CHAPTER

8

Child Health Nursing

குழல்இனிது யாழ்இனிது என்பதம் மக்கள்
மழலைச்சொல் கேளா தவர்.

"The pipe is sweet, the lute is sweet," say those who have not heard the prattle of their own children

Learning Objectives

At the end of this chapter, the students will be able to:

- understand about the newborn
- explain the medical and special care of newborn
- explain the universal immunization programme
- explain the importance of exclusive breast feeding
- understand the growth and development
- describe weaning
- explain the maternal and child health services

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Introduction

"A person is a person no matter how small" said by Dr. Seuss. Children, though small, they are unique individual and are our most valuable resources. They are the gift to the society and a nation's wealth depends on the health of its children. They need healthy atmosphere for their all round development and also need special care since they are world's most valuable resource and among the most vulnerable in the society. Knowledge about the needs and problems of the children will help us to provide healthy atmosphere there by to create a better world for them.

8.1 Definition of Newborn

A newborn is otherwise known as a "neonate" is a child under 28 days of age.

Neonatal period

The period between birth to first 28 days is known as neonatal period. Early neonatal period is the first seven days of life after birth. Late neonatal period includes from the 8th day to 28th day. Proper care of the newborn during this period is mandatory to pave a foundation for a healthy life.

Characteristics of Newborn Baby

Physical characteristics

- Birth weight of the normal term newborn ranges from 2.5 to 4.0 kg.
- Length ranges from 47-52 cm.
- Babies head circumference ranges from 34 cm - 35 cm and chest circumference ranges from 31 cm -32 cm
- The chest circumference is approximately 2-3 cm less than the head circumference at birth.
- The chest is rounded and abdomen is prominent.
- Newborn's trunk is relatively larger and the extremities are short.
- Newborn has flexed attitude.

Physiological characteristics

- Temperature is 36.5°C to 37.5°C
- Heart rate is 120-160 beats per minute
- Respiratory rate is 40-60 breaths per minute
- Baby has a vigorous cry.
- Baby has normal breathing, pink in colour, sucking and swallowing normally
- Newborn passes its first stool within 24 hours and are dark green coloured and thick. The first stool is known as **meconium**. The colour of the stool changes after initiation of breast feeding.
- The first urine is passed during or shortly after birth.
- The newborn loses 10% of its body weight during the first week. The initial weight loss is regain by 10th day.
- Hemoglobin is high (around 18g/dl)

DO YOU KNOW?

A newborn usually sleeps around 18 hours a day

Important Neonatal Reflexes

Rooting Reflex

Eliciting Rooting reflex

It helps the baby to locate the mother's nipple without the mother directing the baby's mouth. When the corner of the baby's mouth is touched, the lower lip is lowered and the tongue is brought forward towards the contact.

Sucking and swallowing reflexes

Eliciting sucking reflex

Introduce a clean finger in to the mouth of the newborn and the baby will start sucking the finger.

Moro reflex

Newborn exhibiting Moro reflex

It is elicited by raising the shoulder for 45° from ground and then dropping by 30°. There will be abduction and extension of arms with opening of fingers. This is followed by flexion and adduction of arms.

Palmar Grasp reflex

Eliciting Palmar grasp

It is elicited by touching the baby's palm from the ulnar side with finger or any other suitable object. The fingers close and grasp the object.

8.2 Medical and Special Care of Newborn

The first week of life is the most crucial period in the life of an infant. In India, 61.3 percent of all infant deaths occur within the first month of life. Of these, more than half may die during first week of birth. This is because the newborn has to adapt itself rapidly and successfully to an alien external environment. The risk of death is the greatest during the first 24-48 hours after birth.

Principles of Newborn care

- To promote adequate oxygenation
- To prevent hypothermia
- To promote early breastfeeding
- To prevent neonatal infections
- To identify at risk newborn
- To facilitate stabilization of the newborn

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Care of newborn

Maintenance of normal respiration and oxygenation

The first cry of the baby after birth is the sign of respiration. All babies should cry immediately after birth. If the baby doesn't cry, it needs immediate attention of the health care personnel. As soon as the baby is born, the airway should be cleared of mucus and any other secretions within the labour room. Then continuous monitoring of respiration and heart rate is done for every 15 minutes for first 2 hours or till adaptation to external environment. Positioning the baby with its head extended may help in the drainage of secretions. A gentle suction in the mouth first and nostrils second can facilitate removal of secretions and amniotic fluid. Resuscitation is necessary for babies who do not breathe within a minute.

