**Case studies**

***Essential Care of a LBW baby***

CASE SCENARIO 1

MS BASAMMA PRIMIGRAVIDA WITH GESTATIONAL AGE OF 35 WEEKS, DELIVERED A FEMALE BABY IN A PHC WEIGHING 2000 GRAMS AS MEASURED BY GROUP D.

SIX HOURS LATER THE BABY WAS REFERRED TO THE SNCU AS WHEN THE STAFF NURSE CHECKED THE WEIGHT IT WAS ONLY 1700 GRAMS. MOTHER AND BABY COME TO THE SNCU.

1. ***What do you think the staff nurse in the labour room must do as immediate management of a newborn baby?***

**Answer:**

* Check if the baby is breathing / crying at birth.
* Note the time of birth.
* Place the baby at birth on the mother’s abdomen, dry with a clean cloth/towel. Cover the baby with another clean cloth/towel, continue to keep the baby on skin to skin.
* Clamp and cut the cord between 1-3 minutes after birth.
* Help the mother to initiate breast feeding. Check if the baby has effective feeding cues
  + Latches and sucks steadily with pauses, swallows milk
  + Feeds without choking
  + Mother says the breast feels soft after a feed.
* Check weight of baby within 1 hour of life. The weight must be checked by the staff nurse. Classify this baby as LBW.
* Check:
  + Temperature of baby every 15 minutes by feeling the foot / forehead until temperature can be checked using a thermometer.
  + Breathing of baby every 15 minutes. If breathing is well, it will be between 40-60/minute, no chest indrawing, and able to feed without a problem.
  + Do first examination of baby by 1 hour of life.
  + Give Inj. Vitamin K to the baby.

1. ***What will you do on receiving the baby in the SNCU?***

* Check:
  + Vital signs: Temperature, Activity, Breathing, Colour including HR/CRT
  + If the baby is well or not well/stable or not: Baby is well if the temperature is normal, baby is active, breathing normally (55/minute) with no chest retractions, and colour is normal.
  + Weight again if needed.
  + Feeding cues of the baby: rooting reflex is good, salivation, shows sucking movements; asks mother whether baby had initial feed.
* Inform doctor,
* Check if the mother can be shifted up to the KMC room/ postnatal ward.
* Initiate the baby on KMC after counselling the mother on benefits and position of KMC, requirements, for how long and need for foster provider:
  + Teach a mother how to monitor the baby
    - T- Temperature
    - A: Activity
    - B- Breathing
    - C- Colour
* Request mother to come and feed the baby every two hours.
* Observe if there is any difficulty of feeding.
* Monitor vital signs every 30 minutes for the first two hours.

1. ***What advise do you have to give this mother?***

* Encourage the mother to remain in the facility (CHC/PHC) for at least two days.
* Inform mother about maintenance of KMC.
  + Ensure mother gives KMC for 10-12 hours a day, before discharge.
  + Inform mother to continue till the baby is uncomfortable or has reached a weight of 2500grams/2.5 Kg.
* Check adequacy of feeding
  + Baby takes 10-12 feeds/day
  + Baby passes urine 6-8 times
  + Baby sleeps comfortably 2-3 hours between feeds
  + Mother feels breast is soft
  + Baby feeds on each breast for at least 10 minutes.
  + Weight loss is not more than 1% per day in the first 7 days of life
* Check if baby is ready for discharge:
  + Taking 10-12 feeds,
  + No danger signs,
  + Mother confident to give KMC,
  + Mother giving KMC for prolonged periods,
  + KMC foster provider available,
  + Baby does not have weight loss for two consecutive days.

***Essential Care of a LBW Stable Baby and Assessing Adequacy of Feeds***

CASE SCENARIO 2

B/O MS SHEENA WAS ADMITTED TO THE SNCU IMMEDIATELY AFTER BIRTH. AT THE TIME OF ADMISSION NEWBORN WAS WEIGHING 1550GMS, CRIED IMMEDIATELY AFTER BIRTH. NEWBORN WAS ON IV FLUIDS ONLY FOR THE NEXT 3 DAYS AND THE WEIGHT OF THE NEWBORN DROPPED TO 1270 GRAMS ON THE 4TH DAY OF LIFE.

