

Module 13 : Neonatal Sepsis : Diagnosis and Management with Cotrimoxazole

Session 1 : Diagnosing neonatal sepsis

Day : 3

Time Required : 2 hours 40 minutes

Purpose

To orient the ASHA to the causes of sepsis in the newborn during the first month of life, to the seriousness of the problem, and to the criteria for diagnosis.

Objectives

At the end of the session the ASHA will be able to:

1. Explain what sepsis is, how it may be caused, and why it is dangerous.
2. Diagnose sepsis in neonates.
3. Explain how sepsis can be prevented.

Materials

- Reading Material 1 : Neonatal Sepsis : Information Sheet
- Worksheet 1 : Home Visit Form
- Training Aid 1 : Case Presentation in Session
- Worksheet 2 : Case Studies
- Training Aid 2 : Answers to Case Studies
- Forms : Pregnancy Form, Delivery Form, First Examination of Newborn Form , Home Visit Form.
- Health Education Flip Chart

Preparation

- Ensure availability of adequate number of copies of Worksheets 1 and 2, depending on the number of trainees.
- Instruct the trainees to refer to the necessary forms in the Pregnancy Forms booklet and the Mother and Newborn Form booklet

Training Methods

Presentation and Discussion (1 hour 15 minutes)

Instructions to Trainers :

1. Tell the following story:
Janaki gave birth to a baby girl on Saturday. She was born healthy. On the 3rd day she developed pus in umbilicus, on 7th day her body became cold.
2. Ask ASHAs : 'What disease is this baby suffering from?' Listen to their answers. Praise them if correct. If they do not know, explain that this baby has *sepsis*, which is another word for a severe infection. Refer to the definition (see Content Box below).

Content Box :

Definition: 'Sepsis' means infection.

In the newborns the word 'sepsis' refers to any serious infection in the baby whether in the lungs, brain or blood.

How big is the problem ?

In rural India, nearly 1 out of 10 newborns develop condition suggestive of sepsis.

Sepsis in the first month of life is very serious and can cause baby's death.

Without treatment many babies with sepsis will die.

With treatment, most live and grow up normally.

3. Ask if any ASHAs have personal experience with a baby who had an infection in the first month of life. What happened to the baby? What are local terms used to describe sepsis in the newborn? Discuss which terms to use when talking to parents.
4. Explain that research done by SEARCH in Gadchiroli, Maharashtra shows that sepsis in newborns is common in Indian villages. Nearly one out of every ten infants who was delivered at home developed signs of sepsis in the first month of life.
5. Explain that sepsis is very serious. In Gadchiroli, it was the most common killer of infants in the first month of life. Without treatment, many babies with sepsis die. However with treatment, most live.
6. Ask ASHAs : 'What could be some of the causes of sepsis in the newborn?' Listen to their answers. Write them on the board or chart paper (see Content Box below). Praise the ASHAs for correct answers.
7. Ask ASHAs to refer to the 'Neonatal Sepsis : Information Sheet' provided in their Reading Material. Discuss the causes and compare these with the ASHA's list. Add any causes that may have been left out and remove any incorrect ones.

Causes of Neonatal Sepsis

- 1) Mother has infection during pregnancy or delivery.
 - 2) During delivery, unclean techniques (poor hand washing, TBA putting hands inside mother, using dirty blade and cord ties) can cause infection in the mother and her baby.
 - 3) Cord becomes infected from unclean cutting or putting dirty things on cord.
 - 4) Baby is weak; born preterm or with low birth weight (less than 2,000 grams).
 - 5) Baby becomes weak from poor feeding practices, including not giving breast milk early and exclusively.
 - 6) Baby becomes weak after becoming cold after delivery.
 - 7) Baby comes into contact with an already infected person: mother, family members, visitors, TBA or the ASHA.
8. Explain to the ASHAs that in their everyday work they need to look for early signs of infection and try to prevent them. Infection in the mother, preterm, LBW, not breastfeeding exclusively, coming in contact with dirty hands or clothes are the main risks for the baby developing sepsis. Early action can help prevent sepsis in the baby.
 9. Emphasise that often infection in the newborn shows itself locally, such as an infection of the umbilicus, or of the lungs (pneumonia) or blood. Yet, in the newborn, infections can become serious very

suddenly. Babies—especially preterm and LBW babies— are unable to fight the infection effectively. The toxins spread quickly in the body, the baby may stop crying and feeding, and become cold. It may be difficult to tell where the infection started, and since the signs and symptoms are not very clear the diagnosis may not be accurate. To help ASHAs overcome this and detect sepsis accurately, a simple method is developed using specific criteria (see Content Box below).

