University of Malawi
Kamuzu College of Nursing

MODULE 31
FOR
BACHELOR OF SCINCE IN NURSING AND MIDWIFERY YEAR IV
NEONATOLOGY THEORY AND PRACTICE
Neo sc (502)

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MARCH 2012

ABBREVIATIONS

MMP	Midwifery Management Process
IMCI	Integrated Management of Childhood Illnesses
ENC	Essential Newborn Care
KMC	Kangaroo mother Care
HMD	Hyaline Membrane Disease
CPAP	Continuous Positive Airway Pressure
NGT	Nasal Gastric Tube
MAS	Meconium Aspiration Syndrome
RDS	Respiratory Distress syndrome
SGA	Small for Gestational Age
LGA	Large for Gestational Age
IUGR	Intra Uterine Growth Restriction

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PART 11

NEONATOLOGY PRACTICE 1

MODULE CONTENT

MODULE OVERVIEW

Module descriptor: This module provides knowledge, skills and appropriate attitudes necessary for the management of neonates in health care facilities and community settings. The midwifery management process, problem solving skills and essential newborn care package are applied to assist students develop relevant skills and attitudes essential for the management of neonates.

- **How to use the module:** This module has been prepared to help students learn about management of neonates with and without complications. It is recommended that you use this module as a guide. You should read the content of the module and refer to other sources of literature including books, journals and internet. You should also complete all the assignments as designated and consult widely on each topic.

- **How the module fits into the programme:** This module equips learners with necessary knowledge, skills and appropriate attitudes to comprehensively care for neonates with and without complications. It provides information on the normal neonate and common neonatal conditions and their management. Learners are encouraged to think critically and make appropriate decisions in provision of care.

LEARNING OUTCOMES AND ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
• Discuss the physiological changes of the normal neonate and adaptive responses to extra uterine life.	Explain the changes that take place in the neonate and how the neonate adapts to extra uterine life
• Discuss the comprehensive management of normal neonates and their families	Manage neonates without problems and their families
• Discuss the comprehensive management of neonates with complications	Manage of neonates with complications
• Utilize the essential newborn care concepts and midwifery management process and IMCI guidelines during the care of neonates and their families in various health care facilities and community settings	Utilizes, KMC midwifery management process and in managing IMCI approach in different settings in neonates
• Discuss current issues and trends in neonatal care	Identify current issues and trends in neonatal care
• Apply ethical legal principles in the care of neonates	Comprehend ethical legal issues in neonatal care
• Document and report accurately pertinent information about the neonate	Record and reports patient information about the neonate.
• Collaborate with other multidisciplinary team members for neonatal care and make appropriate referrals	Explains the collaboration of multidisciplinary team members for neonatal care Make appropriate referrals
• Discuss factors contributing to high mortality and morbidity in neonates	Explain factors contributing to neonatal mortality rate and its significance to neonatal practice

1. LEARNING CONTRACT

Students' Role

- You are responsible for your own learning.
- You need to continuously monitor your progress and reflect on whether you are achieving the learning outcomes.
- You are required to carry out all activities stipulated in the module
- You must submit all assignments on time as designated in the module
- You are expected to attend all classes and actively participate in class presentations/discussions
- You are expected to actively participate in group assignments
- You are expected to write examinations both continuous and end of semester
- The time allocated to this module is 70 hours which includes classroom lectures, laboratory practice, presentations and examinations

I will complete this module within the specified period in order to gain the appropriate knowledge, skills and attitudes. I am aware that I have to achieve the stipulated outcomes in readiness for clinical placement and assessments.

Students Name: ……

Students Signature……

Date: …….

Lecturer's Role

- Provide students with modules containing expected learning outcomes content areas, students' activities, assessment criteria and methods.
- Provide guidance and support for the students to achieve learning outcomes
- Monitor and evaluate performance of students' learning activities
- Assist the students with clinical skills in the laboratory as stipulated in the module
- Facilitate students' discussion and presentations

Assessment Methods

Examination	-	20%
Practicum	-	60% (clinical performance 40%, OSCE 20%)
Project (case study	-	20%

MODULE CONTENT

Unit 1: MIDWIFERY CONCEPTS USED IN MANAGEMENT OF NEONATES

Introduction

This unit provides the learners with knowledge of appropriate concepts that are utilized in the management of neonates.

Learning Outcomes

Upon completion of this module you should be able to:

- Discuss the midwifery management process in care of neonate
- Describe principles of essential Newborn Care (ENC)
- Review the Integrated Management of Childhood Illnesses concept

Unit content

1.1. Midwifery Management Process (MMP)

The midwifery management process is an approach to patient/client care that is utilized by midwives in any clinical setting. Its involves principles of critical thinking, decision making, patient assessment, care planning, care implementation and evaluation.

1.2 Essential Newborn Care (ENC)

This is the basic care rendered to neonate from day of birth to 28 days of life. This concept includes:

- Immediate care at birth
- Subsequent care
- Care up to 28 days

The main purpose is to keep the baby healthy by achieving a set of management principles.

Principles of Essential Newborn Care

- Maintenance of airway and circulation
- Maintenance of warmth
- Initiation and maintenance of breastfeeding
- Bonding
- Early detection of problem for early action/intervention.
- Education and counseling of mother and family about newborn care
- Provision of immunizations
- Infection prevention
- Safety and security
- Maintenance of elimination pattern

1.3 IMCI

Integrated Management of Childhood Illness is a Malawi Government strategy in addressing a cluster of childhood illnesses including children less than 2 months.

Activity

1. **Review the midwifery management process**
2. **Visit neonatal care units and identify how the concept IMCI is being utilized in the provision of care.**

Beck D., Ganges F., Goldman S. & Long P. (2004) *Care of the Newborn; Reference Manual*, Washington D.C., Save the Children Federation

Fraser D.M., Cooper M.A. & Nolte A.G. (2006), *Myles Textbook for Midwives*, African edition, Edinburgh, Churchill Livingstone ELSEVIER

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WHO, (2003). *Managing Newborn Problems: A guide for doctors, Nurses and Midwives.* WHO, Geneva.

UNIT 2: THE NEONATE WITHOUT COMPLICATIONS

Introduction

The neonatal period is from birth through the first 28 days of life. During this period the newborn adapts to extra-uterine life. The midwife needs to be knowledgeable of the newborn's physiological and behavioural adaptations in order to recognise alterations from normal and provide basic neonatal care.

LEARNING OUTCOMES

Discuss physiological changes which occur in the following systems as the neonate adapts to the extra uterine life

- Pulmonary
- Cardiovascular
- Gastrointestinal
- Immunological
- Renal
- Thermoregulatory
- Hepatic

Explain immediate care of the neonate
Describe initial assessment of the neonate.
Explain subsequent management of the neonate in the hospital
Discuss determinants of neonatal outcomes
Discuss care of the neonate in the community

2.1 ADAPTATION TO EXTRA UTERINE LIFE

Introduction

A neonate's survival is dependent on his/her ability to adapt to an extra-uterine environment. This involves adaptations in cardiopulmonary circulation and other physiological adjustments to replace placental function and maintain homeostasis.

Physiologic, Behavioural and Psychological Responses of the Neonates

Fetal lung development and pulmonary function

Until birth, the baby depends on maternal blood gas exchange via the maternal lungs and the placenta. Prior to birth, the foetus makes foetal breathing movements to promote lung maturity. Before birth the foetus lungs are filled with fluid which is squeezed up the airway and out of the mouth and nose via alveolar wall into lymphatic vessels during birth.

Initiation and maintenance of breathing is facilitated by;

- Mechanical events
- Chemical stimuli
- Thermal stimuli
- Sensory stimuli

Cardiovascular adaptation.

The onset of respiration triggers increased pulmonary blood flow after birth which contributes to the transition from foetal to neonatal circulation. After clamping the umbilical cord placenta circulation ceases and this result in

- Increased aortic pressure and decreased venous pressure
- Increased systemic pressure and decreased pulmonary artery pressure
- Closure of umbilical vein, ductus Venosus, ductus arteriosus, foramen ovale, hypogastric arteries

Characteristic of normal cardiac function include

- Acceleration of heart beat soon after birth to 175-180 which is followed by resting heart beat of 110-150.
- Blood pressure increase soon after birth and then drops to its lowest levels at about 3 hours of age. It rises again by 4 to 6 days of life.
- Average haemoglobin and red blood cells are high at birth but falls within adult levels by first month of life. This results in physiological jaundice.

