, if I feed the baby more often and during the night, then my milk will be enough for the baby. Will you be available during the night to help me?
- Nurse:** Yes, Meena I will be available or some other nurse will be available to take care of you throughout the night. OK, Meena, I want to ask you something now? How often would you feed the baby?
- Meena:** I will feed the baby every 2-3 hours and I will continue the feed during the night also because that will help my milk production.
- Nurse:** Yes, Meena, I can see that you have understood what I had to say. Excellent, Meena I am very sure that you will do a very good job of feeding your baby. If there are any problems, you can contact my staff or me at any time. OK bye.

After the role-play, ask the participants to evaluate it by using the principles of counseling (ALPAC) and write on the Learners Guide. Ask them to read pages 19-21. Conduct a video demonstration after they have finished reading. .



VIDEO

These videos will demonstrate to you 'paladai feeding' and 'Intra-gastric tube feeding'. After the show, initiate a discussion with the participants. Encourage the participants to share their own experiences, perceptions about this method of feeding and lead a discussion. You should take their opinion on various aspects of the two videos.

After video demonstration, inform the participants that there will be a clinical demonstration on 'paladai feeding' and 'Intra-gastric tube feeding' at the bedside on Day 2 They should read the flow chart 1 and 2 on page 23 and 24 Ask them to do the 'Self-evaluation' on page no.25



SELF-EVALUATION

1. Describe the best method of feeding in following babies.
 - i. 1080 gm: **Inform doctor, start IV fluids; initiate gavage feeding gradually**
 - ii. 1460 gm: **Paladai feeds; initiate breastfeeding gradually**
 - iii. 1996 gm: **Breastfeeding.**
2. When should we start feeds in a baby who is born with birth weight of 1180 gm?
 - i. **Once they are stable (no respiratory distress)**
3. The best milk to be given by oro-gastric tube feeding is
 - i. **Expressed breast milk**
4. Advantages of spoon feeding include
 - i. **Faster than spoon or cup; less spillage**
5. Preterm LBW babies often are not able to feed. The reasons include:
 - i. **Inability to suck effectively**
 - ii. **Inability to co-ordinate sucking and swallowing**
 - iii. **Inability to co-ordinate swallowing and breathing**
6. Two criteria which decide the initial method of feeding include
 - i. **Clinical stability**
 - ii. **Weight more than 1200 grams**
7. Minimal enteral nutrition using expressed breast milk is initiated in a stable LBW baby at rate of **10 to 15 mL/kg/day**
8. A baby weighs 1350 grams and she is stable. What next step you will assess to decide choice of the feeding method?
 - i. **The next step is assessment for effective breast feeding**

SUMMARIZING THE MODULE

Tell the participants that in this module we learnt about

- Benefits of breast milk
- Milk production and let down reflex mediated by Prolactin and Oxytocin
- Positioning of baby and mother
- Attachment of baby for successful breast feeding
- Common problems associated with breastfeeding and
- Feeding of LBW

Ask for any clarifications. If there are none, tell them that they have completed today's task successfully.

FREQUENTLY ASKED QUESTIONS

1. What are the advantages of early initiation of breastfeeding within the first hour and continuous skin-to-skin contact at birth 2 hours?

It is associated with:

- Earlier establishment of effective suckling and feeding behaviors
- Enhanced maternal-infant relationship
- Improved neonatal temperature control
- Improved infant metabolic stability
- Improved neonatal blood sugar stability
- Increased bowel movements and decreased risk for neonatal jaundice
- Longer duration and increased rates of exclusive breastfeeding
- It also decreases stress; both in mother and baby.

2. What about feeding in special situations?

Management of Hepatitis B+ve Mother

- Breast feeding in Hb Ag + mothers should be initiated as early as possible after birth.
- HBIG and Hepatitis B vaccine is to be given simultaneously <12 hr after birth (max upto 72 hr) IM at different sites (85-95% efficacy)
- Vaccine alone full course will protect 70% while along with HBIG will protect 85 to 90% of Newborns.
- Even before the availability of hepatitis B vaccine, HBV transmission through breastfeeding was not reported.
- All infants born to HBV-infected mothers should receive hepatitis B immune globulin and the first dose of hepatitis B vaccine within 12 hours of birth.
- The second dose of vaccine should be given at aged 1–2 months, and the third dose at aged 6 months.
- The infant should be tested after completion of the vaccine series, at aged 9–18 months (generally at the next well-child visit), to determine if the vaccine worked and the infant is not infected with HBV through exposure to the mother's blood during the birth process.

Maternal Varicella

- VZIG (NA in India) should be given to a baby whose mother develops chickenpox up to 7 days before delivery or up to 28 days after delivery.
- Intravenous acyclovir should be given to babies presenting unwell with chickenpox, whether or not they received VZIG.
- Breastfeeding of babies infected with or exposed to VZV is encouraged.
- A mother with chickenpox or zoster does not need to be isolated from her own baby.
- If siblings at home have chickenpox, a newborn baby should be given VZIG if its mother is seronegative.
- The newborn baby does not need to be isolated from its siblings with chickenpox, whether or not the baby was given ZIG.
- After significant nursery exposure to VZV, VZIG should be given to sero-negative babies and to all babies born before 28 weeks' gestation
-

Babies born to HIV positive mothers

- 2013 WHO guidelines on breast feeding & HIV: Mother started on Triple ARV antenatal should breast feed exclusively for 6 months unless she opts for replacement feeds in which case it has to be seen that AFSS criteria are met. The infant is to be started on NVP daily as per weight for 6 weeks. Complementary feeds should be started at 6 months and breast feeds should be continued till 12 months. This reduces MTCT to around 2%. Stopping of breast feeding should be done gradually over 1 month according to the comfort of the mother and child. Educate parents that HIV testing needs to be done again after cessation of breastfeeding according to the EID protocols.

Module 5: Resuscitation of a newborn baby

Preparation

Before starting the session, make sure that:

1. You have understood the objectives of the session
2. You have all the items needed for running the module:
 - i. Mannequin (keep dressed)
 - ii. Cotton sheet – 2
 - iii. Shoulder towel (3/4")
 - iv. Different sizes and shapes of face mask
 - v. Resuscitation bag, reservoir, oxygen tubing
 - vi. Suction devices: catheter (12, 14F) mucous trap.
3. Each facilitator should have extra resource material for an advanced learner. You can ask them to be read this in case some one happens to finish before time.
 - i. WHO manual on 'Basic Newborn Resuscitation'
 - ii. Teaching aids

Introduce the module

Introduce by saying: 'In this module, you will learn steps of resuscitation of an asphyxiated newborn (Routine care for a normal baby has been covered in a separate module). As a nurse/midwife, you must master the skills for providing safe and effective resuscitation of newborn babies. These can be practised on the mannequin using appropriate equipments as discussed in the module'.

Ask the participants to start reading pages 1- 3. Once they have finished reading, conduct a group discussion regarding 'Preparation prior to delivery'.



GROUP DISCUSSION

Assemble all the necessary equipments in the table. Ask all the participants to get up and gather around you with their modules opened on page 2. Make sure that all the participants are looking at the demonstration aid. Then ask participants one after other the equipments needed for resuscitation.

Show each item of resuscitation equipment as it is discussed: Bag, mask, suction device, clock, warm and folded cloths etc. indicate the remaining structures on the figure.

Raise a discussion about what the participants practice at the time of birth.

Ask the participants to read algorithm on page 4 and pages 5, 6 till "If the baby is not breathing/ crying"; then conduct a demonstration on 'Steps in resuscitating a newborn baby'



DEMONSTRATION I

Scenario:

Mother delivers a normal baby.

Two trainers/facilitators: one plays the mother and the other the health worker.

1. Demonstrate initial steps and assessment at birth: Show them how to deliver the baby on to the mother's abdomen.
2. Note the time of birth; demonstrate the correct procedure of drying the baby (Holding the baby in a pre warmed linen, drying and removing the wet linen. Heat should be provided by keeping the baby warm using a warmer/bulb).
3. Assess the baby's breathing: demonstrate how to assess breathing during drying itself.
Enact all the four scenarios:
 - Demonstrate baby crying and/ or breathing at 40 breaths per minute (Take a breath count *one/two* – breathe again. Continue for 40 breaths)
 - Demonstrate gasp
 - Demonstrate baby not breathing at all
4. Only those babies who are gasping or not breathing at all (last two scenarios) would require further steps of resuscitation. In such cases, inform the mother that the baby needs some help and bring the baby under a warmer (tell participants that if there is no warmer, they have to arrange some source for providing warmth near the baby's corner)

After the demonstration, ask the participants to read pages 6-13; then conduct a demonstration on 'Steps of resuscitation of an asphyxiated baby'



DEMONSTRATION II

Scenario:

Mother delivers a baby who is not crying or breathing at birth.