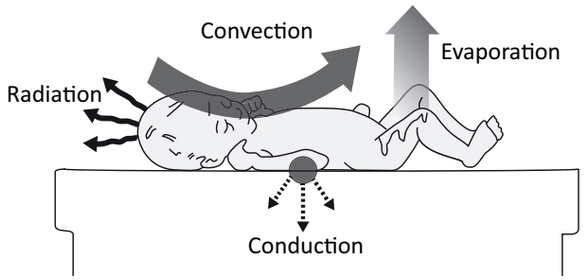
The **APGAR** score is taken at 1 minute and again at 5 minutes after birth. It requires immediate and careful observation of the Appearance, Pulse, Grimace, Activity and Respiration. Each sign is given a score of 0, 1 or 2. It provides an immediate estimate of the physical condition of the baby. A perfect score should be 9 or 10. A score below 5 needs prompt action.

APGAR Score

Sign		Score	
	0	1	2
Appearance (colour of the baby)	Blue/pale	Body pink Extremities blue	Completely pink all over
Pulse(Heart rate)	Absent	Below 100	Above 100
Grimace (Reflex response)	No response	Facial movement only with stimulation	Sneezes, Coughs
Activity (Muscle tone)	Lethargic and extremities extended	Some flexion of extremities	Active movements
Respiration	Absent	Slow and irregular	Regular with cry

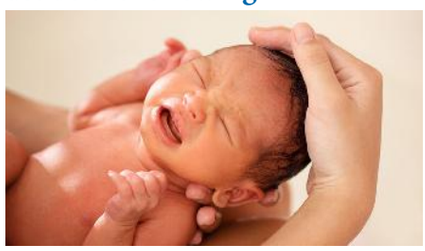
Maintenance of Body temperature (warmth)

Body heat is lost from the newborn by four ways. They are as follows:-



- Convection- Leaving the baby in a draught (Cool air)
- Radiation – If the baby's head is not covered, the body heat is able to pass into surrounding air.
- Conduction – Leaving the baby on a cold surface
- Evaporation – Baby not dried after birth the amniotic fluid evaporate by using by body heat.
- The body temperature below 36.5°C is known as hypothermia.

To maintain the temperature of the newborn one must do the following



Provide skin to skin contact to the baby if possible

If skin-to-skin contact is NOT possible:

- Wrap the baby in a clean dry warm cloth
- Mummify the baby
- Cover the baby's head with cap.
- Assess warmth every 4 hours by touching baby's feet
- Keep the room warm
- Remove all wet cloths
- Rooming in. The mother should be encouraged to keep the baby with her.

How to provide skin to skin contact?
In skin-to-skin contact, the baby is placed naked on the mother's bare chest, between her breasts. A blanket should be draped over both of them for warmth. If the mother is unable to provide skin-to-skin contact, then the father can provide.

Breast feeding

It should be initiated as early as possible after birth. The first milk which is called **"colostrum"** is the most suitable food for the baby during early period because it is rich in anti-infective factors. It contains high concentration of protein and other nutrients the baby needs.

Cord care

The stump is kept dry and clean. Nothing should be applied over stump. Bandages should not be applied. Fold diaper below stump. If the stump is wet, wash with clean water and soap, dry with clean cloth. Usually the stump will fall in 7-10 days time. If umbilicus is red or draining pus or blood, the mother should be advised to see the health worker.

Eye care

Eyes of the babies are cleaned from inner canthus to outer canthus using sterile wet gauze or cotton in the hospital and with a clean cloth at home. Nothing should be poured into the eyes of the newborn unless medically indicated.

Vitamin K injection: Vitamin K injectioning is given intra muscularly to prevent bleeding.

Care of Skin: It is advisable to postpone the formal bath to the second week. However sponge bath may be given after 24 hour of birth.

Urine and meconium: Check for passage of urine and meconium.

Immunization: Hepatitis B vaccine and zero doses of OPV and BCG is given immediately. Thereafter, the child should be immunized on specific dates.