1. ***How can you decide if this baby is stable/well or not on admission?***

**Answer:**

* Baby is stable / well if the body temperature is normal, baby is active, breathing normally (40-60/minute) with no chest retractions or grunting, and colour is normal.
* An unwell baby would have
  + T: Temperature - would be low or high
  + A: Activity – lethargic/feeding poor or not at all/ Abnormal movement – convulsion/fits
  + B: Breathing - difficulty – fast breathing, indrawing of chest
  + C: Colour - would be pale or jaundiced

1. ***What is the essential care of this newborn baby?***

**Answer:**

* Classify the baby as LBW baby.
* Decide if the baby is well or unwell.
* The baby is well since the baby is above 1500 grams and has no danger signs.
* Support the mother to breast feed the baby.
  + Check if the baby has feeding cues.
  + If not sucking well but has no choking, encourage the mother to express breast milk and to feed with pallada or cup.
  + If the baby is not sucking well and is choking then give orogastric feeds to baby.
  + The baby on Day 1 requires 60ml /kg/day= 60x1.55=93ml. Thus, if every 2 hours baby is getting fed = 93/12 = 8.0ml

Thus, every 2 hours (12 feeds) to give 8.0 ml.

|  |  |  |
| --- | --- | --- |
|  | More than 1500gms(1.5kgs) | Less than 1500gms (1.5kgs) |
| Day of Life | ml/kg/day | ml/kg/day |
| Day 1 | 60 | 80 |
| Day 2 | 75 | 95 |
| Day 3 | 90 | 110 |
| Day 4 | 105 | 125 |
| Day 5 | 120 | 140 |
| Day 6 | 135 | 150 |
| Day 7 | 150 | 150 |

* Encourage the mother to provide KMC and to give it till the baby is 2500grams/2.5Kgs or till the baby is uncomfortable, for as long as possible during a day.

1. ***How would you assess if the baby is getting adequate feeds?***

* Check daily, if the baby is getting adequate feeds. The best way to do this is to check for the following:
  + *How many times has the baby passed urine?*

A baby is passing urine 6-8 times a day.

* + *Is the baby active or and sleeping comfortably?*

A baby is comfortable and sleeps between feeds every 2-3 hours.

* + *How much weight loss has happened?*
* A baby usually loses 10% of birth weight in first 10 days. Suppose the baby has lost 10% in the first 3-4 days, it shows the baby is not getting enough feed. On day 4 this baby’s weight is 1270grams. In this case the baby has lost 280 grams in 4 days. This means 280/1500x100=18% weight loss (more than 10% in 4days). This shows the baby does not have enough feed/ fluid.
* Additional observations to be made include whether the baby is maintaining temperature, is active or lethargic, has breathing difficulty or not, hypoglycemic or not, jaundiced or not.
* A baby must gain approximately 15 grams/kg daily after early weight loss. A baby must have weight gain for at least 3 consecutive days.

***Assessing Adequacy of Feeds of a LBW baby***

CASE SCENARIO 3:

A 2000 GRAM BABY IS 3 DAYs OLD AND BREAST FED. WEIGHT TODAY IS 1700 GRAMS.

1. ***How would you assess if the baby is getting adequate feed?***

**Answer:**

* Check if baby is showing good cues for feeding?
* Check if baby is feeding for at least 10 minutes each breast?
* Check if the baby is taking 10-12 feeds a day?
* Check if mother says her breast feels empty after a feed?
* Check if baby sleeps comfortably for 2-3 hours after a feed?
* Check if the baby is passing urine 6-8 times?