Thermal adaptation

Temperature regulation is the maintenance of balance between the loss of heat to the environment and the production of heat. Heat loss from the baby soon after birth can occur through

- Evaporation
- Conduction
- Convection
- Radiation

Gastrointestinal Adaptations

By 36 to 38 weeks of life the GI is adequately mature with the presence of enzymic activity and ability to transport nutrients. By birth the newborn has experienced swallowing, gastric emptying and intestinal propulsion. The neonate stomach has a capacity of 50 to 60 ml and bowel sounds are present with 30 to 60 minutes of birth. The cardiac sphincter is immature which may result in regurgitation of feeds. Term newborn usually passes meconium within 8 to 24 hours of life (usually 48 hours). Following birth caloric intake is usually insufficient for weight gain until the newborn is 5 to 10 days old. During this period the newborn experiences weight loss of about 5-10%.

Immunological Adaptation

The pregnant woman passes antibodies IgG in utero which aid in fighting tetanus, diphtheria, smallpox, measles, mumps, poliomyelitis and a variety of other bacterial and viral diseases. A normal newborn does not produce antibodies in response to antigens until at least 2 months of life. IgA immunoglobulin can also be transferred from the mother through colostrums.

Activity

GROUP WORK

1.Discuss in detail the physiological changes that occur in a neonate as it adapts to extra uterine life in the following systems:

- Pulmonary
- Cardiovascular
- Gastrointestinal
- Renal
- Immunological
- Hepatic
- Thermoregulatory

2.Discuss the behavioural, neurological and psychological responses of the newborn

2.2 CARE OF THE NEONATE

Introduction

The care of the neonate should ensure a safe transition from intrauterine environment to a point where the mother can safely take care of the infant without professional help. The care is subdivided into immediate, subsequent and community care.

Immediate care

This is the care rendered to the neonate during delivery up to 2 hours post delivery**.** Adequate preparations before delivery to provide optimal care to the newborn are necessary.

Principles of management

1. Maintenance of thermal neutral environment
2. Clearing the airway
3. Infection prevention
4. Nutrition
5. Bonding
6. bedding in
7. Safety and security
8. Assessments and Observations

APGAR SCORING

- The purpose of the Apgar score is to evaluate physical condition of the newborn at birth and the immediate need for resuscitation.
- The neonate is rated at 1minute and 5 minutes after birth and it gives a total score ranging from 0 to 10.
- The 1 minute score indicates the degree of central suppression of the baby and is important for further management and resuscitation of the baby.
- The 5 minute score indicates the baby's ability to adapt to extra uterine life and is also a reliable predictor of the risk of death during the first 28days of life and the child neurological state and risk of major disability at the age of 1 year.
- The higher the Apgar score the better the adaptation process for the neonate.

The mnemonic for Apgar score is:

A Appearance (i.e. color)
P Pulse (i.e. heart rate)
G Grimace (i.e. response to stimuli)
A Activity (i.e. tone)
R Respirations

The five indicators used to measure neonatal well being

THE APGAR SCORE			
SCORE			
SIGN	**0**	**1**	**2**
Hear Rate	Absent	Slow <100	Fast >100
Respiratory Rate	Absent	Slow, irregular	Good, crying
Muscle Tone	Limp	Some flexion of extremities	Active motion
Reflex Irritability	No response	Grimace	Vigorous cry, cough or sneeze
Color	Pale blue	Body pink, extremities blue	Whole body completely pink

DETERMINING THE APGAR SCORE

- **Heart rate:** auscultate or palpate at the junction of the umbilical cord and skin. This is the most important assessment. A neonate heart rate of less than 100 beats per minute indicates need for immediate resuscitation

- **Respiratory effort:** second most important assessment count respirations for 30 seconds and multiply by 2. Complete absence is termed apnea and a vigorous cry indicates good respirations.

- **The muscle tone:** evaluate the degree of flexion and resistance to straightening of the extremities. A normal term neonates elbow's and hips are flexed, with the knees positioned up towards the abdomen. A score at 2 is given with active movements wile a score of 0 is given if there is no response.

- **Reflex irritability:** evaluate as you are drying the neonate or by lightly rubbing the soles of the feet. A cry is a score of a 2 and a grimace is a 1 and no response is 0.

- **Skin color:** inspect for cyanosis and pallor. Neonates generally have blue extremities and the body is pink which merits a score of 1. This condition is termed *acrocyanosis* and is present in 85% of normal neonate at 1 minute after birth. A complete pink colour in the newborn scores 2 and a totally cyanotic, pale newborn score 0. Neonate with darker skin pigmentation will not be pink. Their skin color is assessed for pallor and acrocyanosis and a score is selected based on assessment.

Initial Assessment of the neonate

When a baby is born, a general examination is done to ascertain normality. This examination should be conducted after 2 hours of birth.

Activities

GROUP WORK

1. Explain preparation for initial assessment of the neonate
2. Using a model, perform initial examination of the neonate systematically

Subsequent care of the neonate in the hospital

This is the care rendered to the neonate from 2 hours after birth up to 72 hours. This can be achieved through provision of basic needs of the neonate.

Activity II

INDIVIDUAL WORK

1. Review principles of immediate care of the newborn
2. Describe the principles of subsequent care of the newborn
3. Explain the subsequent assessment of the newborn

Management of the neonate in the community

This is the management of the neonate aimed at promoting adjustment of the neonate from the hospital into a family and community set up. This can be achieved through provision of basic needs of the neonate. A conducive environment will facilitate the normal growth and development of the neonate.

Activity III

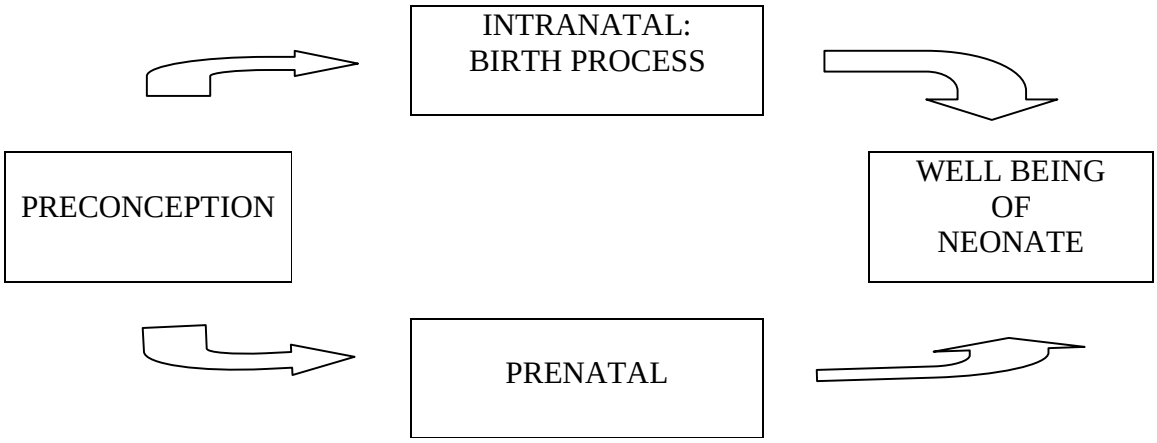
GROUP WORK

1. Outline the family and community set up
2. Discuss common beliefs and practices that influence neonatal care.
3. Explain management of neonate at 1 and 6 weeks postnatal check up

Determinants of neonatal outcomes

Neonatal outcomes are influenced by many factors during pre-conceptual, prenatal, intranatal and neonatal period. These are noted through risk screening, antenatal care, place of birth and attendant at childbirth.

Factors influencing neonatal wellbeing



ACTIVITY IV

GROUP WORK

1. Identify the determinants of neonatal outcomes during preconception, antenatal, intranatal and the neonatal period.

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Unit 3: MANAGEMENT OF NEONATES WITH EXTRAUTERINE ADAPTATION PROBLEMS

Introduction

This unit provides information about common neonatal adaptation problems. These problems may affect the neonate immediately after birth, a few hours after birth or a few days after birth. It reviews the pathophysiological basis and possible management of the specific neonatal conditions.

Learning Outcomes

- Explain the pathophysiological basis underlying each neonatal condition.
- Explore the possible causes or predisposing factors to the neonatal problem.
- Explain the specific management of neonates with the specific Neonatal conditions.
- Explain the possible complications that may arise from the specific neonatal problem
- Review guidelines, standards and protocols influencing neonatal care.