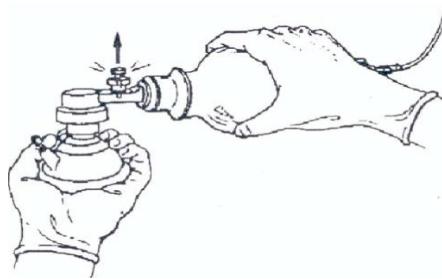
Two trainers/facilitators: one plays the mother and the other the health worker.

1. Demonstrate initial steps and assessment at birth
2. Note the time of birth
3. Assess the baby's breathing: inform them that the baby is either gasping or not breathing at all; ask them what to do next
4. **Demonstrate** resuscitation on the mannequin
5. Inform the mother that the baby needs some help. Bring the baby under a warmer (tell participants that if there is no warmer, they have to arrange some source for providing warmth near the baby's corner)
6. Demonstrate positioning. Position the baby in such a way that airways are patent. Show that the neck is not flexed or hyper extended.
7. Show them how to do suctioning of the mouth and nose using the suitable device.
8. Demonstrate them how to evaluate the baby's breathing again. Tell them that the baby is not

breathing.

Ask the class: what should we do now? (Ventilate)

9. **Now demonstrate** the parts of resuscitation bag, safety features, function and mechanism of increasing oxygen concentration using reservoir & types of masks.
10. Show the assembly and testing of Bag and Mask equipment using palm.



11. **Show the procedure of Bag and Mask ventilation** on the mannequin. Select appropriate sized bag and face mask, connect oxygen tubing and reservoir. Show quickly that the equipment is in working order. Stand on head side or by the side of baby so that you have clear vision of chest of the baby.
12. Show the procedure of BMV with a visible chest rise.
13. Indicate rate (SQUEEZE – count aloud 'one hundred and one, SQUEEZE one hundred and two, SQUEEZE one hundred and three, SQUEEZE
14. If there is no chest rise – mention the possible reason (Inadequate seal, position, secretions, inadequate pressure and mouth closed) and corrective measure thereof.

After the demonstration, ask the participants to read page page 4 and emphasize the important points

SUMMARIZING THE MODULE

Summarize the module by repeating what has been taught in the module. Ask for any clarifications. If there are none, tell them that they have successfully completed this module.

Clinical Demonstration: General Principles

Ideally a separate facilitator should be assigned for this activity. Identify a room or space to conduct the activity. On day one of the course she/he should work in consultation with the local coordinator and select cases to show the signs as detailed in the checklist. Assign task to participants or do the return demonstration of skills with all the participants. The preparations can be made in the postnatal ward itself. The other Facilitator will bring their group to Clinical Facilitator who will be responsible for skill demonstration. After demonstration to all, ask each one to demonstrate and take feedback from the others.

Preparations for Clinical demonstration

Do complete clinical demonstration as per your schedule. Even if there are one or two participants whom you think would know this, don't curtail it since it is quite possible most others are unaware. The Co -Facilitator have the responsibility of keeping these participants away from the first row of the Group because they are trouble makers. Having completed everything will give you more satisfaction rather than jump starting and finishing quickly.

1. Clinical Instructor will identify suitable cases (willing mothers) for Demonstration. Use different mother-baby pair for clinical skill demonstration. Demonstration on a single case is often tiring and on occasions parents may resent examination.
2. Often helpful to identify mothers with breast feeding problems like cracked nipple, breast engorgement. Look around for preterm, LBW baby who is well covered.
3. Baby on *Paladai* feeding. Ask mother to demonstrate use of paladai in front of the group. This means you will have to identify which baby is due for feeding at what time , so that you can bring the group participants at correct time for demonstration to that case.
4. Collect all supplies for demonstration of temperature recording. Collect rectal & clinical thermometer for demonstration.
5. Identify a room having room thermometer.
6. Identify two mothers one for demonstration of KMC procedure and ask one of the participant to counsel a mother for initiation of KMC.

Day 2 Activities: Clinical demonstration

Today we will see what we have learnt yesterday about KMC/Thermal Protection/Feeding of Healthy and LBW babies.

We will divide your group in two A1-A2/B1-B2 (so that each group has 6-7 participants)

For A1 – Facilitator will be and

For A2 – Facilitator will be and

Ask participants to follow facilitators. They should not get lost on the way otherwise whole group will be delayed. Tell them to bring their modules along because they will have to refer them . Tell them, You have a checklist (show and give to each participant) to enter what you have seen.

At the end of the demonstration bring them with you to the Conference Hall. If you finish early, keep your group busy in the Conference Hall by revising a few things you feel your Group is having difficulty in understanding. Keep them busy, so that they feel you are really interested in making their learning simple. They will respect you, if they find that you are concerned and dedicated for their training.

Each group will be divided into two for the ward demonstrations. The two facilitators should accompany the group to the ward. One facilitator should lead the group and the other facilitator should follow at the end to make sure that all the participants reach the ward.

Ward demonstrations will be done in two groups, one hour each by Clinical Instructor

First demonstration will be on Thermal protection and KMC and would be conducted in the room where LBW babies are kept with their mothers.

Gather your group and take them to that room. Ask each participant to observe and record how the babies are kept warm. Raise a discussion on the ways to prevent heat loss in preterm infants.

Demonstrate the following:

- Keeping the baby warm
- Recording axillary temperature
- Assessment of temperature by touch
- Functioning of warmer
- Initiation of kangaroo mother care

Second demonstration will be on breast feeding and feeding by *paladai* and intra-gastric tube. It will be conducted in the postnatal ward (except for gastric tube feeding which is ideally demonstrated in a stable preterm baby outside the nursery).

Ensure that the following points are covered:

- Positioning the mother
- Positioning the baby
- Attachment
- Reflexes – rooting, sucking etc.
- Management of breast engorgement
- Management of inverted and sore nipple
- Back massages for insufficient milk
- Paladai feeding
- Orogastic feeding
- Expression of breast milk

At the end tell

Today we have learnt various aspects of newborn care related to keeping baby warm, Kangaroo Mother Care and feeding of healthy newborn in hospital setting.

CLINICAL PRACTICE: 1

Care of the newborn baby immediately after birth

TASK Two patients (Maximum); if not possible visit delivery room to see set up

In the delivery room:

- a) Observe a normal vaginal delivery.
- b) ONLY 6 participants to be in delivery room. Supervise group throughout.
- c) Group to observe only. Participants Must not help in the delivery. Do not obstruct staff.
- d) No discussion in delivery room.
- e) Point out important details group should see – speak quietly.
- f) Participants to watch the birth and observe care of baby in first 10 minutes after delivery. If enough time stay until breastfeed starts.

Preparation of the delivery room

- Make notes of obvious preparations in delivery room for the birth of the baby i.e. resuscitation equipment, warm cloth etc. The notes should be used in group discussion following the delivery.

Observing a delivery and the immediate care of the newborn baby

- Is the following sequence followed? If NOT make notes of what happens.
 - Call out time of birth.
 - Deliver baby onto abdomen.
 - Thoroughly dry baby immediately and assess breathing.
 - Wipe eyes, Discard wet cloth.
 - Cover/wrap baby with dry cloth.
 - Cut and clamp/tie cord.
 - Leave baby on mother's chest in skin to skin contact.
 - Place identification labels on baby.
 - Cover mother and baby with blanket.
 - Cover baby's head with a hat.
 - Encourage breastfeeding.

Eye care

Task – four participants

- a) Arrange to see eye care being given soon after delivery (if possible)

CLINICAL PRACTICE 2

Breastfeed observation form 1

Participants name:.....Date.....

This breastfeeding observation form is to help you understand what happens during a breastfeed. You should observe a complete breastfeed from the beginning and until the time the baby ends the feed by itself.

Mark ✓ on those text boxes that correctly describe what you observe; discuss with the facilitator at the end of the session

Beginning of the feed – Before attachment

1) Look at the nipples and areolas before the feed begins:

- Is the nipple flat/inverted?

Yes

No

- Do the nipple and areola appear healthy?

Yes

No

If 'NO', please describe what you can see: -----

2) How does the mother encourage her baby to turn towards the breast to feed?

she turns **baby's head** towards her

she turns **baby's neck** towards her

During the feed

Note time feed ended: -----

1) Is mother's abdomen touching baby's abdomen?

Yes

No

2) Which parts of baby's face are touching the mother's breast during the feed?

Nose

Lips

Chin

3) Is baby's lower lip everted (facing outwards)?

Yes

No

4) Is any of the mother's areola visible? If so, where do you see more of it?

Above the mouth

Below the mouth

Areola is not visible

5) Does the mother communicate with her baby during the feed (e.g. eye contact, talking, stroking):

Yes

No

6) Are any pauses between feeding?

Yes

No

If yes, is it

Short (i.e. a few seconds)?

Long (15 seconds plus)?

End of a feed

Note time feed ended: -----

1) Who ends the feed?

The mother

☐

The baby?