Harmful practices which should not be followed for newborn

- Giving prelacteal feeds soon after birth like sugar water or honey or donkey milk, jaggery water.
- Discarding the colostrums (the first milk secretion from the mother)
- Applying ashes or soot or powder or dry cow dung on the umbilical cord of the baby.
- Applying kajal on the baby's face to prevent bad eye
- Tying black thread or bangles to the baby's hand or leg to prevent bad eye.
- Exposing baby to a "holy" smoke (Sambirani) after bath.
- Giving home remedies for digestion like vasambu
- Pouring of oil into eye or ear.
- Blowing of nose and ear during bath

Red flag signs

These are danger signals to be identified at newborn. Presence of one or more of these sings is an indication for prompt evaluation and treatment.

- Feeding difficulty
- Persistent vomiting
- Fast breathing (more than 60 breaths per minute)
- Hypothermia (temperature less than 35.5°C
- Hyperthermia or Fever,Temperature more than 37.5°C
- Seizures
- Lethargy
- Fatigue yellowish discoloration

A newborn usually In India, the newborn death rate is 25.4 in 1000 live births as per 2016 statistics

8.3 Universal immunization programme

Immunization is a mass means of protecting the greatest number of people. It has to be planned according to the needs of the situation and the prevailing health issues. Every country has its own immunization schedule to suit the local needs. Under immunization, immunizing agents such as antisera, live vaccines and inactivated or killed vaccines are administered.

Cold Chain and Equipments

The vaccines should be stored at an appropriate temperature (preferably low) and the temperature should be maintained during its transport from the manufacturing site to the actual vaccination site. This system of storage and transport is known as the **"cold chain".** If the temperature is not maintained, there is a possibility of vaccine failure. It is expected to maintain 6 rights of supply chain. They are as follows:-

- Right vaccine
- Right dose
- Right site
- Right time
- Right condition(temperature)
- Right person

To maintain cold chain, certain equipments are used in Universal Immunization Programme. They are as follows:-

- Walk in freezers
- Walk in coolers
- Deep freezer
- Ice lined refrigerator
- Domestic refrigerator
- Cold boxes
- Vaccine carriers
- Ice pack

Ice lined Refrigerator

Deep Freezer

Cold box and vaccine carrier

Ice pack

Vaccine carrier

Universal Immunization Programme

The **World Health Organization** officially launched a global immunization programme, known as **Expanded Programme on Immunization (EPI)** in May 1974, to protect all children of the world against six vaccine –preventable diseases. They are namely diphtheria, whooping cough, tetanus, polio, tuberculosis and measles. EPI was launched in India in January 1978. This programme is now called as **Universal Immunization Programme (UIP)** in India.

National Immunization Schedule for Infants and Children in India

BCG Vaccination

In addition to the above mentioned vaccines, Rota Virus vaccine & Japanese Encephalitis vaccine is given in selected states.

Diseases and its vaccine

S. N	Vaccine	Protection against
1	BCG	Tuberculosis
2	Hepatitis B	Hepatitis B, liver infection
3	Oral Polio Vaccine	Polio
4	Inactivated Polio Vaccine	
5	Pentavalent vaccine	Diptheria, Pertussis, Tetanus, Hepatitis B &Haemophilus Influenza B
6	Measles Vaccine	Measles
7	DPT Vaccine	Diptheria, Pertussis, Tetanus
8	TT (Tetanus Toxoid)	Tetanus
9	Rota virus Vaccine	Diarrhoea
10	Japanese Encephalitis Vaccine	Japanese Encephalitis - a brain infection

Vaccine	When to give	Dose	Route	Site
BCG (Bacilli galmetteGurein)	At birth	0.05ml	Intra dermal	Left Upper arm
Hepatitis B birth dose	At birth	0.5ml	Intra muscular	Left Antero lateral side of mid thigh
OPV zero dose	At birth	2 drops	Oral	
OPV 1, 2, &3 (Oral Polio Vaccine)	At 6, 10 & 14 weeks	2 drops	Oral	
IPV (Inactivated Polio Vaccine)	At 14 weeks	0.5ml	Intra muscular	Right-Antero lateral side of mid thigh
Pentavalent 1,2 & 3 (Diptheria, Pertussis, Tetanus, Hepatitis B &HIB)	At 6, 10 & 14 weeks	0.5ml	Intra muscular	Left Antero lateral side of mid thigh
Measles – 1st Dose	At 9 completed months	0.5 ml	Subcutaneous	Right Upper arm
DPT Booster-1	16-24 months	0.5ml	Intra muscular	Left Antero lateral side of mid thigh
Measles – 1st Booster Dose	16-24 months	0.5 ml	Subcutaneous	Right Upper arm
OPV Booster	16-24 months	2 drops	Oral	
DPT Booster-2	5-6 years	0.5ml	Intra muscular	Left Upper arm
Tetanus Toxoid (TT)	10 years & 16 years	0.5 ml	Intra muscular	Upper arm