Unit Content

3.1 ASPHYXIA NEONATORUM

Introduction

Asphyxia neonatorum is a condition where a newborn fails to start breathing on its own following birth. Perinatal asphyxia is the medical condition resulting from deprivation of oxygen (hypoxia) to a newborn infant long enough to cause apparent harm. This can occur due to inadequate circulation or perfusion, impaired respiratory effort, or inadequate ventilation. Perinatal asphyxia occurs in 2 to 10 per 1000 neonate that are born at term. It results most commonly from a drop in maternal blood pressure or interference during delivery with blood flow to the infant's brain.

Management of a Newborn with Asphyxia

Neonatal resuscitation is the key management of asphyxia in a neonate. For successful results the delivery room should be kept warm and resuscitation should be done under a heat source.

Assemble all necessary equipments which include; ambubag, gauze, pieces of cloth, a cap to cover the baby's head, clock/watch, suction equipment, gloves, oxygen source, tubings, drugs (glucose, adrenaline and atropine).

Procedure

- Call for help
- Thoroughly dry and stimulate the baby by rubbing it all over. Change wet linen to dry to maintain warmth.
- Transfer the neonate to the pre-warmed resuscitaire
- Position neonate in supine position on a flat surface with the head in a neutral position. If there is excessive caput roll a piece of cloth and place it under the shoulders. This will ensure a patent airway and promote ventilation.
- Assess if airway is clear and if neonate has initiated breathing.
- If secretions are present wipe them off with gauze starting from the mouth then nose. Avoid routine suctioning, but in case of excessive secretions suction from the mouth (about 5 cm) then nose (3 cm) Avoid blind suction which can stimulate vagal nerve causing bradycardia.
- Assess breathing and if neonate is still not breathing, initiate bag-and-mask ventilation with a proper mask connected to an oxygen source. Ventilate twice and note if the chest is rising. If not, reposition the neonate or mask or assess patency of airway. If rising ventilate about 40 times in a minute.
- After 1 minute, stop and assess if baby is breathing, if not continue ventilation until the baby cries or breathes spontaneously

Activity I

INDIVIDUAL WORK

1. Explain the following predisposing factors, patho-physiology and clinical features of asphyxia neonatorum

IN GROUPS

2. Review the current guidelines, standards and protocols influencing neonatal care.

3. Using a model, practice resuscitation of an asphyxiated baby.

3.2 RESPIRATORY DISTRESS SYNDROME/HYALINE MEMBRANE DISEASE

Introduction

This is a condition that occurs due to insufficient surfactant in immature lungs. Surfactant is produced by type II epithelial cells to reduce surface tension within the alveoli preventing their collapse at the end of exhalation. Collapsed alveoli require much greater pressure and exertion to reinflate than do partially collapsed alveoli. This clinical diagnosis is warranted in a preterm newborn with respiratory difficulty. It is commonly seen in approximately 50% of infants with birth weight below 1500g (or those born before 30 weeks). The diagnosis of HMD is derived from presence of hyaline membrane in the airway resulting from damaged epithelium.

Management Principles

- *Respiratory support*: endotracheal intubation may be done and infant can be put on mechanical ventilation at a rate of 30-60 breaths per minute. The infant can also be put on CPAP or Nasal Synchronized Intermittent Mandatory Ventilation (Nasal SIMV) to support breathing.

- *Fluid and nutritional support*: due to the increased metabolic demands there is need to provide adequate nutrition and hydration for quick recovery. Intravenous fluids of glucose 10% or nasogastric feeds of expressed breast milk can be employed.

- *Antibiotic therapy*: antibiotics may be given to cover the common neonatal infections, (such as Benzyll penicillin and Gentamycin).

- *Sedation:* commonly used in ventilated infants to prevent the neonate from fighting the ventilator. This include phenobarbitone or morphine/ fentanyl/ lorazepam

Prevention: antenatal administration of cortisteroid in preterm labour such as dexamethasome, betamethasone to enhance fetal lung maturity. The midwife should monitor for signs of fetal compromise/distress, prevention of preterm labour and USS for assessment of gestational age.

Activity II

INDIVIDUAL WORK

Explain the following:
- Risk factors for RDS
- Signs and symptoms of RDS
- Predisposing factors to RDS
- Pathophysiological basis of RDS

3.3 MECONIUM ASPIRATION SYNDROME (MAS)

Introduction

This refers to the presence of meconium in the trachea that may cause airway obstruction as well as an inflammatory response resulting in severe respiratory distress. Meconium aspiration primarily affects term to postmature babies as the passage of meconium in fetuses <34 weeks gestation is unusual.

Management

Neonates born with meconium aspiration require neonatal resuscitation and admission into the intensive care unit. However, the following measures should be remembered.

- Proper monitoring of fetal condition to prevent fetal distress which predisposes to passage of meconium prenatally and during labour.

- Hypopharyngeal suctioning as soon as the head is delivered before the infant starts crying. Deep suction should be avoided as it may cause laryngospasms.
- After birth do endotracheal suctioning to visualize deep meconium. Suctioning pressure should be maintained at 80-100mmHg and suction should be applied as the endotracheal tube is slowly withdrawn.
- Direct visual suction with aid of laryngoscope can also be used in place of endotracheal suctioning.
- If meconium has been suctioned "below the vocal cords" suctioning should be repeated after re intubation. Avoid prolonged or repeated suctioning
- The newborn may be put on mechanical ventilation as it is at risk of respiratory distress and failure.
- Antibiotic therapy may also be initiated to prevent pneumonia
- Fluid and nutrition management is important to facilitate recovery.

Activity III

INDIVIDUAL WORK

Explain the following:

- Risk factors for MAS
- Signs and symptoms of MAS
- Predisposing factors to MAS
- Pathophysiological basis of MAS

3.4 NEONATAL HYPOTHERMIA AND COLD INJURY

Introduction

Hypothermia is defined as core temperature below 36 degree Celsius. Hypothermia increases the risk of cold stress and cold stress may cause decrease in surfactant secretion and synthesis in preterm babies. After a fall in body temperature the baby will try to maintain its body temperature within the normal range but if he is compromised the added stress of hypothermia can be disastrous.

Cold injury or cold stress is defined as core temperature < 32°C

Signs and symptom of Hypothermia

Critical findings in neonatal hypothermia on assessment include:

- Temperature below 36°C
- Irritability-initially
- Pale, mottled skin that is cool to touch
- Acrocyanosis

- Respiratory distress
- Apnea, bradycardia and central cyanosis
- Lethargy developing as hypothermia worsens
- Hypotonia
- Weak cry and suck
- Gastric residuals, abdominal distension, emesis
- Shivering in more mature babies
- Metabolic acidosis
- Hypoglycemia

Activity IV

Explain the following: • Mechanism of heat loss in neonates • Risk factors for Hypothermia • Complications of neonatal hypothermia • Prevention and management of hypothermia

3.5 HYPERBILIRUBINEMIA

Hyperbilirubinemia (Jaundice) is a condition that makes a newborn's skin and the white part of the eyes (sclera) look yellow. It happens because there is too much bilirubin in the baby's blood. There are two main forms of bilirubin

Assessment and diagnosis of jaundice in neonates

- Subjective data
- Physical assessment
- Laboratory investigation

Phototherapy

Consists of exposure of neonates' skin to daylight or specific wavelengths of light at a prescribed amount of time and, in some cases, at a specific time of day. It is used to conjugate bilirubin through the isomerisation and consequently transformation of bilirubin into compounds that the newborn can excrete via urine and stools. The neonates' skin is exposed to high intensity light which photochemically converts fat soluble bilirubin into water soluble. Treatment can be intermittent or continuous

Types of phototherapy

- Convectional phototherapy systems
- Fibreoptic light systems

Side-effects of phototherapy

- A decrease in calcium levels leading to hypocalcaemia
- Low platelet counts and increased red cell osmotic fragility
- Bronze baby syndrome, riboflavin deficiency and DNA damage

Midwifery care

- Ensure thermo-neutral environment to prevent hypo-hyperthermia. If nursed in an incubator ensure that temperatures are controlled
- Eye shields or patches to cover eyes. Ensure that they are not tight, causing eye discharge or weeping and covering nose.
- Fluid intake and output monitoring to ensure adequate hydration. Extra fluid required for severely sick or dehydrated babies
- Skin should be cleaned with warm water and observed frequently for rashes, dryness and excoriation. Creams and lotions are **NOT** used.
- Monitoring baby's neurobehavioral status (sleep, wake states, feeding behaviors, responsiveness, response to stress, interaction with parents and other carers. Encourage parents to hold and feed the baby
- Hypocalcaemia (total serum of <7mg/dl (1.7 mmol/l), assess for jitteriness, irritability, rash, loose stools, fever, dehydration and convulsions
- Bilirubin levels should be estimated daily
- Parents support to ensure bonding and reduction of anxiety

COMPLICATIONS

Kenicterus: is damage to the brain centers of infants caused by increased levels of unconjugated-indirect bilirubin. The symptoms include;

- Lethargy.
- High-pitched cry
- Decreased muscle tone, becoming hypotonic or floppy) with episodes of increased muscle tone (hypertonic) and arching of the head and back backwards.
- As the damage continues, they may develop fever, may arch their heads back into a very contorted position known as opisthotonus or retrocollis.

