

# KANGAROO MOTHER CARE

This module is designed to improve knowledge, skills and clinical practice of all stakeholders involved in the care of preterm neonates in Kangaroo Mother Care

## Learning objectives

The participants will learn

- To understand the benefits, components and prerequisites of KMC
- To be able to practice KMC in various clinical situations in preterm infants
- To monitor and improve KMC related processes and outcomes using quality improvement methodology in local context

## Module contents

This module includes following elements:

- **Script:** Easy to read format; gives quick introduction and is an essential reference material for the participants.
- **Key messages:** After having read through the script, these key messages summarize the important learning points in the webinar and the script
- **Video demonstration:** The videos in this module cover the preparation for kangaroo mother care and core elements in performing kangaroo mother care in special newborn care unit and ward
- **Webinar:** The webinar in this module shall help the participant to gain knowledge of kangaroo mother care (KMC) and its benefits to infant, mother and community.
- **Poster demonstration:** The participant shall learn about kangaroo mother care.
- **Self-assessment:** This will be done at the end of each objective, based on what you have already learnt. Feel free to consult your text material, if you need assistance in recapitulating.
- **Focused group discussion:** There will be a group discussion on benefits and problems occurring in KMC.
- **Role play:** Observing steps to motivate and counsel a mother for providing KMC. Participants will also be provided with opportunity to role play.
- **Skill check:** The skill check includes evaluation of your skills on “counselling the mother about kangaroo mother care”, “procedure of kangaroo mother care” and “monitoring while in kangaroo mother care”.
- **Simulation:** After reading through the text material, viewing videos, webinars and pictorial posters with messages, you shall be asked to perform the KMC procedure. While performing as a team doing KMC, individual feedback and debriefing of team will be done.

## Learning objective 1

### **The concept and benefits of kangaroo mother care (KMC) to infant, mother and community.**

This objective covers the concept of kangaroo mother care and will be delivered as:

- Webinar
- Script
- Key messages
- Poster

After viewing and listening to the webinar, and reading the script along with the key messages you shall undergo a self-evaluation based on what have you already learnt.





## 1.1: Webinar

You will view and listen to webinar on concept and benefits of kangaroo mother care (KMC) to baby, mother and community along with your facilitator. You are free to interrupt your facilitator anytime for any clarifications or suggestions. The power point slides of the webinar are given here.

### Kangaroo Mother Care

**DR. Ruchi Nanavati**  
Head of Department,  
Department of Neonatology  
Seth GS & King Edward Memorial hospital  
Parel, Mumbai

#### What is KMC?

- **Kangaroo Mother Care (KMC)** is a simple method of care for low birth weight infants that includes early and prolonged skin-to-skin contact with the mother (or a substitute caregiver) and exclusive and frequent breastfeeding.
- KMC is a comprehensive, low cost method of care of the stable LBWI

#### What is KMC?

- KMC is a low cost standard way for care of stable low birth weight infants
- KMC is an effective way for:
  - Provision of warmth
  - Promoting breastfeeding
  - Protection from infection
  - Promoting bonding

### What are the essential components of KMC?

- Skin-to-skin contact
- Exclusive breast feeding

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### Is KMC and routine skin to skin care at birth same?

- KMC should not be confused with routine skin-to-skin care at birth.
- World Health Organization (WHO) recommends skin-to-skin care immediately after delivery for every newborn, irrespective of the birth weight to ensure warmth and early initiation of breast feeding in the delivery room.
- **KMC is meant for stable LBW infants and denotes a sustained, longduration skin-to-skin contact.**

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### Advantages of KMC

- To baby
- To mother
- To family
- To community

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### What are the advantages of KMC to the baby?

- KMC decreases
  - Hypothermia
  - Hypoglycemia
  - Apnea
  - Oxygen requirement
  - Infection
  - Pain
  - Hospital stay
- Increases weight gain and follow up rates
- **Improves physiological stability and overall health and well being**

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### What is the effect of KMC on neurodevelopment of the baby?