8.4 Breast feeding

Breast feeding should be initiated as soon as after birth of the baby. A baby is usually alert immediately after birth which is the ideal time to facilitate breast feeding. The baby will spontaneously seek the breast if it is put on skin to skin contact with its mother's body. Breast milk is the best milk, suited for a newborn. It contains all the nutrients for the normal growth and development of a baby from birth to first six months of life.

Exclusive Breast feeding

In exclusive breast feeding, the infant is given only breast milk. Even the water is not given – with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines.

Healthy neonates when placed skin to skin on their mother's tummy and chest after birth, shows amazing behaviours. The baby moves, crawls, smells and licks the mothers nipple. Finally, the baby on its own attaches to the breast and feeds.

The first milk secreted from the breast is known as colostrum, also called the baby's 'first vaccine' as well as considered as **"liquid gold"** which is extremely rich in nutrients and antibodies.

WHO recommendations on Breast feeding

Babies should be **exclusively** breast fed for the **first 6 months** of life to achieve optimal growth, development and health. Thereafter, infants should be given complementary foods which are nutritionally adequate and safe to meet their nutritional requirements,while continuing to breastfeed for up to two years or beyond.

Advantages of Breast feeding

For babies

- It is safe, clean and hygienic
- It is cheap and available in correct temperature to the infant
- It completely meets the nutritional requirement of infants upto 6 months
- It provides immunity to the infants
- It protects babies from diarrhoea and respiratory infection
- It is easily digestible
- It promotes bonding between the mother and infant
- It prevents under nutrition as well as over nutrition
- It reduces the risk of overweight and obesity in children
- It increases the Intelligence Quotient of the babies
- It ensures food security for the babies

For the mother

- Breast feeding delays next pregnancy
- It lowers risk of breast and ovarian cancer
- It decreases mother's work load

For the family and society

- Breast feeding saves money
- It promotes family planning
- It decreases the need for hospitalization

Reflexes useful for breast feeding

- The following two reflexes are helpful for the babies in breast feeding.
- Rooting reflex: To find the nipple and proper attachment to breast.
- Sucking reflex: To draw out milk from mother's breast.

Types of Breast Milk

The breast milk secreted undergoes changes as the days goes on to meet the demands of the baby.

S. N	Breast Milk	Characteristics
1	Colostrum	This milk is secreted in the first week of life.Thick and yellow. Rich in protein and antibodies
2	Transitional milk	Milk that is secreted between the 1st and the 2nd week. The fat and sugar content starts increasing.
3	Mature milk	After 2 weeks, the milk secreted is known as mature milk It is thinner and watery Rich in all necessary nutrients

Foremilk vs Hindmilk

The milk that is secreted when the baby initiates feeding is foremilk whereas the milk that is secreted at the end the feed is hindmilk. The foremilk satisfies the thirst of the baby whereas the hindmilk which is high in fat provides satiety.

Techniques of breast feeding

Positioning

- The mother is relaxed and comfortable.
- The baby's head and body are in a straight line
- The baby's face is opposite the nipple and the breast
- The baby's upper lip or nose is opposite the mother's nipple
- The baby is held or supported very close to the mothers body
- The baby's whole body is supported if the mother is in a sitting position

Attachment: It is otherwise known as latching. It means attachment of nipple along with areola in baby's mouth and not nipple alone.

Key points to good attachment

- The mouth is widely open
- The tongue is forward in the mouth, and may be seenover the bottom gum
- The lower lip is turned outwards
- The chin is touching the breast

More areola is visible above the baby's mouth than below it

Burping: After feed the baby should put on to the left shoulder of the mother with its head supported and then with the right arm, the mother should gently pat on the baby's back. It avoids regurgitation.