Activity V

(a) Explain the following:

- Physiology of hyperbilirubinaemia
- Types of hyperbilirubinaemia
- Predisposing factors of hyperbilirubinaemia
- Indications of phototherapy

(b) Visit a neonatal unit and look for a baby with jaundice nursed under phototherapy check how the baby is being managed

(c) Review other forms of management of hyperbilirubinaemia

- Exchange transfusion
- Medications

Unit 4: MANAGEMENT OF NEONATES WITH INFECTIONS

Introduction

Neonates are vulnerable to infections due to immaturity of their immune system. Neonatal infections are a major cause of morbidity and mortality in the neonatal period. The infections can be transmitted before birth, during birth or after birth.

Learning Outcomes

- Explain the pathophysiological basis underlying each neonatal infection.
- Explore the possible causes or predisposing factors to the neonatal infection.
- List the clinical manifestations of each neonatal infection
- Explain diagnostic tests and procedures for each specific neonatal infection
- Explain the specific management of neonates with the specific Neonatal infection
- Explain the possible complications that may arise from the specific neonatal infection

Unit Content

4.1 Congenital syphilis

This a sexually transmitted infection caused by Treponema Pallidum (spirochete) that is transferred from an infected mother to her unborn child. Transplaccental invasion of the fetus with treponemes occurs in utero and often causes abortions as early as 2 to 3 months. It involves septicemic spread with potential spirochetal invasion of every body part.

Pathophysiology

Treponemas is able to cross the placenta at any time during pregnancy resulting in fetal infection. Untreated infections in the first and second trimesters often lead to significant fetal morbidity, where as in third trimester infections many infants are asymptomatic. Infection can also be acquired to neonate via contact of infectious lesions during passage in the birth canal. Syphllis can cause preterm labour, stillbirths, congenital infections or neonatal death.

Clinical Presentation

Generally neonates do not have signs of primary syphllis. Most common findings include

- Hepatosplenomegaly
- Jaundice and Osteochondritis
- Lymphadenopathy
- Pneumonitis
- Myocarditis
- Rash
- Persistent snuffles
- Condylomata lata

- meningitis
- Pseudoparalysis
- Hemolytic anaemia
- Leukemoid reaction
- Hemorrhagic rhinitis
- Placentomegally
- Congenital hydrops
- In late congenital syphyllis there may be Hutchnson's teeth, healed retinitis, 8^{th} nerve deafness, saddle nose, mental retartdation

Diagnosis

- VDRL
- Rapid plasma regain (RPR)
- CSF

Management

1. Asymptomatic infants with clear CSF
    - Intramuscular procaine penicillin 50,000units/kg as a single daily dose for 10 days
2. Symptomatic or Asymptomatic infants with abnormal CSF
    - Intramuscular procaine penicillin 50,000U/kg as a single daily dose for 10 to 14 days, repeat spinal tap at 6 months and if still abnormal full treatment will be given.
3. Repeat VDRL or RPR at 1, 2, 4, 6, 12 months until there is drop in titre and retreatment will be initiated depending on results
4. Report all infants to the responsible people for treatment and follow up of mother and her contacts

4.2 Oomphalitis

This is an infection around the umbilical cord or umbilicus. This infection can easily pass to the rest of the baby's body and lead to sepsis or death if treatment is delayed or not given.

4.3 Neonatal tetanus

This is an extremely dangerous condition caused by Clostridium tetani an aerobic, slender mobile, spore-forming, a gram positive, rod-like bacterium which often enters the body via the umbilicus or broken skin. The incubation period is about 3-10 days and it is associated with high mortality.

4.4 Neonatal Sepsis

Neonatal sepsis refers to systemic infection in neonates. May be caused by different pathogenic bacteria or viruses and may be transmitted at different times during intrauterine life and neonatal life.

4.5 Meningitis

This is the inflammation of the meninges caused by bacteria, fungi and viruses. All organisms that cause neonatal infection or sepsis can result in Central nervous system disease. This has severe consequences to the developing brain. Early diagnosis and therapy is mandatory to improve short and long term outcomes.

4.6 Ophthalmia Neonatorum

Opthalmia neonatorum is any purulent eye discharge within 21 days of birth. The condition is usually accompanied by vaginal birth. This is a serious condition caused by gonococcus bacteria. If not treated will lead to blindness.

4.7 Skin infections

Skin infections are usually caused by staphylococcus aureus. The infections may vary: contact dermatitis, pastules, vesicles, abscesses, impetigo or cellulitis.

4.8 Gastro-enteritis

It is the inflammation of the stomach and the intestines caused by bacteria or viruses, food poisoning or by toxic substances ingested with contaminated food.

4.9 Oral thrush/oral candidiasis

Thrush presents as white patches on the baby's gums, palate and tongue. This is a common infection caused by candida albicans. It may be acquired from the genital tract during delivery or from the care givers hands, feeding utensils or the breasts. The common sites of the infection are the mouth and napkin area.

4.10 Pneumonia

Neonatal Pneumonia is a pulmonary infection presenting with a clinical picture of respiratory distress associated radiological findings suggesting pneumonia. The infection can be subdivided into 4 categories: congenital pneumonia, intrauterine, early onset and late onset pneumonia. It is a significant cause of death in neonate. Prompt diagnosis and treatment of neonatal pneumonia is crucial because of the high mortality associated with the disease.

Pneumonia can significantly alter gas exchange in the lungs of neonates, potentially resulting in oxygen deprivation and compromise of metabolism of all cell types in the body. Structural and immunological defense mechanisms are not fully formed in neonates, which makes it all but impossible for the newborn to fight the infection effectively. In addition, there is an increased risk that the infection might spread from the lungs to other parts of the body.

Activity

In groups, review literature and present on the following conditions;

- Neonatal tetanus
- Neonatal sepsis
- Opthalmia neonatorum
- Skin infections
- Meningitis
- Gastroenteritis
- Oral thrush

Under the following:

- Causes
- Signs and symptoms
- Diagnostic tests and procedures
- Preventive measures
- Management

Unit 5: MANAGEMENT OF NEONATES WITH SPECIAL NEEDS / HANDICAPS

Introduction

This unit explains the challenges faced by neonates with special needs or handicaps. Incorporation of the families in grief management to adapt to the condition is essential, optional health and survival of the neonate.

Learning Outcomes

- Explain the pathophysiological basis underlying each neonatal condition.
- Explore the possible causes or predisposing factors to the condition.
- Explain the specific management of neonates with the specific Neonatal condition
- Explain the possible complications that may arise from the specific neonatal problem

Unit Content

5.1 Low Birth Weight Babies

Introduction

Each year 20 million neonates of low birth weight are born worldwide imposing a burden on health care system in developing countries (source) For Malawi**.** Low birth weight may be Premature, Small for gestational age or Combination of both.

They can further be categorized as:

- low birth weight
- very low birth weight
- extremely low birth weight

Classification of low birth weight babies

- Prematurity
- Small for gestational

5.2 Prematurity

Prematurity remains a significant problem as it is associated with high morbidity and mortality rates among the neonates. A preterm infant is born before the completion of 37 gestational weeks.