- KMC is actually our normal biology & brain development is only normal in the normal place; skin to skin contact on the mother.
- KMC satisfies all five senses of the infant. The infant feels the mother's warmth through skin-to-skin contact (touch), listens to her voice and heartbeat (hearing), sucks breast milk (taste), has eye contact with her (vision) and smells her odour (olfaction).

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### What are the advantages of KMC to the mother?

- Promotes lactation and facilitates the feeding interaction
- Increases rate & duration of exclusive breastfeeding
- Reduces maternal stress
- Empowers parents: stronger bonding, increased confidence, and deep satisfaction due to active involvement in care of the baby.

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### What are the advantages of KMC to the family?

- KMC saves money as the baby is discharged early from hospital and hence father can resume duty early
- KMC babies are more healthy and have better IQ
- KMC decreases child abuse and abandonment

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### What are the advantages of KMC to the community?

- Reduces the health care cost significantly as KMC saves money on artificial feeds, antibiotics and other medicines, equipment as well as prolonged hospital stay required during conventional care.

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**What is the effect of KMC on neurodevelopment of the baby?**

**The bonding between mother and fetus is interrupted because of preterm birth**

**KMC reestablishes the bonding**

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What did you learn from this webinar?

1. ....
2. ....
3. ....

What are the queries which come to your mind?

1. ....
2. ....
3. ....



## 1.2: Script

**This script shall help you to understand the concept and benefits of KMC in your own unit.**

Kangaroo Mother Care is a simple method of care for low birth weight infants that includes early and prolonged skin-to-skin contact with the mother (or a caregiver) and exclusive and frequent breastfeeding. KMC is a comprehensive, low cost method of care of the stable low birth weight infant.

KMC is an effective way for:

- Provision of warmth
- Promoting breastfeeding
- Protection from infection
- Promoting bonding

**What are the essential components of KMC?**

Kangaroo mother care has following essential components:

- Early, continuous and prolonged skin-to-skin contact between mother and newborn.
- Exclusive breast feeding
- Close follow up at home

KMC should not be confused with routine skin-to-skin care at birth. World Health Organization (WHO) recommends skin-to-skin care immediately after delivery for every stable term newborn, irrespective of the birth weight to ensure warmth and early initiation of breast feeding in the delivery room while KMC is meant for stable LBW infants and denotes a sustained, long duration skin-to-skin contact.

**What are the advantages of KMC to the baby?**

- Provides effective thermal control with a reduced risk of hypothermia
- Decreases hypoglycemia, apnea, oxygen requirement and infection
- Alleviates pain in preterms, increases alertness as well as quiet sleep
- Attains better weight gain, reduces hospital stay and achieves better follow up rates
- And thus facilitates physiological stability and thus fosters baby's health and well being

**What are the advantages of KMC to the mother?**

- Promotes lactation and facilitates the feeding interaction
- Increases rate & duration of exclusive breastfeeding
- Reduces maternal stress
- Empowers parents: stronger bonding, increased confidence and deep satisfaction due to active involvement in care of the baby

**What are the advantages of KMC to the family?**

- KMC saves money as the baby is discharged early from hospital and hence father can resume duty early
- KMC babies are healthier and have better Intelligence Quotient (IQ)
- KMC decreases child abuse and abandonment

**1.3: Key messages**

- Kangaroo Mother Care is a simple method of care for low birth weight infants that include early and prolonged skin-to-skin contact with the mother (or a substitute caregiver) and exclusive and frequent breastfeeding.
- Kangaroo mother care is an effective way to meet the baby's needs for warmth, breastfeeding & protection from infection with multimodal stimulation, safety & love.





## 1.4: Poster

The facilitator shall conduct a demonstration session on Kangaroo mother care.