Don'ts in Breast feeding

- Avoid prelacteal feeds
- Avoid bottle feed
- Do not discard colostrum
- Do not give water

Checking adequacy of breast feeding

The following indicates that baby is getting adequate breast milk.

- Baby is passing urine 6-7 times a day
- Baby is passing well formed stools
- Sleeping comfortably after feed for atleast 2-3 hours
- Gaining weight adequately.

8.5 Growth and Development

Growth refers to an increase in size and development refers to maturation of function. Starting from conception, growth and development is influenced by various factors both inside the uterus and external environment. Growth and development begin at conception and end at maturity.

Definition of growth and development

Growth is defined as an increase in size of an individual. This increase in size is due to increase in the number and diameter of the cells.

Development denotes the functional maturity of the child. It is the mental maturation with acquisition of skills.

Though growth and development are not the same, they are assessed simultaneously. They are unique characteristics of children and any problem in this process at any stage can result in deviation of growth and /or development.

Stages of Growth

The following are the stages of growth in children

S.N.	Stages	Growth period
1	Embryo	Implantation to 8 weeks of gestation
2	Fetus	9th week of gestation to birth
3	Newborn	Birth to 28 days of life
4	Infant	Birth to 1 year of age
5	Toddler	1-3 years of age
6	Preschool	3-5 years of age
7	School age	6-12 years of age
8	Adolescence	13-18 years of age

Assessment of growth

- Physical anthropometry (weight, height, circumferences of head, chest, abdomen and pelvis)
- Assessment of tissue growth (skin fold thickness and measurement of muscle mass)
- Bone age (x ray of the bone)
- Dental age (by counting the number of erupted teeth)
- Biochemical and histological means.

Examples of developmental tasks

S. N.	Developmental areas	Examples
1	Gross motor	Sitting, walking, running, climbing & jumping etc
2	Fine motor	Hand skills like writing, buttoning, holding objects and visual development
3	Cognitive development	Thinking, decision making, recalling, learning of maths etc.,
4	Speech, Language and hearing development	Speaking, understanding language, replying and responding by verbal and non verbal communication
5	Personal social behavior development	Feeding, toileting, dressing, establishing and maintaining social relationship.

Assessment of development

Development can be assessed under various categories. They are

- Motor (gross and fine motor) development
- Speech, Language and hearing development
- Cognitive development
- Personal social behavior development

Principles of growth and development

- Growth is a continuous process
- Growth is an orderly process
- There is period of rapid growth and slow growth
- Growth follows a sequence
- Growth proceeds from general to specific
- Head grows faster than the body and extremities
- Growth pattern is same for all children
- Rate of development varies from child to child
- Boys and girls grow differently

Factors influencing growth

Growth is influenced by interaction of both genetic and environmental factors. Children generally grow to their genetic height potential with little outside assistance. Parents have to provide best possible environment for their growth to take place.

Genetic factors: In general, Asians tend to be smaller than Europeans while Afro Americans are taller than white Americans

Parental influence: Tall parents tend to have taller children.

Gender: Boys tend to be taller and heavier than girls

Genetic disorders: Chromosomal disorders such as down syndrome, Turner syndrome and genetic mutations can adversely influence growth.

Prenatal (before delivery) growth: The size at birth is primarily influenced by maternal health and uterine environment. Maternal health condition affects the growth of the foetus. Certain diseases like diabetes, hypertension during pregnancy affects the growth in the uterus.

Post natal (after delivery) growth

Nutrition: Lack of nutrition during first two years of life after birth has remarkable influence on the growth of the child.

Chronic illnesses in children: Congenital heart diseases, recurrent pneumonia, persistent diarrhea, tuberculosis leads to growth failure.

Hormonal influences: Growth hormone and thyroxin deficiency and sex hormone deficiency during puberty affects growth.

Emotional factors: Emotional deprivation, anxiety may affect the child's growth.