Management

Specific management should focus on the following principles:

- Provision of warmth
- Provision of nutrition
- Infection preventive measures
- Bonding
- Mantainance of respirations
- Respiratory distress syndrome

5.3 Small for Gestational Age (SGA)

Small for gestational age babies are born before or after 37 gestational weeks and they weigh less than 2.5kg. Survival of these babies is based on the care provided. However, they can contribute to neonatal morbidity and mortality significantly in resource poor settings.

5.4 Large for Gestational Age (LGA)

These fall under the birth weight above 90^{th} percentile. The commonest cause is maternal causes. They can be preterm or post term. They are susceptible to hypoglycemia and potential birth trauma as a result of their size.

Activity I

- Describe the following terms:
  - Low birth weight
  - Prematurity
  - Small for gestation
  - Large for gestation

- State classifications of Low birth weight babies
- Explain predisposing factors to Low birth weight according to classification (maternal, placental and fetal)
- Describe the clinical features of each classification stated
- Describe common problems for each classification
- Discuss the management of a newborn with Low birth weight babies according to classification
- Describe commonest complications of Low birth weight babies

5.5 Postmaturity

Postmaturity is associated with prolonged pregnancy exceeding 42 weeks (294 days) from the first day of the last normal menstrual period.
Incidences for prolonged pregnancies range from 4-14% worldwide. These are common among nuliparous women as compared to multiporous women. Post term pregnancy is associated with high perinatal death and high incidences of congenital malformations.

Activity II

1. Explain predisposing factors to Postmaturity
2. Describe the clinical features of Postmaturity
3. Discuss the management of a Post term baby
4. Describe commonest complications of Postmaturity

5.6 Congenital malformation

Congenital malformation, birth defects and anomalies are terms currently used to describe developmental disorders that are present at birth. Congenital anomalies are caused by genetic factors such as chromosomal abnormalities, environmental factors and substances. Worldwide about 6 percent of total births are born with a serious birth defects of genetic origin.

Activity III

- Describe the following common congenital malformation(birth defects) :
  - Cleft palate
  - Hare lip
  - Hydrocephalous/anencephaly
  - Hypo/hyperspadias
  - Hernia
  - Extra digits
  - Club feet
  - Tongue tie
  - Albino
  - Sickle cell anemia
  - Heart defects
  - Spinal defects
  - Downs syndrome
- Explain predisposing factors to common congenital malformation (maternal and fetal)
- Describe the clinical features of each common congenital malformation identified.

- Discuss the management of common congenital malformation in neonates
- Discuss the management of mothers and their families with neonate having congenital malformations

Describe commonest complications of the common congenital malformation

5.7 Persistent fetal circulation (Persistent pulmonary hypertension of the newborn)

Persistent pulmonary hypertension of the newborn results from the failure of the normal fetal-to-neonatal circulation characterized by non-closure of ductus arteriosus. It is associated with substantial infant morbidity and mortality.

Learning out comes

- Explain predisposing factors to Persistent fetal circulation
- Describe the clinical features of Persistent fetal circulation
- Discuss the management of a Persistent fetal circulation
- Describe commonest complications of Persistent fetal circulation

Predisposing factors

- Prematurity
- Severe asphyxia
- Meconium aspiration
- Lung hypoplasia
- Polycythaemia
- Prostaglandin inhibitors eg Aspirin, Ibuprofen

Clinical features

- Cyanosis
- Tachypnoenia

5.8 Haemorrhagic disease of the newborn

Introduction

Haemorrhagic disease is rare condition among neonates. It is characterized by bleeding due to inadequate coagulation factors (II, VII, IX and X) dependent on vitamin K.

Learning out comes

- Explain predisposing factors to Persistent fetal circulation
- Describe the clinical features of Persistent fetal circulation
- Discuss the management of a Persistent fetal circulation
- Describe commonest complications of Persistent fetal circulation

Predisposing factors

- Drugs i.e. Phenobarbitone and Phyentoin
- Perinatal asphysia

Clinical features

- Spontaneous bleeding depending on the organ involved
    - Epistaxis
    - Harmatemesis
    - Melaena
    - Haematuria
    - Ecchymosis

Management

- Vitamin K administration
- Blood transfusion

Activity IV

4.1 Explain complications of Haemorrhagic disease of the newborn

5.9 Neonatal abuse

Introduction

Neonatal abuse is often misdiagnosed and under recognized by physicians and caregivers. Neonatal abuse occurs in many forms. This is best defined as purposeful infliction of physical or, sexual exploitation, and/or neglect of basic needs (eg, nutrition, medical care).

Predisposing factors

Caregiver factors

Criminal history, inappropriate expectations of the child, mental health history, misconceptions about child care, misperceptions about child development, substance abuse

Child factors

medical fragility, nonbiologic relationship to the caretaker, prematurity, special needs

Family and environmental factors

High local unemployment rates, intimate partner violence in the home, poverty, social isolation or lack of social support

TYPES OF ABUSE

There are four main types of child abuse:

- Neglect and emotional,
- Physical,
- Sexual abuse.

Clinical features

- Head injuries
- Multiple fractures
- Hypoglycemia

Activity V

Task 1: Group Work

Neonatal Abuse - What can a Midwife learn?

A trip to a home and or orphanage would be a nice idea. So get ready for an adventure. Don't forget to carry your camera, pen, notepad above all "chitenje".

The purpose of this trip is to explore more about neonatal abuse and neglect in homes and orphanages

Activities:

a) **Visit any home where they keep an orphan / orphanage in the community**
b) **Assess the infrastructure and equipment available for use by the family/neonate(s)**
c) **Interview the woman on how she assists the orphan.**
d) **Interview attendant about the care rendered neonates**
e) **Observe the attendant's relationship with the neonate in general if possible.**
f) **What are the benefits of home /orphan care?**
g) **What are the dangers / disadvantages of home orphan care?**
h) **What measures need to be put in place in order to stop neonatal abuse/neglect?**
i) **What have you learnt from the visit?**

Task 2: Group Work

Activities:

a) **Identify global and national guidelines, standards and protocols related to neonatal abuse and rights**
b) **Compare global and national guidelines, standards and protocols related to neonatal abuse and rights and note the similarities and differences**
c) **Critique guidelines, standards and protocols related to neonatal abuse and rights based on the similarities and differences**

Task 3: Group Work

Activities

a) **Categorize or classify neonatal abuse/neglect**
b) **From the visit of a home/orphanage identify common factors of neonatal abuse**
c) **Differentiate neonatal abuse/neglect of baby girls and those of baby boys**
d) **Write and present a paper on the differences**

5.10 **Anemia**

Introduction

This is a rare condition among neonates mostly influenced by maternal factors.

- in neonate
- Discuss the management of a anaemia in neonate

Activity I

In groups

- Explain predisposing factors to anaemia in neonates
- Describe the clinical features of anaemia in neonates

  Describe types of anaemia

Unit 6: ISSUES AND TRENDS IN NEONATAL CARE

This unit provides information on current issues and trends in neonatal care. It incorporates ethical-legal and research based issues that are critical to the survival of the newborn.

Learning Outcomes

- Review the common issue and trends in neonatal care
- Explain the advantages and disadvantage of each issue or trend and how this can impact on neonatal care
- Explain the possible effects of each issue or trend and possible area for improvement.

Unit Content

6.1 Helping babies breathe (HBB)

HBB is an evidence –based educational program to teach neonatal resuscitation techniques in resource – limited areas. It is the initiative of the America Academy of pediatrics in collaboration with W.H.O., USAID, saving Newborn lives, the National Institute of child health and Development and other global health organizations. The World Health Organization estimates that one million babies die each year from birth Asphyxia. The objective is attain birth attendants in developing countries in essential skills of newborn resuscitation, with the goal of having at least one person who is skilled in neonatal resuscitation at the birth of every baby. The focus is on the "Golden Minute"

Activity I

GROUP WORK
Baby is born with low APGAR of ¾ after a prolonged labour. Resuscitate this baby using HBB initiative

6.2 Kangaroo mother care

Kangaroo mother care in an approach to management of low birth weight babies or preterm babies. It is a way to keep the newborn warm and promote adequate feeding.