☐

Others

☐

2) Describe the appearance of the nipples and areolas immediately after the feed (Note particularly any changes in color or shape) -----

- .
- 3) How does the mother feel about the feed?
- i) Does she report any discomfort? ☐ Yes ☐ No
- ii) Does she think her baby had a good feed? ☐ Yes ☐ No
- 4) How long did the feed last? ☐ Yes ☐ No
- 5) Did the baby feed from both breasts? ☐ Yes ☐ No

Additional notes:

Please answer the following question

- Do you think the baby you observed was:

- | | |
|-----------------------|--------------------------|
| a) Well attached? | <input type="checkbox"/> |
| b) Poorly attached? | <input type="checkbox"/> |
| c) Well positioned? | <input type="checkbox"/> |
| d) Poorly positioned? | <input type="checkbox"/> |

- If poorly attached or positioned, describe what you observed to explain your answer: -----

CLINICAL PRACTICE 3

KEEPING THE BABY WARM

Two pairs

- a) Supervise participants making general observations in the POSTNATAL WARD and the LABOUR AND DELIVERY AREA, note the following:
- b) Ask participants what they have seen so far. Point out your own observations.

- How babies are kept warm.....

.....

.....

- Factors which may contribute to babies getting cold.....

.....

.....

.....

Trainer/clinical facilitator:

Demonstrate steps of taking a baby's temperature:

Participants notes

.....

.....

.....

.....

CLINICAL PRACTICE 4

BREASTFEED OBSERVATION FORM 2

Participant's name:.....

Mother's name:..... Date:.....

Baby's name:..... Age of baby:.....

Signs that breastfeeding is going well	Signs of possible difficulty
General observation Mother: <ul style="list-style-type: none"> <input type="checkbox"/> Mother looks Healthy <input type="checkbox"/> Mother relaxed and comfortable <input type="checkbox"/> Breasts look healthy <input type="checkbox"/> Breast well supported, with fingers away from nipple Baby: <ul style="list-style-type: none"> <input type="checkbox"/> Baby looks Healthy <input type="checkbox"/> Baby calm and relaxed <input type="checkbox"/> Signs of bonding between, mother and baby <input type="checkbox"/> Baby reaches or roots for breast if hungry 	<ul style="list-style-type: none"> <input type="checkbox"/> Mother looks ill or depressed <input type="checkbox"/> Mother looks tense and uncomfortable <input type="checkbox"/> Breasts look red, swollen or sore <input type="checkbox"/> Breast held with fingers on areola <input type="checkbox"/> Baby looks sleepy or ill <input type="checkbox"/> Baby is restless or crying <input type="checkbox"/> No mother/baby eye contact, limp hold <input type="checkbox"/> Baby does not reach or root for the breast
Baby's position: <ul style="list-style-type: none"> <input type="checkbox"/> Baby's head and body in line <input type="checkbox"/> Baby held close to mother's body <input type="checkbox"/> Baby facing breast, nose to nipple <input type="checkbox"/> Baby supported 	<ul style="list-style-type: none"> <input type="checkbox"/> Baby's neck and head twisted to feed <input type="checkbox"/> Baby not held close <input type="checkbox"/> Baby's chin/lower lip opposite nipple <input type="checkbox"/> Baby not supported
Attachment: <ul style="list-style-type: none"> <input type="checkbox"/> More areola seen above baby's top lip <input type="checkbox"/> Baby's mouth open wide <input type="checkbox"/> Lower lip turned outwards <input type="checkbox"/> Baby's chin touches breast 	<ul style="list-style-type: none"> <input type="checkbox"/> More areola seen below bottom lip <input type="checkbox"/> Baby's mouth not open wide <input type="checkbox"/> Lips pointing forward or turned in <input type="checkbox"/> Baby's chin not touching breast
Sucking <ul style="list-style-type: none"> <input type="checkbox"/> Slow, deep sucks with pauses <input type="checkbox"/> Baby releases breast when finished <input type="checkbox"/> Mother notices signs of oxytocin reflex (milk dripping from nipples) <input type="checkbox"/> Breasts appear softer after feed 	<ul style="list-style-type: none"> <input type="checkbox"/> Rapid shallow sucks <input type="checkbox"/> Mother takes baby off the breast <input type="checkbox"/> No signs of oxytocin reflex noticed <input type="checkbox"/> Breasts appear hard and shiny

Notes:

Breastfeeding observation Exercise: If you observed any signs showing possible difficulty with breastfeeding write down how you would help this mother:

CLINICAL PRACTICE 5

Kangaroo Mother Care

Facilitator

1. Demonstrate to the group
2. Allocate two participants in pairs to a mother with stable LBW baby

-
1. Choose appropriate mother baby pair – stable , LBW , healthy willing mother
 2. Use appropriate attire for demonstration
 3. Maintain privacy
 4. Explain the procedure to mother
 5. Demonstrate the procedure to mother while participants observe
 6. Explain monitoring to mother
 7. Demonstrate different positions
 8. Tell the participants they have learnt these in the modules and the video demonstration

Checklist for Clinical Demonstration (Day 2)

Tick the procedure you have observed

Thermal Protection

- Record axillary temperature ☐
- Assessment of temperature by touch ☐
- Demonstration of functioning of radiant warmer ☐
- Keeping the baby warm ☐

Kangaroo Mother Care

- Initiation of Kangaroo Mother Care ☐

Feeding of Newborn Babies

- Positioning mother ☐
- Positioning baby ☐
- Attachment ☐
- Reflexes – rooting, sucking etc. ☐
- Management of breast engorgement ☐
- Management of inverted and sore nipple ☐
- Back massages for insufficient milk ☐
- Paladai feeding ☐
- Orogastric feeding ☐
- Expression of breast milk ☐

Day –3 Programme

Each group will be divided into two for the ward demonstrations. The two facilitators should accompany the group to the ward. One facilitator should lead the group and the other facilitator should follow at the end to make sure that all the participants reach the ward.

Ward demonstrations will be done in two groups, one hour each by Clinical Instructor.

First demonstration (Asepsis routines)

- Hand washing
- Waste disposal
- Disinfection procedure
- Skin preparation for IV cannula insertion/pricks
- Assessment of CRT

Second demonstration (Counselling and equipment)

- Counselling of mother for breastfeeding
- Counselling of mother at discharge (Normal newborn)
- Weight record
- Phototherapy
- Radiant warmer

Facilitators should escort their group back to the conference hall. After returning to the conference hall, the checklist for clinical demonstration should be handed over to the participant.

**Checklist for Clinical Demonstration
(Day 3)**

Tick the procedure you have observed

- | | |
|--|--------------------------|
| • Weighing of baby | <input type="checkbox"/> |
| • Assessment for capillary refill time (CRT) | <input type="checkbox"/> |
| • Hand washing | <input type="checkbox"/> |
| • Skin preparation for IV cannula insertion | <input type="checkbox"/> |
| • Counselling of mother for breast feeding | <input type="checkbox"/> |
| • Counselling at discharge (Normal newborn) | <input type="checkbox"/> |
| • Waste disposal | <input type="checkbox"/> |
| • Disinfection procedures | <input type="checkbox"/> |
| • Phototherapy | <input type="checkbox"/> |
| • Radiant warmer | <input type="checkbox"/> |

1. Counselling of mother at discharge (Normal newborn)

One of the facilitator will demonstrate counselling of mother of normal newborn at discharge. This will be done in the postnatal ward.

Counselling should be done with the principles of 'ALPAC'.

1. Maintain baby's temperature – Protect the baby from cold/heat by wrapping/clothing according to climate. If baby is cold to touch, re-warm by skin to skin contact and appropriate clothing including cap and woolen socks.
2. Exclusive breast feeding till 6 months of age frequently day and night. Do not give the baby any other food including water even in summer months.
3. Prevention of infection – Keep the umbilical stump clean and dry. Do not apply anything on the cord stump. Do not apply anything in the eyes.
4. Immunization – Tell her, the schedule for immunization and time of her next visit.
5. Danger signs – Mother as well as family must be informed of the danger signs for identifying her sick baby. Ask them to seek medical help if any of these danger signs are present.

The danger signs in a newborn include: lethargy, hypothermia (both abdomen and feet are cold to touch), rapid or difficult breathing, convulsion abdominal distension, bleeding from any site, yellow palms/soles.

Then ask one of the participants to do discharge counselling of mother of another newborn in the ward.

2. Weighing a baby

Purpose

To monitor the adequacy of nutrition as well as fluid balance. (Term babies lose about 10% of birth weight and regain birth weight at 7 – 10 days of age while preterms can lose up to 15% of birth weight and regain birthweight by 14 days of age).

Indications

- All babies at birth.
- All LBW babies at 2 weeks (to check regaining of the birth weight), 4 weeks (to ascertain a weight gain of 80-100 g/kg per week) and then every month.
- Sick newborn and VLBW (<1500 g) babies daily to monitor fluid therapy for at least one week.

Point of emphasis

If baby loses or gains 3 % or more of body weight in a day it should be brought to the notice of a physician.