# KANGAROO MOTHER CARE: A MOTHER'S DELIGHT

*Nurses, Residents and Faculty, Division of Neonatology*

**WHO Collaborating Centre for Training and Research in Newborn Care  
All India Institute of Medical Sciences, New Delhi**

**What is Kangaroo Mother Care(KMC) ?**

**Skin to skin contact of the infant  
on the mother's chest**



KMC was first popularized at Bagota, Columbia

**How to provide KMC ?**

**Baby upright between mother's  
breasts**



Or any position comfortable to the mother !

**Where can KMC be provided ?**

**KMC can be given in the nursery  
and the ward**



KMC should be continued at Home

**Which babies need KMC ?**



Ideally all LBW babies benefit from KMC, but the  
VLBW gain the most

**How long can KMC be done ?**



- Each session of not less than one hour
- Provide KMC for as long and as often as possible, day and night

**Who else can provide KMC ?**



Other family members can also substitute and  
support the mother in providing KMC

## How to prepare for KMC ?

**1. Counsel the mother**



**2. Prepare the baby**



**3. Position the baby**



**4. Cover with cloth**



## POSITIVE EFFECTS OF KMC

- \* Normalizes infant physiology
- \* Provides warmth to the baby
- \* Promotes lactation, ensures more successful breastfeeding
- \* Provides sense of security to baby
- \* Improves weight gain of baby
- \* Reduces hospital stay
- \* Promotes baby-mother bonding



## WHAT ARE YOU WAITING FOR ?

KMC is a simple, low-cost and highly  
effective intervention which benefits low  
birth weight babies

- \* The babies and their mothers love KMC
- \* You too can promote KMC in your unit...  
start today...
- \* Ensure KMC for all VLBW babies

# कंगारू माता देखभाल

## (कंगारू मदर केयर : के.एम.सी.)

### कंगारू माता देखभाल (के.एम.सी.) क्या होती है?

इस विधि में माँ अपने कम वजन के शिशु को अपनी नग्न छाती से चिपका कर रखती है।



के.एम.सी. से बच्चे को गर्मी मिलती है। यह स्तनपान को बेहतर व साँस ठीक से लेने में सहायता करती है।

### के.एम.सी. कहाँ पर दी जा सकती है?

नर्सरी अथवा प्रसवोत्तर वार्ड में



### के.एम.सी. कैसे दी जाती है?

माँ बैठी हुई अथवा आधी लेटी हुई अवस्था में होनी चाहिए।



जितना समय तक संभव हो, के.एम.सी. दें।

### कब तक के.एम.सी. देते रहना चाहिए?

घर पर भी जारी रखनी चाहिए



### किन शिशुओं को के.एम.सी. की जरूरत होती है?

2.5 कि.ग्रा. से कम वजन वाले सभी शिशुओं को के.एम.सी. की आवश्यकता होती है।



सभी कम वजन वाले शिशुओं को के.एम.सी. से लाभ होता है।

### माँ के ज़तावा और बौन के.एम.सी. दे सकता है?

परिवार का कोई भी सदस्य जैसे दादी, नानी, दादा, पिता के.एम.सी. दे सकते हैं।



### के.एम.सी. की घटक क्या हैं?

माँ का अपनी छाती के साथ शिशु को चिपकाए रखना



स्तन-पान



### के.एम.सी. देने के लिए आवश्यकताएं

माँ की मदद करना और अस्पताल से छुट्टी के बाद उपचार प्रदान करना



### लाभ :

शिशु अधिक गर्म रहता है।

- स्तन-पान को बढ़ावा मिलता है।
- शिशु के शारीरिक व शारीरिक विकास में सुधार होता है।
- अस्पताल से जल्दी छुट्टी होती है।
- शिशु में होने वाले रोगों की संभावना कम होती है।
- शिशु-माँ के अलग-अलग को बढ़ावा मिलता है।

कंगारू माता देखभाल  
शिशु का अधिकार माँ का प्यार

### आप किस लिए इन्तज़ार कर रहे हैं?

के.एम.सी. एक आसान, कम-खर्च तथा अति प्रभावी उपचार है जो कम जन्म-भार वाले शिशुओं को फायदा पहुँचाती है।