Learning Outcomes

- On completion of this module you should be able to:
- define KMC
- explain types of KMC
- advantages and disadvantages
- demonstrate ability to teach the mother and family members how to give Kangaroo Mother Care

Assessment criteria

- defines KMC
- explains types of KMC
- explains advantages and disadvantages
- demonstrates ability to teach the mother and family members how to give Kangaroo Mother Care

Components of Kangaroo Mother Care

Kangaroo mother care has three main parts

1) Continuous skin-to-skin contact between the baby's front and mother's chest. The baby wears only a hat, diapers and boots to keep warm.
2) Exclusive breastfeeding from birth and every 2-3 hours.
3) Support to the mother. The mother lives a normal life however she needs support to maintain continuous contact. In the hospital the midwife can help while at home the family can help

Types of kangaroo Mother

- Intermittent
- Continuous

Activity II

- Demonstrate ability to teach the mother and family members how to give Kangaroo Mother Care
- Demonstrate the skills in the four elements of KMC; positioning, warmth, feeding and support.
- Counsel mothers on KMC
- Discuss how you can establish a kangaroo mother care services

PART 11

NEONATOLOGY PRACTICE 1

MATERNAL AND CHILD HEALTH DEPARTMENT

BACHELOR OF SCIENCE IN NURSING AND MIDWIFERY

COURSE TITLE	**:**	Midwifery Practice 1 (Mid 400)
YEAR	**:**	Four
UNIT III	**:**	Low risk neonate
PLACEMENT	:	Semester I
CLINICAL HOURS	**:**	160 hours
INSTRUCTORS	**:**	MCH Lecturers Ward Staff

UNIT DESCRIPTION

This unit builds on the concepts, knowledge, skills and attitudes acquired in Midwifery Science I (Mid Sc) (Anatomy and Physiology of obstetrics & Low risk) in the provision of care to the low risk parturient, her baby and family**.** Emphasis is placed on individualized, clinically and culturally acceptable care using midwifery management process. Critical thinking, decision making skills and the risk concept approach will be used to manage the client and their family.

UNIT OBJECTIVES

Upon completion of this clinical placement in the postnatal ward, the student will be able to:

1. Provide a conducive environment for the neonate in the postnatal ward.
2. Communicate effectively with the mother, her neonate and family on issues concerning the baby at all times.
3. Obtain elements of subjective data from a postpartum woman on admission and periodically during puerperium.
4. Conduct initial and subsequent assessments of a neonate in a thorough and logical manner.

5. Analyze antepartum and intrapartum records for pertinent data relevant for care of neonate during postnatal period.
6. Make correct impressions for the neonate based on assessment during postnatal period.
7. Develop a comprehensive care plan for a neonate based on identified problems and needs.
8. Demonstrate skill in managing a neonate throughout postpartum period.
9. Educate the postpartum mother on care of neonate based on identified problems and needs.
10. Facilitate bonding between the neonate and mother
11. Incorporate safe cultural practices in the management of neonate during postnatal period.
12. Demonstrate appropriate technique of baby bathing.
13. Correctly utilize appropriate criteria to discharge the neonate from postnatal ward.
14. Document all pertinent data in a thorough and logical manner.
15. Demonstrate professional conduct as stipulated in clinical policies.
16. Recognize own limitations in provision of neonatal care and make appropriate referrals.
17. Objectively evaluate own performance in managing low risk neonate.
18. Make and implement plans for improving own knowledge, skills and attitudes.
19. Objectively make suggestions for the organization and implementation of activities in the management of neonate in the postnatal ward.
20. Analyze all labour and delivery statistics and recognize implications for midwifery practice.
21. Demonstrate professional conduct in the provision of care in consideration to:
22. Punctuality
23. Dress code
24. Accountability
25. Responsibility
26. Respect
27. Integrity
28. Take responsibility for acts of omission and commission during provision of neonatal care.

COURSE REQUIREMENTS

- Meet all requirements as stipulated in the policy and competency list.
- Complete 80 hours.

METHOD OF ASSESSMENT

- Clinical performance - 60%
- Oral and practical examination - 40%

MCH Department SEP 2011

KAMUZU COLLEGE OF NURSING – MCH DEPARTMENT
BACHELOR OF SCIENCE IN NURSING AND MIDWIFERY CLINICAL COMPETENCY FOR NEONATE (revised 2011)

Procedure	Seen	Student's Initials	Ward/Clinic in-Charge Signature	Done correctly	Student's Initials
Admission of a baby in postnatal ward:					
• Obtain history					
• Physical assessment of baby					
Subsequent management of baby. Demonstration of the following to a primigravida:					
• Baby bath					
• Cord care					
• Techniques of breastfeeding					
Assisting clients with breastfeeding:					
• Initiation					
• Fixing					
• Positioning					
• Expressing					
Gestational age assessment					
Making artificial feeds					
Calculation of feeds					
Feeding a preterm/SGA infant (cup & spoon or nasal – gastric (tube)					
Inserting a nasogastric tube					
Taking of rectal temperature					
Maintaining baby's temperature					
Use of oxygen/concentractor					
Isolation technique					
Care of baby with ophthalmia neonatorum					

Care of baby with other infections					
Use of Dextrostix/glucometer to determine blood sugar levels					
Management of neonates on phototherapy					
Use of the Icterometer					
Assisting with exchange blood transfusion					
Management of neonate on intravenous infusion					
Resuscitation of the neonate					

N.B. This document must be presented to the Clinical Instructor at the completion of each clinical placement

LEARNING GUIDE FOR -INITIAL ASSESSMENT OF BABY

STUDENT'S NAME……
DATE……..

(Some of the following steps/tasks should be performed simultaneously.)			
CONCEPT			
CREATING A CONDUCIVE ENVIRONMENT			
1.	Clean the examination room and all the surfaces		
2.	Assemble all the necessary equipment: ❑ Measuring tape ❑ Stethoscope ❑ Thermometer ❑ Otoscope ❑ Tongue depressor ❑ Weighing scale ❑ drugs, ❑ supplies such as swabs , cord ligatures, sterile cotton wool swabs and antiseptic solution ❑ clean towel,		
3.	Ensure privacy (visual and audio)		
4.	Offer the woman a seat		
	COMMUNICATION:		
1.	Greet the woman respectfully and with kindness		
2.	Introduce self and others		
3.	Explain to the woman and her support person what is going to be done and encourage them to ask questions.		
4.	Listen to what the woman and her support person have to say and respond to the questions		
5.	Provide continual emotional support and assurance		
6.	Provide feedback findings		
7.	Use low respectful tone of voice throughout the procedure		
8	Incorporate cultural issues in the management of the woman in labour		
INITIAL EXAMINATION OF THE NEW BORN			
	❑ Check temperature		
❑	If neonate is quite or sleeping, use this time to observe respirations, colour, body posture, size, activity, type of cry and shape of head, face symmetry, skin and any gross abnormalities or irregularities.		

■ Gently with warm stethoscope listen to heart and lungs.		
Head: ■ general appearance, size, movement, symmetry		
■ Note molding in relation to birth position; cephalo-hematoma and caput; fontanelles for depression or bulging		
■ Face symmetry, eyebrows and eye lashes present		
Eyes: ■ sub-conjuctival hemorrhage. ■ Slant, nystagmus, clear, cloudy, discharge, “sunset eyes”, ■ cataracts, and presence of eyeballs		
Nose: ■ type of breathing; check for occlusion. Size, shape, placement, flaring		
Mouth: ■ check for cleft palate, cleft lip. ■ false teeth. ■ Tongue: movement, protruding,		
Ears: ❑ size, shape, cartilage, placement,		
Neck: ❑ webbing, range of motion, masses.		
■ Clavicle: fracture		
Inspection ■ Symmetry of upper and lower extremities ■ excessive number of digits on hands or feet ■ fusion of 2 toes or fingers ■ Fractures: note if movement of any extremity or malposition		
Palpation ■ Do Ortolani’s maneuver to check further for dislocation		
■ Chest: shape ■ Breasts: may be enlarged and red ■ Nipples: symmetry, size		
Abdomen Inspection ■ Shape-Normal, may be protruding, distention slightly ■ Cord: bleeding		
Palpation ❑ Liver ❑ Spleen ❑ Kidneys ❑ Masses		

❑ Umbilical hernia		
Genitalia ■ Labia minora usually more prominent than labia majora ■ Clitoris varies in size-normally large in newborn ■ Hymenal tag: protrudes from floor of vagina		
■ Presence of penis and scrotum ■ Testes descended ■ Position of urethral opening		
Anus ■ Check for patency with thermometer or if meconium is passed		