Equipment

1. Weighing scale

2. Clean and preferably sterile towel (autoclaved newspaper can be used)

Procedure

1. Put the weighing scale on a flat, stable surface.
2. Put a clean towel on the scale pan. Zero the scale if the machine has the facility or record the weight of the towel.
3. Record weight prior to feeding.
4. Detach as many tubes / equipment as possible.
5. Keep the naked baby on the towel and record the weight (subtract the weight of the towel if the scale has not been zeroed with the towel on the scale).
6. Keep baby in middle of scale pan; hold the remaining tubes and lines in hand.
7. Use separate sterile towel for each baby.
8. If using pre-weighed splint, reduce the weight from baby's weight.
9. For quality assurance check accuracy of weighing scale with standard known weights every 2 weeks.

3. Radiant warmer

Radiant warmer is one of the most important equipment used in neonatal care. It provides radiant heat to the baby. These can be manual or servo controlled. If a manual warmer is being used a baby under it has to be constantly monitored till he attains a normal temperature and then it has to be switched off. As far as possible use of manual radiant warmers should be avoided. Servo controlled warmers have a skin probe which senses the skin temperature and displays it on the display panel. This information is processed by the microprocessor and used to provide heater output. The desired skin temperature is set on the display panel which is matched with the actual sensed skin temperature by the microprocessor and if the measured temperature is low, the heater is switched on whereas if it is high or normal heater remains off. If the heater has been switched on, based on the low sensed temperature, as the heating progress and baby's temperature reaches normal the heater output reduced and is finally switched off when the desired and actual temperatures are the same. The use of this warmer will be demonstrated to you and possible trouble shooting will also be discussed.

Objective:

Upon completion of this section the participant should

- know the parts of a warmer
- be able to demonstrate the working of the warmer
- know the dangers associated with its usage and should be able to rectify minor equipment failures.

Parts:

- Bassinet
- Quartz/ Ceramic rod
- Skin probe - Air probe
- Control panel - Heater output

Working:

- i) Connect to mains
- ii) For pre warming keep heater output to maximum
- iii) Place baby
- iii) Connect probe
- iv) Read temperature on display
- v) Adjust heater output
 - If below 36°C – High
 - If between 36-36.5°C – Medium

- If between 36.5 – 37.5°C Low
 - If >37.5°C – Remove baby /Switch off warmer
- vi) Measure temperature ½ hourly x 2 hours & then 2 hourly

Cleaning & disinfection

- Glutaraldehyde 2%/ Bacillocid
- Soap/Detergent - once daily

Dos & donts:

- i) Check temperature ½ hourly /2 hourly
- ii) Ensure warm feet
- iii) Do not leave baby unattended
- iv) Ensure side walls of bassinet are fastened up
- v) Ensure adequate clothing in case of electricity failure

In case of equipment failure

- i) Check fuse
- ii) Check plug
- iii) Check cord

Side effects & dangers

- Increased insensible water loss
- Fluid intake must be tailored to meet demands - Hyperthermia
- Hypothermia

4. Phototherapy unit

Phototherapy units are equipments used for treatment of hyperbilirubinemia. Unconjugated bilirubin absorbs blue light and in the process becomes decolourised. Light is effective in the treatment of hyperbilirubinemia mainly because of its blue content. Phototherapy reduces the serum concentration of bilirubin and the risk of bilirubin toxicity by producing configurational and structural photoisomers of bilirubin. These photoisomers are non-toxic and water soluble and are easily excreted by the body. Phototherapy is easy to use and doesn't produce any major side effects.

A phototherapy unit consists of a light source of 6 white tube lights of 20 watt each which gives an irradiance of 4-8 microwatt/cm²/nm in 400-500 nm range (wavelength) at the baby's level. Keep the distance between the baby and the light 30 to 45 cm (as per manufacturer recommendation). A baby requiring phototherapy (based on clinical and laboratory assessment) is placed under the phototherapy units naked except for an eye shield and a napkin. The baby's position is changed after every feed to allow exposure of the body surface to this light. Ensure optimum breastfeeding. Baby can be taken out for breastfeeding sessions and the eye patch can be removed for better mother--infant interaction. However, minimize interruption to enhance effectiveness of phototherapy. There is no need to supplement or replace breast milk with any other types of feed or fluid (e.g. breast---milk substitute, water, sugar water, etc.)The baby's temperature should be maintained frequently to prevent hypo or hyperthermia.

The phototherapy unit should be checked use to ensure effective phototherapy. A unit in use should have all the tubelights in good working condition. If a tubelight is flickering or is fused or has black rings at the ends it should be replaced immediately.

A baby under phototherapy should be regularly monitored for effectiveness of therapy and for

possible side effects. The baby should be removed from phototherapy as soon as the bilirubin level declines to safe levels.

Objective: Upon completion of this section the participant should

1. know the parts of a phototherapy unit
2. be able to understand the functioning and demonstrate the working of a phototherapy unit
3. be able to place a baby under phototherapy unit

Parts:	Tubes:	Number-	6-8
		Colour -	Blue
		Watt -	20
		Wavelength -	460-490nm
		Distance-	30-45 cms

Working:

- i) Connect to mains
- ii) Switch on the unit & check that all tubelights are working
- iii) Place baby naked only with the napkin on
- iv) Cover the eyes
- v) Change position with each breastfeed
- vi) Increase fluid intake
 - Breast feed frequently
 - Spoon/Gavage/IV increase by 20 ml/kg/day
- vii) Provide continuous phototherapy

Dos & Donts:

- i) Cover eyes
- ii) Check temperature – prevent hypo/hyperthermia
- iii) Check weight daily
- iv) Frequent breast feeding/increase allowance for fluid
- v) Reassess frequently

In case of equipment failure:

- i) Check fuse
- ii) Check plug
- iii) Check cord
- iv) Change tube if flickering or if ends are blackend

Ineffective phototherapy:

- i) Baby covered
- ii) All tubes not working
- iii) Flickering light
- iv) Tube ends have black circles

Side effects and dangers:

- i) Hyperthermia/Hypothermia
- ii) Increased insensible water loss - Tailor fluid intake to meet demands

Module 1: Care of the Baby at Birth

Preparation

Before starting the session, make sure that:

1. You have understood the objectives of the session
2. You have all the items needed for running the module:
 - i. Doll (mannequin)
 - ii. Fresh or preserved umbilical cord
 - iii. Sterile tie
 - iv. Sterile blade
 - v. Pieces of cloth etc.

Introduce the module

Introduce by saying: 'In this module, you will learn about care of a normal baby at the time of and upto one hour after birth. Care of a baby who is asphyxiated and who needs resuscitation are covered separately in another module '.

Ask the participants to start reading pages 1-3. Tell them that once they have finished reading, there will be a demonstration on 'Immediate care of a normal newborn at the time of birth'.



DEMONSTRATION

Demonstrate all the ten steps of care of a normal baby at the time of birth. One facilitator (or participant) to lie down on the cot in supine position (as in the labor room). Use a doll and demonstrate all the steps including care of the cord and eyes.

Ensure that you discuss following points

1. Eye care : Donot apply anything but in areas where the STD rates are high eye prophylaxis using Teteracycline ointment or 1 % silver nitrate drops
2. Cord care : Leave it to dry; do not apply anything to cord. Watch for bleeding or pus discharge
3. Tempertaure: Cover the baby's head with a cap. Cover the mother and baby with a warm cloth.
4. Breastfeeding: Emphasize the importance of counseling for breastfeeding at this time as mothers will be more receptive now.

Ask the participants to read pages 4 to 5 and then do the exercise on page 6; once they have finished the self evaluation, give individual feedback.



SELF-EVALUATION

1. The four basic needs of a baby at the time of birth are:
 - i. **Warmth**
 - ii. **Normal breathing**
 - iii. **Mother's milk**
 - iv. **Protection from infection**
2. Where should be a baby kept immediately after a normal delivery?
Baby has to be kept on the mother's chest (if this is not possible, the baby should be kept in a clean, warm, safe place close to the mother).
3. How would you clamp and cut the umbilical cord after birth?
Cord should be clamped using a sterile, disposable clamp or a sterile tie and cut using a sterile blade about 2 cm (1-inch) away from the skin.
4. Enumerate the steps of 'Warm chain'.

<u>At delivery</u>	<u>After delivery</u>
<ol style="list-style-type: none"> 1. Warm delivery room (25° C) with no draughts 2. Dry the baby immediately; remove the wet cloth 3. Wrap the baby with clean dry cloth 4. Keep the baby close to the mother (ideally skin-to-skin) to stimulate early breastfeeding 5. Postpone bathing/sponging for 24 hours 	<ol style="list-style-type: none"> 1. Keep the baby clothed and wrapped with the head covered 2. Minimize bathing especially in cool weather or for small babies 3. Keep the baby close to the mother 4. Use kangaroo care for stable LBW babies and for re-warming stable bigger babies 5. Show the mother how to avoid hypothermia, how to recognize it, and how to re-warm a cold baby
5. Mention the benefits of initiating skin-to-skin care immediately after birth:
Maintains temperature and helps in early initiation of breastfeeding.
6. Enumerate the 'Six cleans' one has to follow at the time of delivery:
 - i) **Clean attendant's hands (washed with soap)**
 - ii) **Clean delivery surface**
 - iii) **Clean cord- cutting instrument (i.e. razor, blade)**
 - iv) **Clean string to tie cord**
 - v) **Clean cloth to wrap the baby**
 - vi) **Clean cloth to wrap the mother**

After self-evaluation, ask the participants to read pages 7 to 10 and do the exercise on page 11. Once they have finished the Self-evaluation, give individual feedback.