- शिशुओं तथा उनकी माताओं को के.एम.सी. अंधी लगती है
- आप भी अपनी यूनिट में के.एम.सी. को बढ़ावा दे सकते हैं
- पहले तो आज से ही शुरू कर सकते हैं
- सभी कम जन्म-भार वाले शिशुओं के लिए के.एम.सी. सुनिश्चित कीजिए।



KMC India Network



Save the Children.  
USA

बुद्ध और अधिक जानकारी के लिए हमारी वेबसाइट [www.kmcindia.org](http://www.kmcindia.org) पर सॉल्व करें।



### 1.5: Self-check MCQs

#### State true or false

1. Kangaroo mother care and routine early skin to skin care at birth are same. **True/ False**
2. Kangaroo mother care satisfies all five senses of the baby. **True/ False**
3. KMC protects against nosocomial infections. **True/ False**
4. Babies who are receiving kangaroo mother care have better neuro developmental outcome. **True/False**
5. Mother should do KMC only in hospital not at home. **True/ False**

#### Multiple choice questions

1. What are the important components of kangaroo mother care?
  - a. Skin to skin contact and exclusive breast feeding
  - b. Skin to skin contact and hygiene
  - c. Exclusive breast feeding and cord care
  - d. Cord care and hygiene
2. The benefits of kangaroo mother care are all **EXCEPT**
  - a. Breast feeding
  - b. Thermal control
  - c. Cord care
  - d. Early discharge
3. A premature baby receiving KMC is less likely to develop:
  - a. Hypoglycaemia
  - b. Apnea
  - c. Infections
  - d. All of the above
4. What are the advantages of kangaroo mother care to community?
  - a. Reduced health care cost
  - b. Better weight gain
  - c. Parental participation in care
  - d. All of the above
5. Identify the incorrect statement.
  - a. KMC decreases hypothermia
  - b. KMC decreases oxygen requirement and apnea
  - c. KMC decreases infection
  - d. KMC increases hospital stay



## Learning Objective 2

### ***Practicing KMC in various clinical situations in preterm infants.***

This objective covers practicing of KMC in various clinical situations in preterm infants and is delivered as:

- Video
- Focused group discussion
- Key messages
- Role play

After viewing the videos, posters, role play and reading the script and the key messages you shall undergo a self- evaluation based on what have you already learnt.



## 2.1: Video

### There will be video demonstration by your facilitator on

1. Babies who can be initiated on kangaroo mother care
2. Requirements for kangaroo mother care
3. How to counsel for kangaroo mother care?
4. What is role of other family members in kangaroo mother care?
5. How to put baby in kangaroo mother care?
6. How to monitor the baby in kangaroo mother care?
7. Kangaroo mother care in special newborn care unit and ward
8. Planning follow up of a baby receiving kangaroo mother care

### The video demonstration will be followed by discussion

1. The following aspects of the babies who can be initiated on kangaroo mother care were shown:
  - i. ....
  - ii. ....
  - iii. ....
2. The following aspects of requirements for kangaroo mother care were shown:
  - i. ....
  - ii. ....
  - iii. ....
3. The following aspects of how to counsel for kangaroo mother care were shown:
  - i. ....
  - ii. ....
  - iii. ....
4. The following aspects of role of other family members in kangaroo mother care were shown:
  - i. ....
  - ii. ....
  - iii. ....
5. The following aspects of how to put baby in kangaroo mother care were shown:
  - i. ....
  - ii. ....
  - iii. ....

6. The following aspects of how to monitor baby in kangaroo mother care were shown:
- i. ....
  - ii. ....
  - iii. ....
7. The following aspects of kangaroo mother care in special newborn care unit and ward were shown:
- i. ....
  - ii. ....
  - iii. ....
8. The following aspects of planning follow up of a baby receiving kangaroo mother care were shown:
- i. ....
  - ii. ....
  - iii. ....