■ Spine: shape, intact, tumors,		
• Chest circumference (30 – 33cm)		
• Head circumference: measure with tape (33 – 37cm).		
■ Length		
• Grasp – Plantar and Palmar • Moro • Babinski • stepping • Rooting and Sucking • Blinking and Acoustic blink		
■ Weigh the baby		
Documentation		
Total		

University of Malawi

KAMUZU COLLEGE OF NURSING

MATERNAL AND CHILD HEALTH DEPARTMENT

CLINICAL EVALUATION FORM FOR LOW RISK NEONATE

NAME OF STUDENT: _____

CLINICAL COURSE : LOW RISK POSTNATAL MOTHER

NO OF HOURS : LRM = 80

ASSESSMENT KEY:

1 = Fail **N/O = Not observed**

2 = Pass **N/A = Not Applicable**

3 = Distinction

	OBJECTIVE ASSESSED	GRADE	REMARKS
1.	Analyze antenatal and intrapartum records for pertinent data relevant for postpartum care of mother and neonate.		
	• Review antenatal and intrapartum records relevant for postnatal care ▪ Type of data relevant for postnatal care ▪ Relevance of data for intrapartum care ▪ Gaps in antenatal and intrapartum care ▪ Completeness of antenatal and intrapartum data ▪ Interpretation of data ▪ Identify gaps affecting care of neonate in postpartum		
2.	Competently perform an immediate and subsequent assessment of the neonate.		
	(Baby) • Physical assessment • Infection prevention measures • Safety measures • Comfort measures **Subsequent (Neonate)** • Observation on neonatal adjustment to extra uterine life • Infection prevention measures • Comfort measures • Prevention of complications • Breastfeeding • Attachment Discharge plan		
3	Develop a care plan for a postpartum mother		

	and her neonate based on the identified needs utilizing the clinical decision making process.		
	• Order of priority • Family centred		
4	Incorporate cultural issues related to postpartum care in planning and implementing care		
	• Cultural beliefs related to self care, sexuality, family planning and baby care, breast feeding		
5	Adequately assist the postnatal mother with effective breastfeeding practices		
	• Positioning • Attachment • Frequency of feeds • Period of feed		
6	Educate the postpartum mother on:		
	• Appropriate infection prevention measures • Danger signs • Conducive environment for effective postpartum adjustment and neonatal growth and well being. • Family planning methods		
7.	Actively involve the postpartum mother and family in decision making regarding neonatal		
	• Information giving • Baby friendly care		
8.	Correctly utilize appropriate criteria to discharge neonate from postnatal ward.		
	• Discharge plan • Vital signs • Signs of bonding		
9.	Demonstrate the appropriate technique of baby bathing.		
	• Assemble necessary equipment • Conduct baby bathing • Provide warmth		
10.	Effectively communicate with members of staff on matters concerning care of the Low Risk nepnate.		
	• Report or document issue to instructor • Discussion with ward in--charge		
11.	Objectively make suggestions for the organization and implementation of activities in the Low Risk postpartum ward.		
12.	Record information on the client's chart in a thorough and logical manner.		

	Completeness of information in records		
13.	Demonstrate professional conduct as stipulated in clinical policies.		
	• Punctuality • Dress code • Accountability • Responsibility • Effective communication with staff, clients and family		
14.	Take initiative in making suggestions to colleagues.		
	• Report/document issue • Feedback from colleagues		
15.	Take responsibility for acts of omission and commission during provision of care.		
16.	Analyze all labour and delivery statistics and recognize implications for nurse midwifery practice.		
	• Review delivery and admission book • Identifies variables of interest • Written report		

TEACHER'S COMMENTS:

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SIGNATURE OF TEACHER: …… DATE:

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WARD SISTER'S COMMENTS :

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SIGNATURE OF WARD STAFF'S……..

DATE:……

STUDENT'S

COMMENTS:……

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GRADE: …….. SIGNATURE OF

STUDENT:……..DATE: ……..

MCH Dept Sep 2011

HIGH RISK NEONATAL CARE (CLINICAL OBJECTIVES)

CLINICAL HOURS: 160 (4 WEEKS)

UNIT DESCRIPTION

This unit builds on the concepts, skills, knowledge and attitudes acquired in Midwifery Science, 401, 402, 403, and Clinical Midwifery 403. The risk concept approach and the midwifery management process continue to be used to identify and manage common complications of the High Risk Neonate.

Emphasis is placed on individualized, culturally and clinically acceptable management.

UNIT OBJECTIVES

At the completion of four weeks clinical placement, the student will be able to:

1. Provide a conducive environment for the high risk neonate at all times

2. Communicate effectively with the mother and her family on issues concerning high risk baby at all times.

3. Manage appropriately the high risk neonate using the midwifery management process.

4. Provide opportunities to promote maternal-infant bonding.

5. Provide opportunities for the mother/guardian to participate in the care of the infant requiring intensive care.

6. Effectively communicate with members of staff, parents and other family members.

7. Document information about the neonate in a thorough and logical manner.

8. Incorporate socio-cultural issues in planning, implementing and evaluating high risk neonatal care.

9. Educate the mother/family about the condition and on going care of the baby.

10. Analyze neonatal statistics and determine the magnitude of neonatal complications in order to improve the care.

11. Incorporate infection prevention and control measures during provision of care.

12. Effectively apply ethical principles in resolving dilemmas regarding high risk neonatal care.

13. Objectively make suggestions in the organization and implementation of activities in the neonatal intensive care unit.

14. Objectively evaluate own performance in managing high risk neonatal clients.

15. Make and implement plans for improving own skills, knowledge and attitude as need arises.

16. Assist mothers/families going through the grieving process.

17. Act in a professional manner at all times.

COURSE REQUIREMENT

- Conduct and present 1 case study
- Complete 160 clinical hours
- Meet all requirements as stipulated in the clinical policy
- Complete competencies as stipulated in the competency list.

MCH Dept –Sep 2011

LEARNING GUIDE FOR RESUSCITATION OF THE NEW BORN

Place a "✓" in case box of step/task if it is performed satisfactorily, an "**X**" if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step, task or skill not performed by trainee

LEARNING GUIDE FOR RESUSCITATION OF THE NEW BORN						
STEP/TASK	CASES					
General Attitude skills						
1. Assures privacy						
2. Explains procedure to the woman						
3. Provides appropriate information to the mother after the procedure						
General knowledge						
4. Defines asphyxia neonatorum correctly						
5. Describes predisposing factors of asphyxia correctly						
6. Describes the APGAR score correctly						
7. Describes the signs of asphyxia correctly						
Clinical skills of Resuscitation of the new born						
8. Equipment and supplies for resuscitation prepared in advance						
9. Dries the baby thoroughly and discard the wet cloth to keep the baby warm						
10. Clamps and cuts the cord if not already done.						
11. Place the newborn on his or her back on a clean warm surface and keep covered except for the face and chest for proper resuscitation and to keep the baby warm						
12. Positions the head of the newborn slightly extended to open the air way						
13. Suctions the mouth first then nose as you withdraw the suction tube. Insert 5cm in the mouth and 3cm in the nose of the suction tube respectively. To clear the airway and to prevent aspiration of secretions by the newborn.						
14. Observe the newborn's response to the above interventions to determine progress.						
15. If the newborn is not breathing, rubs the newborn's spine to stimulate the newborn and observe for progress						
16. If there is still no breathing, starts ventilation.						
17. Places the mask over the baby's chin, mouth and nose to form a seal to prevent leakage of air.						
18. Ensures that the neonates head is slightly extended						
19. Squeezes the Ambu bag attached to the mask two to three times to inflate the lungs with positive pressure. Ventilate with oxygen if available at a rate of 0.5 litres in a minute, otherwise use room air						

LEARNING GUIDE FOR RESUSCITATION OF THE NEW BORN					
STEP/TASK	CASES				
20. Observes for the rising of the chest. If the chest is rising ventilate at the rate of 40 breaths in a minute					
21. If the chest is not rising, checks position of the head to make sure it is slightly extended. Checks the seal is not adequate reposition the mask and create a seal. Increases the ventilation pressure 22. If the above measures are not successful, suctions mouth then nose to remove secretions					
23. Restarts ventilating for one minute or until the baby begins to cry or breathe spontaneously. Then stops to quickly assess the newborn's breathing to determine progress.					
24. If the newborn is breathing. Count the respirations and stop ventilating if the respirations are 20 to 30 in a minute without chest in drawing					
25. Puts the newborn skin to skin position with the mother for warmth					
26. Provides appropriate follow up care including vigilant observations of color and vital signs every 15 minutes for 2 hours to determine progress					
27. If the newborn has no respirations or respirations below 30 in a minute accompanied with chest in drawing and granting, continues to ventilate and arranges for transfer to a higher facility for further management					
28. Documents the resuscitation step by step for continuity of care and legal purposes					