SELF EVALUATION

1. During the first hour after birth babies need to be monitored every **15 minutes**.
2. Name the three most important parameters that need to be monitored in the first hour after birth:
**Breathing and
Temperature or warmth
Color**
3. Routine care of eyes at birth includes
**Cleaning eyes immediately after birth with swab soaked in sterile water using separate swab for each eye (clean from medial to lateral side)
Give prophylactic eye drops within 1 hour of birth as per hospital policy (in areas with high incidence of sexually transmitted diseases).**
4. Babies born by caesarean section should **not** be routinely **separated** from mothers for initial hours after birth.
5. Enumerate the important steps involved in the care of a baby born to HIV+ve mother:
**Universal precautions
Immediate skin-to-skin contact by placing him/her on mother's trunk
Breastfeeding/replacement feeding as per the mother's choice
Cord/eye care as for any normal baby**
6. For a baby born to a HIV positive mother **nevirapine** oral is given for six weeks.

Read page 12-16 on the "Postnatal care of a normal baby" and this will be followed by a poster demonstration on Advice on essential care for a neonate at discharge



DEMONSTRATION

There shall be a poster demonstration on "Advice on essential care for a neonate at discharge"

SUMMARIZE THE MODULE

Summarize the module by repeating what has been taught in the module. Ask for any clarifications. If there are none, tell them that they have successfully completed this module.

FREQUENTLY ASKED QUESTIONS

What is the significance of skin to skin contact at birth?

Cochrane 2012 (Moore et al)

Positive effect of early SSC on breastfeeding at one to four months postbirth

SSC increased breastfeeding duration (

Late preterm infants had better cardio-respiratory stability with early SSC

Blood glucose 75 to 90 minutes following the birth was significantly higher in SSC infants

Infant crying and summary scores of maternal affection during an observed breastfeed within the first few days of the baby's life were also better in the skin to skin contact group

What are the benefits of delayed cord clamping?

Cochrane 2013 (Mc Donald et al)

A. Maternal outcome

There were no significant differences between early versus late cord clamping groups for the primary outcome of severe postpartum haemorrhage, postpartum haemorrhage of 500 mL or more. There were no significant differences between subgroups depending on the use of uterotonic drugs, no difference in the mean blood loss or maternal haemoglobin values

B. Neonatal outcomes:

There were no significant differences between early and late clamping for the primary outcome of neonatal mortality or for most other neonatal morbidity outcomes, such as Apgar score less than seven at five minutes or admission to the special care nursery or neonatal intensive care unit. Mean birthweight was significantly higher in the late, compared with early, cord clamping. Fewer infants in the early cord clamping group required phototherapy for jaundice than in the late cord clamping group, hemoglobin concentration in infants at 24 to 48 hours was significantly lower in the early cord clamping group, however this difference in haemoglobin concentration was not seen at subsequent assessments. Improvement in iron stores appeared to persist, with infants in the early cord clamping over twice as likely to be iron deficient at three to six months compared with infants whose cord clamping was delayed. No difference was seen in the delayed cord clamping and early cord clamping for the long term outcomes.

Module 6: Common Procedures

Introduction to the module

In this module you will learn about the different procedures carried out in baby care area. Though we have been doing these procedures quite commonly, but we will recapitulate and try to focus on finer aspects of the procedures.

Ask the participants to read pages 1 to 2. After they have read, demonstrate the procedure of intramuscular injection



DEMONSTRATION

Ask one of the participants to come in front and demonstrate the procedure of IM injection. Ask her/him to give 1 mg of vit K to the manikin. Provide her/him necessary articles needed. Discuss briefly about the procedure highlighting the key points and take the view of the participants on how the procedure was done. Build a discussion.

The discussion should be followed by a video demonstration of 'IM injection'.



VIDEO

After the show, initiate a discussion with the participants. Encourage the participants to share their own experiences and perceptions about intramuscular injection in newborn babies.

After the video demonstration, ask them to read pages 3 to 6. Tell them that they will read about commonly used drugs for the babies. After all the participants have read, conduct a demonstration on preparation of medications



DEMONSTRATION

Ask one of the participant to demonstrate how to prepare 75 mg injection Ampicillin for IV injection for a baby. Ask the other participants to observe the steps carefully and give feedback at the end. Emphasise to them to follow strict aseptic precaution, while preparing injection.

Establishment of IV access is very important in treating newborn babies and we know that it needs to be done properly and in aseptic manner as it is very common route of infection to the babies.

Ask the participants to read pages 7 to 8. After they have read, demonstrate how to fix the intravenous line; follow it up with a video demonstration



DEMONSTRATION

Using a model, one of the facilitators should demonstrate the technique of ideal IV line fixation. Tell other participants to observe the steps and lead a discussion.



VIDEO

After the show, initiate a discussion with the participants. Encourage the participants to share their own methods of IV fixation in newborn babies. Discuss the relative merits of different methods.

Oxygen Administration

Sick newborn babies commonly require oxygen. We can give oxygen therapy in many ways and in the next part of the module we shall read how oxygen can be given by hood and nasal prongs.

After the demonstration, briefly introduce about oxygen therapy; then ask them to read page 9 and 10; once they finished reading, conduct a video demonstration on oxygen therapy by hood and nasal prongs



VIDEO

After the show, initiate a discussion with the participants. Encourage the participants to share their own experiences and perceptions about this method of oxygen therapy. You should take their opinion on various aspects of the video.

Orogastric tube insertion

After they have read, briefly introduce about the next procedure – insertion of orogastric tube and gastric tube feeding; then ask them to read pages 11 to 12.

Demonstrate how to insert the feeding tube (using a mannequin)



DEMONSTRATION

After demonstration, ask one of the participants to demonstrate the procedure while other participants would observe.

Expression of breast milk

After the demonstration, introduce the next procedure 'Expression of breast milk': it is required in those infants who cannot breastfeed effectively but are able to accept oral feeds by spoon/paladai or by oro-gastric tube. Ask them to read pages 13 to 15.

Once they have read, demonstrate the procedure of expression of breast milk (using a breast model)



DEMONSTRATION

Demonstrate the right technique of providing hot fomentation, breast massage and squeezing / pressing the breast. Tell the participants that they will see the procedure while visiting the hospital.

After the demonstration, conduct a video demonstration on 'Expression of breast milk'



VIDEO

After the show the facilitator should initiate a discussion with the participants. Encourage the participants to share their own experiences and perceptions about expression of breast milk and lead a discussion.

Temperature recording

After the video demonstration, introduce the next procedure 'Temperature recording' and ask them to read pages 17 to 18.

Conduct a video demonstration on 'Temperature recording in newborn babies'



VIDEO

After the video, initiate a discussion with the participants. You should take their opinion on various aspects of the video.

Weight recording

Now, introduce the next procedure 'Weight recording' and ask them to read pages 18 to 19.

After they have finished reading, demonstrate the procedure of weight recording by using a mannequin



DEMONSTRATION

Demonstrate weight recording using a mannequin and an electronic weighing scale. After demonstration, ask one of the participants to demonstrate the procedure while other participants would observe.

After the demonstration, conduct a video demonstration on 'Weight recording'.



VIDEO

After the video, initiate a discussion with the participants and take their opinion on various aspects of the video.

Oropharyngeal Suctioning

After the video demonstration, introduce the next procedure 'Oropharyngeal suction' and ask them to read pages 20 to 21.

Conduct a video demonstration on 'Oropharyngeal suctioning in neonates'



VIDEO

After the video, initiate a discussion with the participants and take their opinion on various aspects of the video.

Glucose monitoring by heel prick

Now, introduce the next procedure 'Glucose monitoring by heel-prick'; ask them to read page 22.

After they have finished reading, conduct a video demonstration on 'Glucose monitoring by heel-prick'



VIDEO

After the video, initiate a discussion with the participants. Encourage them to share their own experiences regarding this procedure.

Developmental Supportive Care and Pain management in Newborns, Nursing Care for a baby on CPAP and Screening for Retinopathy of Prematurity

After the video demonstration, introduce the next three procedures: 'Developmental Supportive Care and Pain management in Newborns, Nursing Care for a baby on CPAP and Screening for Retinopathy of Prematurity' and ask them to read pages 23 to 29.

After they have read, initiate a discussion with the participants. Encourage them to share their own experiences regarding these procedures.