1. ***Is this weight loss acceptable?***

**Answer:**

* A baby will lose approximately 10% of birth weight in first 7-10 days of life. Thus, if the baby is 2000 grams at birth and has lost 300 grams by the 3rd day of life this indicates 15% loss of weight. This shows that the baby might not be getting enough feed.
* The nurse must also look for any other problems such as does the baby have breathing difficulties, is lethargic, drowsy, jaundiced, hypothermic (look at the record), hypoglycemic etc.
* Is the mother giving KMC?

1. ***What advise would you give this mother? What observations would you make?***

* Observations:
  + Mother KMC
  + Mother breast feeding: position and latching. If needed give pallada feeds of EBM.
  + Mother’s diet
  + Any danger signs in the baby
* Advise:
  + Continue KMC till baby is 2500grams (2.5Kgs) or as tolerated by the baby for as long as possible each day
  + Feed the baby every two hours
  + Watch for danger signs and report it immediately to the staff nurse

CASE SCENARIO 4

A 4 DAY BABY WHOSE MOTHER HAS NO CONCERNS, SHOWS NORMAL ACTIVITY. BABY’S BIRTH WEIGHT WAS 1630 GRAMS AND TODAY IS 1580 GRAMS. THE BABY IS TAKING 21ML BREAST MILK EVERY 3 HOURS BY PALLADA AND HAD 6 WET NAPKINS.

1. ***Assess this baby and decide if you would continue doing the same.***

* The baby has lost 50 grams by the 4th day (=3% weight loss). This is OK and indicates the baby is getting enough milk.
* By the 4th day this baby requires approximately 105ml/kg/day=171ml; this comes up to approximately 14-15 ml per feed for 12 feeds either direct breast feeding or by pallada.
* The baby is passing enough urine and also is having normal activity.
* I will continue the same activity. In fact, if the mother is practicing KMC, the baby can be sent home.

***LBW baby born preterm with breathing difficulty at 6 hours of life and appropriate referral***

CASE SCENARIO 5

MS ELAMMA WITH GA OF 34 WEEKS, DELIVERED A MALE BABY WEIGHING 1600 GRAMS IN A PHC. THE NEW-BORN HAD DIFFICULTY IN BREATHING AT 6 HOURS OF LIFE AND SN REFERRED THE MOTHER AND BABY TO A HIGHER CENTRE WITHOUT INITIATING SKIN TO SKIN CONTACT. THE STAFF IN THE REFERRAL FACILITY WERE ALSO NOT INFORMED ABOUT THE REFERRAL.

1. What must the staff nurse assess and do when a woman of 34 weeks gestation comes to the PHC with labour?

**Answer: Prepare for birth of LBW baby**

* A woman who comes with labour at 34 weeks has preterm labour.
* Do a PV, check if membranes are ruptured and start monitoring with a partograph if she is more than 4cm dilated.
* Give Ampicillin 2gm IV every 6 hours to the mother so that the baby can be protected from getting an infection during labour.
* Check if the GA is correct. If she is less than 34 weeks GA then give Inj. Dexamthesone 6mg IM x 4 doses every 12 hours OR Inj. Betamethasone 12 mg IM x 2 doses every 24 hours. This will help reduce the chance of respiratory problems for the baby.
* Keep all things ready for delivery.
* Keep the NB corner ready with resuscitation equipment. Switch on the radiant warmer.
* Inform the doctor about the woman’s admission.

1. ***Once the baby is born, what does the nurse have to do?***

**Answer: Immediate Care of Newborn**

* Call out the time of birth.
* Check if the baby is breathing or crying.
* Place the baby on the mother’s abdomen; wipe the baby with a clean cloth/towel.
* Change the towel/clean cloth and keep on direct skin to skin; cover with the second clean cloth/towel.
* Give Inj. Oxytocin 10 IU (IM) to mother to reduce bleeding and do active management of third stage of labour to deliver the placenta.
* Clamp and cut the cord after 1-3 minutes.
* Ensure that the baby is kept between the breasts of the mother in direct skin to skin care.
* Observe if the baby is breathing well, note the colour of the baby.
  + The baby must be breathing between 40-60/min
  + Colour must be pink.
* If the baby is breathing well, encourage the mother to initiate breast feeding.
* Check breathing, temperature (by touching feet and forehead) and colour of baby every 15 minutes.
* Check weight of the baby.
* Administer Vitamin K.