Developmental mile stones in gross motor functions

Age	Mile stones
3 months	Neck holding
5 months	Sitting with support
8 months	Sits independently without support
9 months	Standing with support
10 months	Walking with support
11 months	Crawling (creeping)
12 months	Standing without support
13 months	Walking without support
18 months	Running
2 years	Climbing upstairs
3 years	Riding tricycle

Roll over

Sitting

Crawling

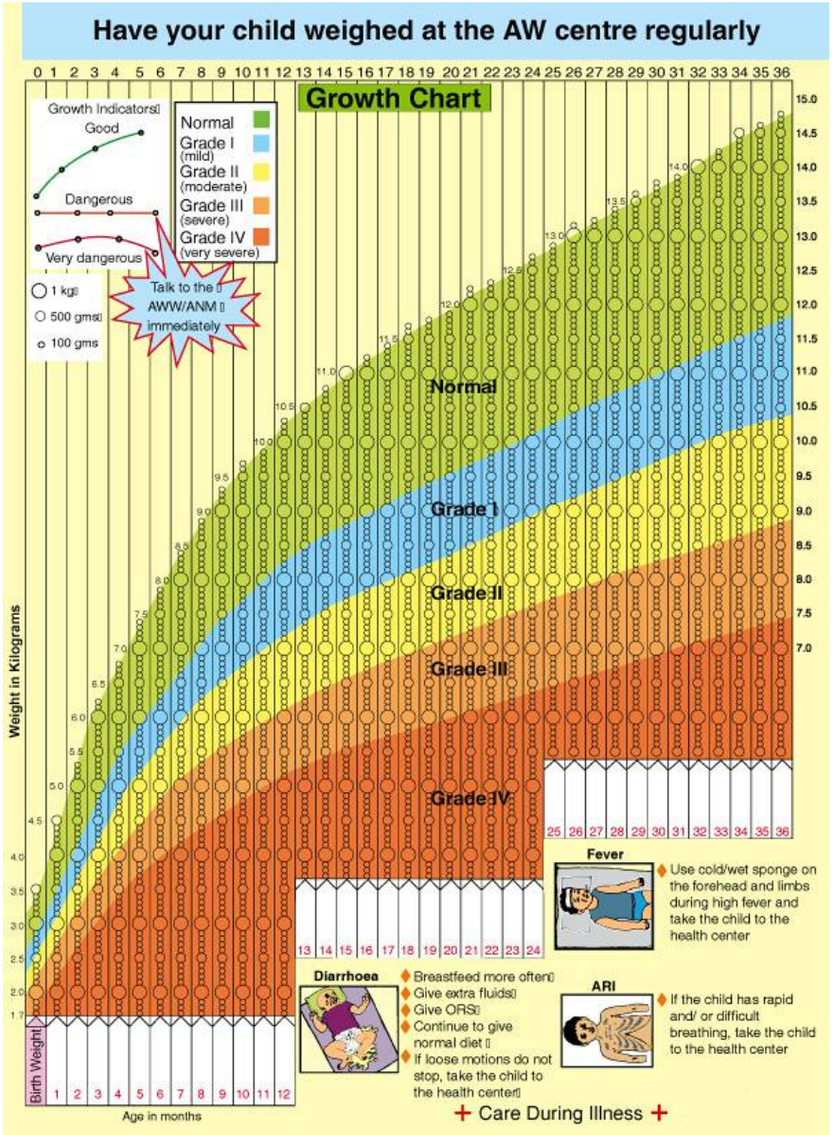
Squatting

Standing with support

Walking

Standing on one leg

Growth Chart



WHO growth chart

Growth chart is developed by **Prof. David Morley.** It is a visual display of child's growth and development. In growth chart, child' weight is recorded periodically and a curve is drawn. A flat curve indicates that the child's growth is arrested or slowed down. There are reference curves printed in the growth chart. One has to compare the child's growth curve with the reference curve to detect normalcy or any deviation. There are Height for age and Weight for height chart is available. The various types of growth chart available in India are

- WHO growth chart
- Govt. of India Growth chart
- ICDS growth chart

Uses of growth chart

- To ensure normal growth
- To identify any deviation in growth
- To assess the health status
- To teach mother about the importance of proper care
- To motivate the mother to promote normal growth

8.6 Weaning

Weaning is giving family foods in addition to breast milk. Family foods are foods that the rest of the family normally eat, can give babies all the nourishment they need without any additional cost. Weaning is a gradual process by which the infant becomes accustomed to the adult diet. The weaning period is the most crucial period in the child's development. Weaning, if not done properly, lead to diarrhea and malnutrition.