9. Comments on video:

Good aspect

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Need improvement

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## 2.2: Focused group discussion

There will be a focused group discussion on kangaroo mother care under the facilitator's guidance. You have to collect postnatal mothers and mothers who need to do KMC from the unit and then discussion will be facilitated by the facilitator. You need to observe the discussion undertaken by the facilitator and give your reviews related to group discussion.

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### 2.3: Key messages

- Ensure that baby's neck is not too flexed or too extended, breathing is normal, and feet and hands are warm during KMC.
- When mother is not available, other family members who are healthy and motivated can provide KMC.
- KMC can be initiated in a baby who is hemodynamically stable, but, may still be on intravenous fluids, tube feeding and/or oxygen.
- Detailed counselling of the mother and family members is mandatory before initiating KMC



## 2.4: Role play

**You will observe role play being conducted by facilitators on how to motivate and counsel a mother for providing KMC. Write your comments for discussion at the end of the role play.**

**Objective:** To demonstrate how to motivate and counsel a mother for providing KMC.

**Requirements:** Doll with cap and socks, sheet as a binder

### Introduction of facilitators doing role-play:

Ms A is the mother and Ms B is the nurse. Ms A has a premature baby 1.2 kg admitted in nursery. Ms B will motivate and counsel the mother for KMC. All the participants will record the feedback in ALPAC format.

A: Ask

L: 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.

**Nurse:** That is a good thing. You can now help in care of the baby.

**Mother:** Yes, but I am scared to do it.

**Nurse:** You don't have to get scared. 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 mother kangaroo cares for her baby by keeping in a pouch in skin to skin contact.

**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:** This method ensures that your baby remains warm because of skin to skin contact. 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.

**Mother:** How can I do kangaroo care for my baby?

**Nurse:** You must wear a gown, which can be opened from the front. The baby should be wearing a nappy to prevent soiling and socks and cap to keep him warm. (Demonstrate the procedure by putting a manikin in KMC). All other clothes should be removed. By remaining in touch with you, the baby gets warmth from you and he does not get cold. 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 sense your baby's breathing. In addition, your own breathing movements will stimulate the baby to breathe.

**Mother:** Does this method help my baby to put on weight and I can get discharged earlier?

**Nurse:** You are right. KMC increases mother's milk production. 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 or paladai. This would help the baby to put on weight. 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 hours. 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.

**Mother:** Thank you sister. Your explanation has really satisfied me and I am very relieved.

**Nurse:** That's very good. So now, can you tell me some of the benefits of KMC for your baby?

**Mother:** Sister, you told me that KMC will help my baby gain weight and keep her warm, as well as increase my milk production.

**Nurse:** Excellent! Now, you are ready to give KMC to your baby.

### Comments on role play:

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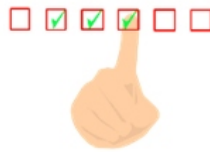
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## 2.5: Self-check MCQs

### State true or false

1. Kangaroo Mother Care requires extra staff and expensive articles. **True/ False**
2. Kangaroo Mother Care should not be given in babies who are on OG tube feed. **True/ False**
3. Kangaroo Mother Care can be given in babies who are on IV fluids and free flow oxygen. **True/ False**
4. Kangaroo Mother Care can be given by father or grandparents of the baby. **True/False**
5. KMC implementation requires extra staff. **True/ False**

### Multiple choice questions

1. Which babies are eligible for KMC?
  - a. Very sick babies
  - b. All low birth weight babies
  - c. All stable low birth weight babies
  - d. All newborn babies
2. What should be the minimum duration of one session of KMC?
  - a. At least one hour
  - b. 12 hour
  - c. At least two hour
  - d. 24 hour
3. Which of the following are parameters to monitor while doing KMC?
  - a. Neck position
  - b. Temperature of baby
  - c. Baby's breathing and colour
  - d. All of the above
4. Which of the following is FALSE regarding discontinuation of kangaroo mother care?
  - a. After baby is discharged from hospital
  - b. After baby starts wriggling out and is uncomfortable during kangaroo mother care
  - c. After baby's weight is around 2500g
  - d. After baby's gestation reaches term
5. Which of the following are the criteria for discharge a baby who is on kangaroo mother care?
  - a. No evidence of infection or illness
  - b. Maintaining temperature
  - c. Gaining weight 15-20gms/day
  - d. All of the above