10. Ask ASHAs to refer to Worksheet 1, the Home Visit Form. Have the ASHAs refer to the sepsis diagnosis part of home visit form and read each criteria. Discuss.
11. Point out that for a correct diagnosis of sepsis, it is essential that there is a presence of **two** criteria on the same day. Many baby will exhibit any one sign, but if two signs or more develop, it strongly indicates sepsis.
12. Also note that the first three signs - all limbs limp, feeding less or stopped feeding, and weak cry or no cry - are not counted as criteria if these conditions were present at the time of delivery itself. For these three criteria it is essential that the baby should not have had these signs at birth, and that these should have developed later. (For example, a baby having normal sucking at birth later on changes to weak or no suckling).

Content Box :

Criteria for Diagnosing Neonatal Sepsis

- 1) All limbs limp

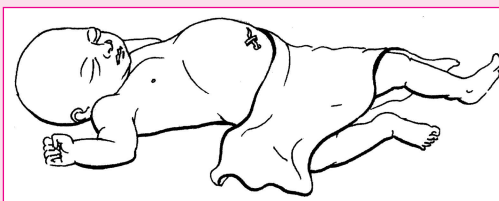


(For comparison see the photograph of baby with normal limbs in the Reading Material Module 4 Session 6)

- 2) Reduced feeding or stopped feeding



- 3) Weak cry or stopped crying
- 4) Mother says baby became cold to touch (hypothermic) or temperature is more than 99° F (37.2° C)
- 5) Stomach distended or repeated vomiting



6) Chest in-drawing



7) Pus in umbilicus (For the photograph refer Health Education Flip Chart : Card No - 27)

Out of seven criteria, if any two or more are present on the same day, then the baby has sepsis. For the criteria 1st, 2nd, or 3rd to be counted the baby has to be free of that sign earlier, and then newly develop that sign.

13. Present these examples:

1. Baby Bindi was born with a weak cry and weak breathing. This condition continued for four days. On the 3rd day she became cold. Would you diagnose this as sepsis? (*No*) Why not? (*The only criteria met on day 3 is 'became cold'. She had a weak cry and weak breathing from birth so it does not count as a new criteria*). On the 4th day she developed abdominal distention and was still cold. Now, does the baby have sepsis ? (*Diagnose this as sepsis because two criteria are present on the same day*)
2. Baby Neeta was born with asphyxia. She had no cry or breath. After resuscitation she revived and her breathing and cry became normal. On the 6th day she became cold and her cry became weak. What would you do? (*Diagnose the case as sepsis; she has two criteria, 'became cold' and 'weak cry'.*)

NOTE : If the baby has only one sign of sepsis the ASHA should visit everyday for the next three days and watch for other sign of sepsis. If breast feeding problem or hypothermia are present, manage these according to the management guidelines. If pus on umbilicus is present treat with G.V. paint. Sometimes, due to fever babies temporarily develop another signs such as weak or no sucking or weak cry or vomiting. To make sure, first treat fever with paracetamol and wait for an hour. If, inspite of the fever coming down, the other sign still persists then diagnose sepsis.

14. Ask ASHAs if sepsis can be prevented. They should answer 'YES'. Ask them to explain how.

Listen to their answers. (See Content Box below.)

- If they say 'practicing good hygiene', ask them to be specific (Possible answers are: *TBA washing hands before the baby is born and not putting hands inside mother, using a clean blade, ASHA and others washing their hands before touching the baby, mother washing her hands after visiting the toilet, or cleaning the baby's stool, sick persons not coming into the birth room.*)
- How do they keep the baby warm? (Possible answers are: *Immediately after delivery, dry the baby and keep covered with dry cloth; place close to mother and start breastfeeding; have baby wear clothes; if LBW, use warm bag and/or skin to skin contact method.*)
- What are good breastfeeding practices? (Possible answers are: *Early initiation, on demand feeding. usually every 2-3 hours in first weeks, exclusive breastfeeding - i.e., no other fluids or foods.*)