Emergency Triage Assessment and Treatment and transport

Introduce the next two procedures: 'Emergency triage assessment' and 'Transport of neonates'; ask

them to read pages 29, 30 and 31 to 34.

After they have finished reading, conduct a poster demonstration on 'Sheet A' and 'Sheet-B' and the 'Transport of a Sick Baby'

SUMMARIZE THE MODULE

Summarize the module by repeating what has been taught in the module. Ask for any clarifications. If there are none, tell them that they have successfully completed this module.

Module 8: Care of At Risk' and 'Sick' Neonates

In this module, you will learn how to identify a neonate who is either at-risk or actually sick .You will also learn how to manage them in your hospital setting.

Tell them that they will read how to identify at-risk neonates, how to care for them in a health care facility, and how to follow-up after discharge.

Ask them read page 1 to 5 and to do the self evaluation on page 6. Give individual feedback after they have done the self evaluation



SELF EVALUATION

- An 'at-risk' neonate will have:
 - Birth weight: **1500 - 2499 g**
 - Sensorium: **Depressed, but is arousable**
 - Respiratory rate: **over 60 per minute, but no chest retractions.**
 - Yellowness of skin, but **no staining of palms/soles**
- The staff nurse should monitor the following signs every 2 hourly in 'at-risk' neonates:

Temperature	Convulsion
Sucking	Bleeding
Sensorium	Diarrhea
Respiration	Vomiting
Apnea	Abdominal distension
Cyanosis	
- Follow-up care of 'at-risk' neonate includes:

Condition	Time of follow-up visit
If sent home	Health worker: to visit next day Mother (with the baby): to be called after two and seven days
If referred	Health worker: to visit one day after discharge from hospital Mother (with the baby): to be called after two and seven days after discharge from hospital
- Signs of well-being in an 'at-risk' neonate are:
The baby accepts feeds well and has warm trunk, warm and pink soles (and palms).
- Where is the 'at-risk' neonate managed?
The care of 'at risk' neonate is immediately initiated at health facility itself under direct supervision. After initial improvement, further care can be provided at home.

6. What advice would you give for home care of an 'at-risk' baby?

How to keep the baby warm

To provide exclusive breast feeding

To continue the prescribed treatment and to observe the progress of the baby

When to come for follow-up visits after discharge

After self-evaluation, inform them that they will read how to identify sick neonates and how to care for them in a health care facility; ask them to read pages 7 and 8.

Ask them to do the self evaluation on page 9. Give individual feedback after they have done the self evaluation



SELF EVALUATION

1. What are the signs you will monitor in a sick neonate?
Temperature, sucking, sensorium, respiration, apnea, cyanosis, convulsions, bleeding, diarrhea, vomiting, abdominal distension, capillary refill time
2. What is the immediate care given for a sick baby?
Maintain temperature, oxygen if there is respiratory distress/ cyanosis, stabilize (Inj. 10% Dextrose I/V, Inj Normal saline I/V), Inj. Vit K, feeding if possible, first dose of antibiotic, monitoring, communication with parents & organizing transport to appropriate health facility.
3. How frequently would you monitor
 - a) At risk neonate: **2 hourly**
 - b) Sick neonate: **Hourly**
4. Mark (✓) for 'sick' neonate
 - a) Weight 1800g: **No**
 - b) Jaundice staining palms/soles: ✓
 - c) Cried after 5 minutes of birth: ✓
 - d) Axillary temperature of 36.2°C: **No**
 - e) Respiratory rate >60/min without retractions: **No**
5. Organization of transport for 'sick neonate' must ensure
A note by the referring doctor
Encouraging the mother and/or health worker to accompany the baby
Proper arrangements to keep the baby warm
Counseling the mother and family regarding the care during transport



ORAL DRILL

One of the facilitator will get up and conduct an oral drill on categorisation of a neonate into Normal, At-Risk, and Sick Neonate. Emphasize that you will ask quick questions related to categorisation given on page 10. Make sure that all participants have opened page 10 of module. Following are the few examples of question you would rapidly ask the participants. Make sure that the participants are able to refer to the table while answering the questions. Make sure that you ask sufficient questions to cover the contents of the table and involve all the participants.

If any neonate has central cyanosis, what category does he fit in?

If any neonate has diarrhea and vomiting and abdominal distension what category does he fit in?

If any neonate has diarrhea staining of palms and soles as yellow what category does he fit in?

If any neonate is very low birth weight what category does he fit in?

If any neonate has tachypnea but no retractions, what category does he fit in?

SUMMARIZE THE MODULE

Summarize the module by repeating what has been taught in the module. Ask for any clarifications. If there are none, tell them that they have successfully completed this module.

Module 7: Prevention of Infection, House-keeping and Waste Disposal

Introducing the module:

'In this module you will learn how to prevent infection occurring in newborn babies. Infection being the most common cause of death, we must take effective steps to prevent them'.

You will learn

- Steps of effective hand washing
- Learn routines of housekeeping and disinfection in baby care area
- Learn disposal of hospital waste' in this module.

Ask the participants to read page 1 to 6. After they have finished reading, conduct a demonstration on 'Steps of hand washing' using a poster (included on page 7-9)



DEMONSTRATION

Conduct a demonstration on 'Steps of hand washing' (using the poster) followed by another demonstration on 'how to wear gloves'.

After the demonstration, ask the participants them to read pages 11-12 and then to do the self evaluation on page 13; inform them that they would be given individual feedback



SELF EVALUATION

1. Basic requirements for asepsis in nursery include:
 - **Running water supply**
 - **Soap**
 - **Elbow or foot operated taps**
 - **Strict hand washing**
 - **Avoiding overcrowding**
 - **Plenty of disposable items**
 - **Rational antibiotic policy**
 - **Strict housekeeping & asepsis routines**
2. Single **most important, very simple** and **cheap** method for prevention of infection in nursery is **hand washing**.
3. The key features of good hand-washing technique include:
 - Six** steps
 - Two** minutes hand washing before entering the newborn care area
 - Twenty** seconds hand washing in between and after touching the baby
4. Sterile gloves should be worn for the following procedures (Enumerate any three):
 - Blood sampling**
 - IV access &**
 - IV injection**
5. What are the steps of skin preparation of iv cannula insertion or needle prick?
 - Clean with spirit, let it dry;**
 - Clean with iodine, let it dry and**
 - Clean with spirit**

After the individual feedback, conduct an oral drill



ORAL DRILL

One of the facilitator will get up and conduct an oral drill on disinfection routines. Emphasize that you will ask quick questions related to disinfection routines given on page 10. Make sure that all participants have opened page 6 of module. Following are the few examples of question you would rapidly ask the participants. Make sure that the participants are able to refer to the table while answering the questions. Make sure that you ask sufficient questions to cover the contents of the table and involve all the participants.

1. How do you disinfect cotton gauze?
2. Cheattle forceps is cleaned by -
3. How do you sterilize sets for procedures
4. How do you clean swab containers
5. How do you clean measuring tape
6. How do you disinfect resuscitation bags
7. How is Radiant warmer cleaned when not in use.
8. How do you clean phototherapy unit.

After the oral drill, ask them to read page 15; once they have finished reading, conduct a demonstration on 'Waste disposal'



DEMONSTRATION

Organise a demonstration on safe disposal of hospital waste using the demonstration aid. Inform the participants that different hospitals may have different policies and they need to learn about their own policies and dispose off the hospital waste accordingly.

*After the demonstration, ask the participants to do the self evaluation on page 16;
Inform them that they would be given individual feedback
after they have completed the self evaluation*



SELF EVALUATION

1. Indicate the bucket you will use for following wastes:
Paper towel after use **black**
Soiled nappy of the baby **yellow**
Used disposable syringe **blue**
2. How do you sterilize/disinfect the following?
Thermometer-**Spirit**
Ambu bag-**Autoclave, boil, cidex**
Cheattle forceps – **Autoclave**
Probe of pulse oximeter-**Spirit**

Oxygen tubing-**Cidex**
Stethoscope -**Spirit**

3. B/O Rajkumari is a 32 week preterm baby with birth weight of 1.3 kg. The baby is 2 days old now. Mother is now recovered from her birth related problems and wants to help you in baby's work, what are the areas you will like to involve the mother?
 1. **Give EBM**
 2. **Assist feeding**
 3. **KMC**
 4. **Change nappy**
4. Indicate the waste disposed based on color of bag/drum in your hospital
 - Black – **Left over food, waste paper, packing material, empty box/bags**
 - Yellow – **Infected non-plastic waste**
 - Blue – **Infected plastic waste (syringes, IV set, etc.)**

*After the individual feedback, conduct an oral drill on
'Disinfectants and House-keeping routines'*



ORAL DRILL

One of the facilitator will get up and conduct an oral drill on 'Disinfectants and house-keeping routines'. Make sure that all participants have opened page 17 of module. Following are the few examples of question you would rapidly ask the participants:

1. How do you clean the surface of the weighing machine?
2. How would you clean the walls of the nurse? How frequently?
3. How much time would you immerse the ambu bag in 2% gluteraldehyde solution for disinfection?