### Skill Check

After you have read through the scripts, seen the videos and the webinars, you shall be asked to undergo a skill check on task trainers. The facilitator shall assess you and provide feedback. This shall include assessment of skill of:

| S. No. | OSCE  |
|--------|---|
| 1      | Counsel the mother about kangaroo mother care |
| 2      | Procedure of kangaroo mother care             |
| 3      | Monitoring while in kangaroo mother care      |

#### 1. Counsel the mother about kangaroo mother care

Baby of Anita, with weight of 1400 g, is hemodynamically stable. The health care team plans to initiate Kangaroo mother care. How would you counsel the mother about Kangaroo mother care?

| S. No. | Correct Action  | Yes | No |
|--------|---|-----|----|
| 1.     | Greets the mother   |     |    |
| 2.     | Sits at the same level and maintains eye contact  |     |    |
| 3.     | Asks the mother about her baby  |     |    |
| 4.     | Listens to her concerns   |     |    |
| 5.     | Praises the mother about her involvement in the care of the baby  |     |    |
| 6.     | Explains the need for doing kangaroo care in a small baby   |     |    |
| 7.     | Describes the benefits of KMC (maintaining temperature, increasing breast milk output, reducing risk of infection, decreasing hospital stay and improved emotional bonding) |     |    |
| 8.     | Confirms mother understands by asking simple questions and allays any anxieties the mother expresses.   |     |    |
|        | <b>Total Score</b>  |     |    |

#### 2. Procedure of kangaroo mother care

Baby of Mina, weighing 1650 g and on paladai feeds (expressed breast milk). Demonstrate the procedure of Kangaroo mother care.



| S.No. | Correct Action  | Yes | No |
|-------|---|-----|----|
| 1.    | Briefly explains the procedure to mother                          |     |    |
| 2.    | Mentions that mother needs to wear a front open gown.             |     |    |
| 3.    | Baby needs to wear cap, socks, diaper and front open shirt.       |     |    |
| 4.    | Exposes the mother's chest  |     |    |
| 5.    | Places the baby between the mother's breasts.                     |     |    |
| 6.    | Turns the baby's head to one side and keeps it slightly extended. |     |    |
| 7.    | Keeps the baby with arms and legs flexed and hips bent outwards.  |     |    |
| 8.    | Covers the baby with mother's gown.                               |     |    |
| 9.    | Secures the baby firmly with the help of a wrapper or KMC jacket. |     |    |

**Total Score****Score:** (Maximum Score 9): \_\_\_\_\_**3. Monitoring while in kangaroo mother care**

Baby of Asha, weight is 1200 g on oxygen by nasal cannula, is put in kangaroo mother care. Demonstrate how you will monitor the baby while on Kangaroo mother care.

| S.No. | Correct Action  | Yes | No |
|-------|---|-----|----|
| 1.    | Checks the position of the neck, that it is not flexed or hyper extended. |     |    |
| 2.    | Checks the temperature by touch method.                                   |     |    |
| 3.    | Counts the respiratory rate by observing the movement of the chest        |     |    |
| 4.    | Mentions that she would use a pulse oximeter if available.                |     |    |

**Total Score****Score:** (Maximum Score 4): \_\_\_\_\_



## Simulation

An essential pre-requisite before reaching this stage in each module is that the learner should have undergone the entire module, seen the videos and webinars facilitated by the facilitator, attempted the evaluation questionnaire, and demonstrated the skill check.

This session brings out learning and practice in a realistic environment for developmental supportive care. The emphasis is on working together as a team and not on individual skills.

You shall be asked by the facilitator to participate as a team for the management of the following conditions.

- Initiation of KMC
- Assessing counseling skills

This shall be followed by feedback and debriefing.