1. ***Assess if the baby is well or unwell?***

* Check the breathing, temperature, examine the baby.
* If the baby is having breathing difficulties (breathing more than 60 / min, chest indrawing, noisy breathing, refusing to feed), keep the baby under the radiant warmer, start the baby on oxygen – 5L/min by hood/ 1L/min by prongs, insert an orogastric tube and ask the mother to express breast milk.
* Refer the baby to DH. Call the staff nurse/doctor in the DH and inform them about the baby coming.
* Keep the baby in KMC position. Ensure the baby’s head is slightly extended (baby looking slightly upwards). Continue the oxygen.
* Transport the baby and mother in the ambulance to the DH.
* Encourage the mother to watch the baby. She can check if baby is
  + Breathing?
  + Responding to touch?
  + Warm?
* Fill the NB Case sheet and Referral form, so that this can be handed to the mother to give to the staff in the DH.

1. ***If the baby did not have any problems, could the baby have been managed in the PHC itself?***

**Answer:**

* The baby could be referred to the CHC after initiating KMC. However, if the mother is not willing to go to the CHC, counsel her on the need for remaining in the facility for at least 2 days.
* At the CHC / PHC the mother must be counselled on benefits of KMC, who can give KMC and for how long KMC must be given.
* Check if the baby is able to be breast fed directly
  + Is awake and showing readiness to feed
  + Latches and sucks steadily with pauses and swallows the milk
  + Feeds without choking, turning blue
  + Mother says that her breasts have become soft after the baby has fed.
* Supervise whether the baby is feeding well
  + Taking 10-12 feeds
  + Feeds at least for 10 mins each time
  + Passing urine 6-8 times
  + Sleeps after a feed
  + Does not lose more than 1% body weight each day of life (A baby loses 10% of body weight in the first week of life).
* If needed, the mother must be taught how to express breast feed and to feed with a palada/cup.
* Ensure the mother and baby are ready for discharge.
  + Mother has given and is confident to give KMC for at least 8 hours on 2 consecutive days.
  + There is a foster KMC provider.
  + Baby is feeding well
  + There are no danger signs.
  + Has no weight loss on two consecutive days.

1. ***At the SNCU what will you do on receiving this baby?***

* Check:
  + Vital signs: Temperature, Activity, Breathing, Colour including HR/CRT
  + If the baby is well or not well/stable or not: Baby is unwell since the baby has a breathing problem. But temperature and colour are normal.
  + For breathing rate, retractions or chest indrawing, grunting or noisy breathing, nasal flaring and any cyanosis.
  + Check for oxygen saturation.
  + Check blood glucose level.
  + Weight again if needed.
  + Feeding cues of the baby: rooting reflex is good, salivation, shows sucking movements; asks mother whether baby had initial feed.
* Inform doctor.
* Keep under radiant warmer.
* Start oxygen if there are retractions, if respiratory rate is more than 70/minute by hood at the rate of 3-5L/min. Connect the pulseoximeter.
* Insert NG tube.
* Keep nil orally and feed by tube if baby RR is 70/minute, slight chest indrawing, but does not have abdominal distension, nasal flaring and grunting.