*After the oral drill, conduct a video demonstration on
'Asepsis routines and disposal of hospital waste'*



VIDEO

There will be a short video film on the asepsis routines to be followed in the nursery. Lead a discussion on the video. Ask participants what they have learnt new and what they have been practicing in their hospitals. Discuss that ideally one should use distilled water after sterilization but for practical purposes running water is good enough. If they do not have Cidex, washing AMBU bag

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with soap/surf water and then with fresh water can achieve nearly same goal of maintaining asepsis.

SUMMARIZE THE MODULE

Summarize the module by repeating what has been taught in the module. Ask for any clarifications. If there are none, tell them that they have successfully completed this module.

Module 9: Common Equipment and Trouble Shooting

Introducing the module:

In this module you will learn how to efficiently use common equipments in newborn babies. One shall also learn trouble shooting, keeping them clean and their routine maintenance.

Ask the participants to read page 1 to 6 till 'Phototherapy Unit'.

Initiate discussion in the group regarding their personal experience with handling incubator and radiant warmer, their modes and alarms silencing and trouble shoots

After the discussion, ask the participants them to read pages 6-12 till 'Oxygen Concentrator'

Initiate discussion in the group regarding their personal experience with phototherapy machines, resuscitation bag, weighing machinesuction machine (electric and foot operated), their parts, maintenance, cleaning and disinfection and trouble shoots.

After the discussion, ask the participants them to read pages 12-16 and do the self evaluation on page 17



DEMONSTRATION

Demonstration of all the equipments detailed in the module shall be done followed by return demonstration and individual feedback to the participants.



VIDEO

After the equipment demonstration audiovisual podcasts of all the above equipments shall be shown

and discussion will be held.



SELF EVALUATION

1. The size of the resuscitation bag in the neonates should be **240-750 mL**
2. Name the device used for increasing the concentration of oxygen in the resuscitation bag:
Reservoir
3. Resuscitation bag can be disinfected easily by **boiling, autoclaving, soaking in disinfectant solution (followed by cleaning in distilled water/ running water), then reassembling the parts.**
4. Incubator is preferred over radiant warmer in the following situations
Transport
Caring for a stable extremely low birth weight baby
5. The staff nurse must educate mother with the following instructions while giving phototherapy for jaundice.
 - a. **Protect the eyes with eye patches**
 - b. **Keep the baby naked with a small nappy only**
 - c. **Encourage breast feeding**
 - d. **White curtains may be used as slings, but the top of the unit should not be covered**
 - e. **Phototherapy may be interrupted for small intervals but only for feeding**
 - f. **No other feeds/fluid/ sunlight exposure is required.**
6. In addition to recording weight, what are the other indications of using a weighing machine
 - a. **Weighing a sling when using it for support of an intravenous line**
 - b. **Weighing a nappy for measurement of urine output**
7. How will you disinfect the following parts of a foot operated machine
 - a. Fluid collection jar: **Autoclave at 124 degree Celsius, may be washed with soap and water**
 - b. Rubber stopper: **May be washed with soap and water**

SUMMARIZE THE MODULE

Summarize the module by repeating what has been taught in the module. Ask for any clarifications. If there are none, tell them that they have successfully completed this module.

Frequently asked questions

1. What is the correlation between glucometer & laboratory value of blood sugar ?

- Glucose levels in plasma are generally 10%–15% higher than glucose measurements in whole blood.
- Blood glucose meters measure the glucose in whole blood while most lab tests measure the glucose in plasma. Hence, laboratory values are higher than measured by glucometer.

2. Why is there a need for rapid diagnostic tests for blood glucose estimation in a neonates?

- Hypoglycemia is not uncommon in neonates and can be responsible for neurological abnormalities if not detected and treated in time. A rapid bedside diagnostic method is therefore required to screen neonates at risk.

3. Is suction machine useful in any other condition other than suctioning?

- In an infant with pneumothorax continuous low negative pressure of 10 to 20 cm water can be provided by connecting the suction tube to the one end of the underwater seal drain to which chest tube is connected. This allows rapid re-expansion of the lungs and to facilitate drainage of air. The same can be done in pneumo-pericardium with a low pressure of 5 to 10 cm water.

4. What are the other methods of providing oxygen therapy?

- The other methods of providing long term domiciliary oxygen are cylinders delivered to the patient's home (the most widely used method) and liquid oxygen in a domestic tank replenished twice weekly in some countries. The capacity of the oxygen cylinder can range from 40- 3445 liters capacity and cost between Rs. 2,625-12,215. The cylinder can provide oxygen at 1 LPM for 11.3 hrs (e.g. 680 litres capacity cylinder) or 4 LPM for 2.8 hrs. Thus the overall running costs turn out to be much higher than the oxygen concentrator. The use of a liquid oxygen system has been investigated in the United States. The apparatus consists of a portable "walker" and a reservoir which contains a supply for three to four days. Regular deliveries are required as for cylinders and this contributes appreciably to the cost.

5. How can I determine the accuracy of the pulse oximeter?

Most pulse oximeters have a visual representation of the pulse intensity as well as a digital display of the pulse. The pulse display should be within three beats per minute of the display on the cardiac monitor. The bar pulse display or pulse waveform must cover half of the total display for an accurate reading. Differences greater than this will not reflect accurate oxygen saturation values because the probe is not detecting the arterial pulsations adequately or accurately. Some newer monitors have integrated the ECG complex with the oxygen saturation probe. In pulse oximeters representing the signal as waveforms the morphology of the waves should be looked at which will point towards the accuracy of the signal picked up by the probe.

6. What all precautions you should take while doing x ray on a radiant warmer?

To place the heater housing in the X-ray position rotate the heater to a side. An X-ray cassette can be placed on the tray and slid into the cavity beneath the bed without disturbing the patient. Never place an infant directly on the X-ray cassette tray. Do not place any foreign objects on the warmer bed or in the under bed cavity while performing X-ray procedures. Incompatible materials in the path of the X-ray may adversely affect the quality of the X-ray image. Do not forget to rotate the heater housing to the normal position.

7. How often should one disinfect/sterilize bag and mask equipment?

This depends on number of babies needing bag and mask ventilation. Ensure that if it is used for a baby born following frank chorio-amnionitis, the equipment needs sterilization before being

used on next baby. In a busy hospital catering for 2000 births per annum, it may be a good idea to sterilize bag and mask every 15 days. But disinfection must be followed on daily basis. The mask must be disinfected after each single use.

8. What is an on line weight measurement system?

An on line weight measuring system is the latest modification in weighing machines. It consists of two components, a weighing plate connected with a cable to the display unit. The plate could be placed under the baby while nursed in the open care warmer or incubator. It is also x-ray cassette compatible. The display unit is a separate module and can be attached at a convenient location for better visibility. This is particularly useful for weighing sick babies with feeding tubes, electrodes, IV lines and endotracheal tubes who are connected to the ventilator. Since the baby does not have to be moved for taking the weight, the disturbance to the baby is minimal and the convenience to the nursing staff increases.

9. How can one increase the irradiance of phototherapy?

- By shortening the distance between infant and phototherapy unit. Make sure that temperature is being monitored if lights are very near to baby. Cold light sources can be lowered as close as 10-15 cms but always be cautious to measure temperature.
- Add additional phototherapy units.
- Line incubator with white cloth without blocking light. Use of white slings which reflect light towards baby or prevent the dispersion.
- Change light bulbs every 3 months.
- Use an additional fiberoptic bili-blanket pad underneath infant.

10. What is intensive phototherapy?

For hospitalized term and late preterm infants, AAP recommends "intensive phototherapy." This refers to an irradiance in the blue to blue-green spectrum (430-490 nm) of at least 30 W/cm²/nm and delivered to as much of the infant's surface area as possible.

11. What is the latest in phototherapy?

A new high intensity gallium nitride blue light emitting diode (LED) phototherapy has been tested recently and found to be effective in lowering bilirubin by providing much higher irradiance for intensive phototherapy.

**KAP Questionnaire
(for attitude and practices only)
PRE Workshop**

This questionnaire has been designed for the 'Evaluation of impact of Nursing Training on the knowledge, practices and neonatal outcome'. You have been chosen as one of the respondents to this questionnaire which will serve as baseline information and as future reference to newborn care in your country. We hope that you will answer the questions as best as you can. We assure you that information will be kept confidential and will in no way jeopardize your career.

1. Do you teach mothers to assess baby's temperature by touching feet and abdomen?

[] Yes
[] No

2. Do you practice skin-to-skin contact for stable LBW (<2500gms) babies admitted in the nursery?

[] Yes
[] No

If yes, how does this practice help LBW baby?

3. Do you see babies who are otherwise stable in nursery, developing hypothermia (skin temp < 36°C)?

[] Yes
[] No

If yes, do you try to find out why this has happened in that particular baby?