MCH-SEP 2011

CHECKLIST FOR RESUSCITATION OF THE NEW BORN

Place a "✓" in case box of step/task if it is performed satisfactorily, an "**X**" if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step, task or skill not performed by trainee

CHECKLIST FOR RESUSCITATION OF THE NEW BORN						
STEP/TASK	CASES					
General Attitude skills						
29. Assures privacy						
30. Explains procedure to the woman						
31. Provides appropriate information to the mother after the procedure						
General knowledge						
32. Defines asphyxia neonatorum correctly						
33. Describes predisposing factors of asphyxia correctly						
34. Describes the APGAR score correctly						
35. Describes the signs of asphyxia correctly						
Clinical skills of Resuscitation of the new born						
36. Equipment and supplies for resuscitation prepared in advance						
37. Dries the baby thoroughly and discard the wet cloth.						
38. Clamps and cuts the cord if not already done.						
39. Place the newborn on his or her back on a clean warm surface and keep covered except for the face and chest. warm						
40. Positions the head of the newborn slightly extended.						
41. Suctions the mouth first then nose as you withdraw the suction tube. Insert 5cm in the mouth and 3cm in the nose of the suction tube respectively.						
42. Observe the newborn's response to the above interventions.						
43. If the newborn is not breathing, rubs the newborn's spine.						
44. If there is still no breathing, starts ventilation.						
45. Places the mask over the baby's chin, mouth and nose to form a seal.						
46. Ensures that the neonates head is slightly extended						
47. Squeezes the Ambu bag attached to the mask two to three times. Ventilate with oxygen if available at a rate of 0.5 litres in a minute, otherwise use room air						
48. Observes for the rising of the chest. If the chest is rising ventilate at the rate of 40 breaths in a minute						
49. If the chest is not rising, checks position of the head to make sure it is slightly extended. Checks the seal is not adequate reposition the mask and create a seal. Increases the ventilation pressure 50. If the above measures are not successful, suctions mouth then nose						
51. Restarts ventilating for one minute or until the baby begins to cry or breathe spontaneously. Then stops to quickly assess the newborn's breathing.						
52. If the newborn is breathing. Count the respirations and stop ventilating if the respirations are 20 to 30 in a minute without chest in drawing						
53. Puts the newborn skin to skin position with the mother						

CHECKLIST FOR RESUSCITATION OF THE NEW BORN					
STEP/TASK	CASES				
54. Provides appropriate follow up care including vigilant observations of color and vital signs every 15 minutes for 2 hours					
55. If the newborn has no respirations or respirations below 30 in a minute accompanied with chest indrawing and granting, continues to ventilate and arranges for transfer to a higher facility					
56. Documents the resuscitation step by step					

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KAMUZU COLLEGE OF NURSING
MATERNAL AND CHILD HEALTH NURSING DEPARTMENT

GUIDELINES FOR NEONATAL NURSERY CASE STUDY

TYPES OF CONDITIONS

The student will be required to conduct one case study during the high risk neonatal placement. The neonate could have any of the following conditions:-

- Birth asphyxia
- Cerebral injury
- Prematurity
- Septicemia
- Jaundice
- Meningitis
- Neonatal tetanus
- Ophthalmia neonatorum

CRITERIA FOR SELECTION

- A high risk neonate with any of the above mentioned conditions.
- The mother of the neonate should have attended antenatal care.
- Age of the neonate should be from birth to 28 days.
- The neonate should be within the maternity unit, could have been born in or outside the hospital.
- The student should admit the neonate in consultation with a qualified Registered Nurse/Midwife.

ACTIVITIES

- Provide comprehensive care following the nursing process. Such care will include:-
    - Investigations
    - Medications
    - Nutrition, fluid and electrolyte balance
    - Cord care
    - Observations
    - Infection prevention
    - Temperature control
    - Hygiene
    - Psychological care of mum
    - Mother and infant bonding
    - Lactation management
    - Information Education and Counseling of mother
    - Elimination
    - Criteria for discharge of neonate
    - Follow up plan
    - Consultations
    - Growth monitoring
    - Assessment of gestational age

- Safety, therapeutic environment
- Phototherapy/kangaroo method

- Care for the neonate for a minimum of four days.
- Discharge the neonate in consultation with a Registered Nurse or Midwife/Lecturer.
- The final write up must be an analysis of significant details only and must be between three to four pages.
- A minimum of four references must be given.

MARK ALLOCATION

- Marks will only be awarded for specific information applying to the case.
- Marks will be allocated into account both the initial records and the final write up.
- Assessment for the case study will focus in the following areas:-
    i. Subjective and review of data 23 marks
    ii. Objective data 18 marks
    iii. Formulation of midwifery diagnosis and care plan 40 marks
    iv. Implementation of care and evaluation 24 marks
    v. Documentation, organization and analysis 6 marks

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CLINICAL EVALUATION FORM FOR HIGH RISK NEONATAL CARE **(BScN&M)**

NAME OF STUDENT: _____

CLINICAL COURSE : High Risk Neonatal Care

NO OF HOURS : 160

ASSESSMENT KEY: **1 = Fail**
2 = Pass
3 = Distinction
N/O = Not observed
N/A = Not Applicable

	OBJECTIVE ASSESSED	GRADE	REMARKS
1.	Provide a conducive environment for the high risk neonate at all times • Clean • Safe • Comfortable • Assembling equipment		
2.	Communicate effectively with the mother and her family on issues concerning high risk baby at all times. • Greet the woman respectfully and with kindness • Introduce self and others • Explaining to the woman or support person every procedure done on the neonate • Listening to the woman • Encouraging questions • Providing continual emotional support and assurance		
3.	Review and analyzing antenatal and labor records to identify pertinent data for safe management of neonate.		
4.	Obtaining comprehensive subjective data about the neonate from a woman on admission and periodically throughout all stages of labor		
5.	Conducting a comprehensive physical assessment of the neonate following the recommended sequence: • Head to toe examination		

	- Systematic and logical - Vital signs		
6.	Conducting a comprehensive psychological and physical assessment of a pregnant woman following the recommended sequence: • Mood • Fears • Anxiety		
7.	Making correct impressions based on assessment findings • Midwifery diagnosis • Identified problems		
8.	Developing a care plan for the neonate and the family based on identified problems: • Achievable objectives • Specific and relevant interventions • Scientific rationale • Evaluation of care		
9.	Incorporate socio-cultural issues in planning, implementing and evaluating high risk neonatal care.		
10.	Demonstrating skills in managing a neonate with problems		
11.	Provide opportunities to promote maternal-infant bonding.		
12.	Provide opportunities for the mother/guardian to participate in the care of the infant requiring intensive care.		
13.	Educate the mother/family about the condition and on going care of the baby		
14.	Document information about the neonate in a thorough and logical manner.		
15.	Recognizing own limitations in provision of neonatal care and making appropriate referrals: • Recognizes limitation • Consults senior midwife		
16.	Objectively evaluate own performance in managing high risk neonate and family: • Identifies own strengths and weaknesses • Reports using log book		
17.	Making and implementing plans for improving own knowledge, skills and attitudes: • Plan for overcoming weaknesses/gaps/shortfalls • Evaluation of the plan		
18.	Objectively making suggestions for the organization and implementation of activities in the neonatal ward: • Identifies gap/s documented in the log book • Recommendation/s documented in the log book		
19.	Incorporating safe cultural issues in the care of		

	neonatal • Identifies cultural issue and documents in the log book • Address cultural issue and documents in the log book		
20.	Analyzing all neonatal statistics and recognize implications for midwifery practice.		
21.	Demonstrating professional conduct at all times as stipulated in the clinical policy.		
22.	Take responsibility for acts of omission and commission during provision of care		

TEACHER'S COMMENTS:
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SIGNATURE OF TEACHER: …… DATE: ……..

WARD SISTER'S COMMENTS:
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SIGNATURE OF WARD SISTER……..... DATE:…….....
STUDENT'S COMMENTS:…….....
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GRADE: ……..
SIGNATURE OF STUDENT:……..
DATE: ……..

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