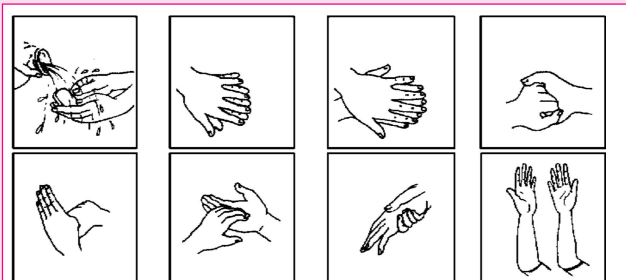
Content Box :

Sepsis Prevention

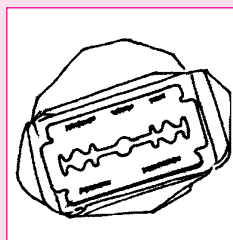
Sepsis can be prevented by:

1. Good Hygiene:

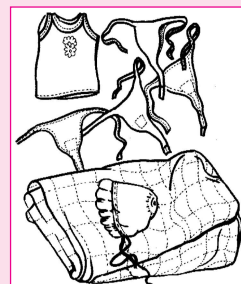
Frequent handwashing



**clean blade
during delivery**



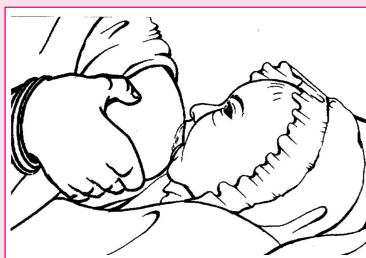
clean clothes



2. Keeping the baby warm



3. Breastfeeding (Early initiation & on demand)



4. Keeping the umbilical cord clean and dry



15. Explain that ASHAs have an important role to play in preventing sepsis and in promoting infant health during each of their visits; they must check to see that good hygiene is practiced, that the baby is kept warm, especially in winters and that breastfeeding is going well.

- The ASHA should initiate breastfeeding right after delivery.
- During home visits after delivery ASHAs should make sure baby is feeding well : observe breastfeeding, ask how many times the baby fed during the night and day, weigh the baby.
- The same is true for making sure the baby is warm enough. If the temperature is less than normal, the mother needs to warm the baby and make sure it is well clothed and wrapped.
- ASHA should reinforce the practice of frequent hand washing.

**Each Home Visit Is an Opportunity to Promote Health and Prevent Sepsis.
Your Own Behaviour Is the Best Teacher.**

Case Presentation in Large Group (30 minutes)

Instructions to Trainers :

1. Present the following case in the large group (Training Aid 1). Read aloud the first part and ask a question. Allow time for answers. Discuss the answers. If an ASHA replies incorrectly, ask the group if they have other suggestions. Proceed with the next part of the case.
2. At the end, review the case and the actions taken by the ASHA.
3. Check if there are any questions and clarify doubts.

Practice/Case Studies (45 minutes)

Instructions to Trainers :

1. Distribute Worksheet 2: the Case Studies.
2. Divide the ASHAs into groups of 3-4. Each group works on the cases together, discussing the answers. (25 minutes)
3. Return to the large group and review the case studies in session. (20 minutes)
4. Check if there are any questions and clarify doubts.

Summary (10 minutes)

- Ask an ASHA to explain what sepsis is and why it is important to diagnose and treat it. (*Sepsis is an infection. It is common in infants in villages in India and can cause death unless treated early.*)
- Ask ASHAs to state the seven criteria for diagnosing sepsis.
- Ask how the diagnosis of sepsis is made (*Two criteria must be present in the infant on the same day.*)
- Ask ASHAs what they would do if only one criteria was present (*visit the newborn everyday for next three days. If it is a breast feeding problem, hypothermia, pus on umbilicus or fever, manage the problem as they have learnt*).
- Ask the group how sepsis is prevented (*Clean birth, hand washing, breastfeeding, keeping baby warm, clean clothes, keeping infected people away.*)
- Make corrections if any and add missing information.
- Praise the ASHAs for their good work.

Evaluation of the session

Objectives	Assessment Method	Output
Explain what sepsis is, how it may be caused, and why it is dangerous	Questions and answers.	-
Diagnose sepsis in neonates.	Case studies.	Case studies attempted by all the ASHAs in groups
Explain how sepsis can be prevented.	Discussion/case studies.	-