[] Yes
[] No

If yes, enumerate the possible reasons:

4. How much duration do you hand wash before entering baby care area?

[] 15 seconds
[] 2 minutes
[] 5 minutes

5. Does your unit have a continuous supply of tap water 24 hours a day?

[] Yes
[] No

If no, how do you perform handwashing before entering the nursery?

[] Do not handwash
[] Use tumbler and bucket
[] Other utensils
[] Perform handwash once inside the unit

6. For inserting an intravenous line, do you wear gloves after hand washing?

- [] Yes
[] No

7. Do you check with mothers / parents before they enter nursery whether they have active infection or not?

- [] Yes
[] No

8. Does anyone spend time with mothers explaining the importance of hand washing?

- [] Yes
[] No

9. Do you provide cord care personally?

- [] Yes
[] No

If yes, how?

- [] Soak cord with alcohol
[] Apply Gentian Violet
[] Apply Mercurochrome
[] Put antibiotic powder
[] No application

10. Do you think that a baby should be kept warm after birth?

- [] Yes
[] No

If yes, how do you keep baby warm?

- [] Use of bulb
[] Wrap baby in a blanket
[] Use hot water bottles
[] Use Warmer or incubator
[] Skin to skin contact
[] No measure taken

11. Do you feel that hypothermia causes significant neonatal morbidity and mortality?

- [] Yes
[] No

If yes, how important is this contribution?

- [] Very strong
[] Strong
[] Somewhat
[] Minimal

12. Which route do you use for recording temperature of sick LBW babies admitted to the nursery?

- [] Rectal
[] Axillary
[] Groin
[] Skin
[] Mouth
[] Ear

13. Do you know how to warm a sick LBW baby with severe hypothermia (< 32°C)?

- [] Yes
[] No

If yes, how will you warm the baby?

- [] Cover adequately so as to prevent ongoing heat loss
[] Cover adequately so as to prevent ongoing heat loss and warm quickly to 36.5°C
[] Cover adequately so as to prevent ongoing heat loss and warm quickly (up to 34°C) followed by gradual warming (up to 36.°C) (uncover if using radiant warmer for warming)

14. Do you insert IV lines on baby?

- [] Yes
[] No

How do you prepare the skin before inserting an IV line?

15. Do you take the help of another staff while starting an IV line?

- [] Yes
[] No

If yes, does your colleague assisting you help in comforting the baby?

- [] Yes
[] No

If yes, what action does she take?

16. How frequent do you change site of intravenous cannula?

- [] Daily
[] 48 hours
[] 72 hours
[] As long as it works

17. What do you advise the initial feeding to be?

- [] Breastmilk
[] formula milk
[] sugar water
[] Honey
[] Others, specify

18. How much time do you spend talking to a mother whose baby is admitted in the nursery?

- [] Not at all
[] Only to ask for supplies
[] Tell general condition, progress
[] Tell general condition, progress and help in expression of breast milk and taking care of the baby

19. Are you happy with your present skills and knowledge on roviding care to sick newborn?

- [] Yes
[] No

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If no, are you willing to undergo further training to augment your present skills and knowledge?

[] Yes
[] No

Following are attitude & practice questions. There are no Yes, No Choices

Following are attitude & practice questions. There are no Yes, No Choices

Please circle the appropriate answer for each statement

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
1. I feel comfortable initiating IV line alone	1	2	3	4	5
2. Handwashing should be done before entering nursery	1	2	3	4	5
3. Skin-to-skin contact with mothers is a good practice for LBW babies	1	2	3	4	5
4. I would prefer babies under my care receiving expressed breastmilk rather than formula milk	1	2	3	4	5
5. I feel comfortable using warmer and incubator for premature babies	1	2	3	4	5
6. I feel that I can help a mother initiate breastfeeding who complains of insufficient milk supply	1	2	3	4	5
7. I believe Nursing practices play an important role of prevention of infection in admitted newborn	1	2	3	4	5
8. I feel that a written policy and procedure manual will help my day-to-day practice in the nursery	1	2	3	4	5

**Kap Questionnaire
(for attitude and practices only)
POST Workshop**

This questionnaire has been designed for the 'Evaluation of impact of Nursing Training on the knowledge, practices and neonatal outcome'. You have been chosen as one of the respondents to this questionnaire, which will serve as baseline information and as future reference to newborn care in your country. We hope that you will answer the questions as best as you can. We assure you that information will be kept confidential and will in no way jeopardize your career.

1. Will you teach mothers to assess baby's temperature by touching feet and abdomen?
[] Yes
[] No
2. Will you implement practice of skin-to-skin contact for stable LBW(<2500gms) babies admitted in the hospital?
[] Yes
[] No

If yes, how this practice will help LBW baby?

3. After your training do you think that otherwise stable babies in nursery, still will develop hypothermia (skin temp <36° C)?
[] Yes
[] No
- If yes, will you try to find out why this has happened in that particular baby?
[] Yes
[] No

If yes, enumerate the possible reasons:

4. Enumerate duration you will hand wash before entering baby care area?
- [] 15 seconds
[] 2 minutes
[] 5 minutes
5. Will you ensure a continuous supply of tap water 24 hours a day in your baby care area?
[] Yes
[] No
- If no, how do you propose handwashing before entering the nursery?
[] Do not handwash
[] Use tumbler and bucket
[] Other utensils
[] Perform handwash once inside the unit
6. For inserting an intravenous line, will you wear gloves after hand washing?
[] Yes
[] No

7. It is important to check with mothers / parents before they enter nursery whether they have active infection or not?

[] Yes
[] No

8. Will you spend time with mothers explaining the importance of hand washing?

[] Yes
[] No

9. Will you provide cord care personally?

[] Yes
[] No

If yes, how you propose to do this?

[] Soak cord with alcohol
[] Apply Gentian Violet
[] Apply Mercurochrome
[] Put antibiotic powder
[] No application

10. Will you ensure that a baby is kept warm after birth?

[] Yes
[] No

If yes, how do you will keep baby warm?

[] Use of bulb
[] Wrap baby in a blanket
[] Use hot water bottles
[] Use Warmer or incubator
[] Skin to skin contact
[] No measure taken

11. Do you feel that hypothermia causes significant neonatal morbidity and mortality?

[] Yes
[] No

If yes, how important is this contribution?

[] Very strong
[] Strong
[] Somewhat
[] Minimal

12. Which route you will use for recording temperature of sick LBW babies admitted to the nursery?

[] Rectal

- ☐ Axillary
- ☐ Groin
- ☐ Skin
- ☐ Mouth
- ☐ Ear

13. Do you know how to warm a sick LBW baby with severe hypothermia (<32°C)?

- ☐ Yes
- ☐ No

If yes, how will you warm the baby?

- ☐ Cover adequately so as to prevent ongoing heat loss
- ☐ Cover adequately so as to prevent ongoing heat loss and warm quickly to 36.5° C
- ☐ Cover adequately so as to prevent ongoing heat loss and warm quickly (up to 34°C) followed by gradual warming (up to 36.0°C) (uncover if using radiant warmer for warming)

14. Do you feel confident in inserting IV lines on baby?

- ☐ Yes
- ☐ No

How do you prepare the skin before inserting an IV line?

15. Will you take the help of another staff while starting an IV line?

- ☐ Yes
- ☐ No

If yes, will you ensure that your colleague assisting you help in comforting the baby?

- ☐ Yes
- ☐ No

If yes, what action does she/he take?

16. How frequently will you change site of intravenous cannula?

- ☐ Daily
- ☐ 48 hours
- ☐ 72 hours
- ☐ As long as it works

17. What will you advise the initial feeding to be?

- ☐ Breastmilk
- ☐ formula milk
- ☐ sugar water
- ☐ Honey
- ☐ Others, specify_____

18. How much time do you propose spending talking to a mother whose baby is admitted in the nursery?

- ☐ Not at all
- ☐ Only to ask for supplies
- ☐ Tell general condition, progress
- ☐ Tell general condition, progress and help in expression of breast milk and taking care of the baby

19. Are you happy after the course with your present skills and knowledge on providing care to sick newborn?

- ☐ Yes
- ☐ No

If no, are you willing to undergo further training to augment your present skills and knowledge?

- ☐ Yes
- ☐ No

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Following are attitude & practice questions. There are no Yes, No

Choices **Please circle the appropriate answer for each statement**

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
1. I feel comfortable initiating IV line alone	1	2	3	4	5
2. Handwashing should be done before entering nursery	1	2	3	4	5
3. Skin-to-skin contact with mothers is a good practice for LBW babies	1	2	3	4	5
4. I would prefer babies under my care receiving expressed breastmilk rather than formula milk	1	2	3	4	5
5. I feel comfortable using warmer and incubator for premature babies	1	2	3	4	5
6. I feel that I can help a mother initiate breastfeeding who complains of insufficient milk supply	1	2	3	4	5
7. I believe Nursing practices play an important role of prevention of infection in admitted newborn	1	2	3	4	5
8. I feel that a written policy and procedure manual will help my day-to-day practice in the nursery	1	2	3	4	5