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| --- | --- | --- | --- |
|  | **0** | **1** | **2** |
| RR | <60 | 60-80 | >80 |
| Central cyanosis | None | None with 40% O2 | Needs more than 40% 02 |
| Retractions | None | Mild | Severe |
| Grunting | None | Minimal | Obvious |
| Air entry | Good | Decreased | Very poor |

* Start IV fluids and keep nil orally if RR is more than 80/minutes, severe chest indrawing, noisy breathing, oxygen saturation maintained at 90 with 5L of oxygen.
* Check if the mother can be shifted up to the KMC room/ postnatal ward
* Once stable
  + Initiate the baby on KMC after counselling the mother on benefits and position of KMC, requirements, for how long and the need for a foster provider:
  + Teach a mother how to monitor the baby
    - T- Temperature
    - A: Activity
    - B- Breathing
    - C- Colour
* Gradually attempt oral feeds. Request mother to come and feed the baby/express breast milk every two hours.
  + Observe if there is any difficulty in feeding.
* Monitor vital signs every 30 minutes for the first two hours.
* If respiratory distress lasts for more than 6 hours, do sepsis screen (counts and culture). Start on antibiotics as prescribed.

***Essential Care for a LBW baby who is stable and discharge advice***

CASE SCENARIO 6

MS MALLAWA A PRIMI DELIVERED FEMALE BABY AT 38 WEEKS OF GESTATION AT DISTRICT HOSPITAL. WEIGHT OF THE NEWBORN WAS 1950 GRAMS, CRIED IMMEDIATELY AFTER BIRTH AND WAS STABLE. NEWBORN WAS KEPT IN THE RADIANT WARMER. MOTHER WAS STABLE. MOTHER AND THE FAMILY MEMBERS WERE COUNSELLED ABOUT KMC AND KMC WAS INITIATED 6 HRS AFTER THE DELIVERY. MOTHER PROVIDED KMC FOR 5 HRS EACH DAY AND WAS DISCHARGED ON THE 3RD DAY. ADVICE ON KMC WAS GIVEN TO THE MOTHER AND FAMILY.

1. ***What is the essential care for this LBW baby?***

* The baby is well, since the baby breathes at birth, has no danger signs.
* The baby must be kept on skin to skin at birth.
* The cord should have been clamped and cut after 1-3 minutes.
* Mother should be assisted with breast feeding the baby within ½ hour.
* The baby must be monitored every 15 minutes for breathing, colour, and temperature.
* Within 1 hour an examination must be done, weight must be checked and Inj. Vitamin K must be given
* Advice the mother on KMC and assist her to position the baby for KMC.
* Teach the mother to observe the baby, while in KMC for A- Activity; B- Breathing; C- Colour and T- Temperature and to inform if there are any changes.
* Encourage her to breast feed the baby every 2-3 hours.

1. ***What advice will you give the mother and family before discharge?***

* Advise the mother to continue to give KMC for as long as possible.
* Ensure there is a foster KMC provider.
* How to assess for danger signs.
* How to assess if baby is getting adequate feeds.
* When to come for follow up.
* When must immunisation be given.

**Case Study 6: NEONATAL CONVULSIONS**

A 3.8 kg baby girl is delivered by normal delivery after prolonged labour. Baby did not cry at birth and needed resuscitation. In the NICU, the baby has convulsions at 8 hrs of life.

1. What will you do next?

2. Which drug will you give and what is the dose?

3. What are all the causes for this baby to have convulsions?

4. What will you do if the baby continues to have more seizures?

**Case Study 7: SHOCK**

A 3-day old, 2.2 kg baby is brought to your district hospital with decreased activity and poor feeding. She was born by normal vaginal delivery at home assisted by a trained dai. She was given water and honey. Breast feeding was initiated on day 2 and since then she was breast fed. On examination, baby is found to be pale with blue peripheries. She has a poor pulse and deep rapid breathing.

1. What other questions will you ask the family?

2. What other signs will you look for?

3. What investigations will you order?

4. How will you treat?

**Case Study 8: JAUNDICE**

A day 1 term baby presents with jaundice till the face.

1. What information do you have to collect?

2. What will you monitor?

3. On day 2 jaundice has gone up to abdomen, what will you do?

4. When will you refer this baby?