Definition of Weaning

Weaning is the gradual replacement of breastfeeding with other foods.Weaning is the process by which a baby slowly gets used to eating family or adult foods and relies less and less on breast milk.

Time of weaning

It is a gradual process starting around the age of 6 months, because the mother's milk alone is not sufficient to sustain growth beyond 6 months.

Supplementary foods

During weaning, suitable foods rich in protein and other nutrients are given to the child. These foods are called supplementary foods. These are usually cow's milk, fruit juice, soft cooked rice, dhal, vegetables and egg yolk. As far as possible, locally available foods should be used in weaning the child. The weaning/ supplementary foods do not replace breastmilk, they complement it. As the baby gets older it needs more food to grow and stay healthy.

Characteristics of ideal weaning foods

- High in energy
- Easy to digest
- Low in bulk and viscosity (not too thick)
- Fresh and clean
- Inexpensive and easy to prepare
- Not too highly seasoned

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Techniques of weaning

- Wash hand thoroughly with soap before preparation of weaning foods.
- Introduce one food at a time
- Let the baby get used to one food for a few days before introducing another.
- Start by giving one or two teaspoons and gradually increase the quantity
- Give food in addition to regular breast feeds.
- Do not use a feeding bottle.
- Slowly increase the number of meals and the amount of food given.
- Feed babies using a clean cup and spoon.
- Do not add water to the weaning food.
- Encourage the child to hold the food
- Encourage eating on its own
- Avoid force feeding
- Avoid ready made processed foods

By the age of eight months, most babies need four 'meals' a day including a variety of foods, in addition to regular breastfeeding. At one year old a child should be able to be given all types of family foods, although the food may still need to be softened or mashed. Patience is needed when babies are first starting to eat family foods. There is no need to buy expensive commercially manufactured weaning foods.

Rules for safe preparation of weaning foods

- Wash hands before preparing food
- Prepare weaning foods immediately before they will be eaten
- Wash all utensils before preparing food, and scrub chopping boards and tables
- Cook or boil food well
- Mash foods up with a clean spoon.

- Use the cleanest water available for making weaning foods and for washing uncooked foods.
- If possible boil the water if it has not come from a clean source such as a tap or water pump.
- Boiling water will kill the germs that cause diarrhoea.
- Do not store weaning foods for more than two hours if possible.
- Keep them stored in clean covered containers that keep out flies and other insects.

8.7 Maternal and Child Health services

Maternal and Child Health services include the curative, preventive and social aspects of maternity services, paediatrics, family welfare, nutrition, child development and health education. The specific objectives of MCH are:

- Reduction of morbidity and mortality rate for mothers and children
- Promotion of reproductive health and
- Promotion of the physical and psychological development of the child within the family.

Components of MCH

- Family planning and reproductive health service
- Maternal, newborn and child health service
- Health Communication
- Health Commodities and supplies
- Health systems strengthening

The Ministry of Health and Family Welfare has launched National Health Mission in May 2013. Many different health and welfare programmes have been brought together under the umbrella of National Health Mission (NHM) with National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM) as its two sub missions. The programme components include Reproductive-Maternal-Newborn-Child and Adolescent Health (RMNCH+A); and control of communicable and non communicable diseases.

Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A)

This programme has been launched in 2013. It aimed to reduce the maternal mortality and child mortality and addressed the delays in accessing and utilizing health care and services. Under this programme, the areas of care include

- Reproductive care
- Maternal care
- Neonatal care
- Child care and
- Adolescent health care

The three goals that are relevant to RMNCH+A strategic approach in 12th Five Year Plan which has to be achieved by 2017 is as follows:

- Reduction of Infant Mortality Rate (IMR) to 25 per 1,000 live births
- Reduction in Maternal Mortality Ratio (MMR) to 100 per 100,000 live births
- Reduction in Total Fertility Rate (TFR) to 2.1

Priority interventions in RMNCH+A

The following are the intervention for children. They are

- Home-based newborn care and prompt referral
- Facility-based care of the sick newborn
- Integrated management of common childhood illnesses (diarrhoea, pneumonia and malaria)
- Child nutrition and essential micronutrients supplementation

- Immunization
- Early detection and management of defects at birth, deficiencies, diseases and disability in children (0–18 years)

Janani SurakshaYojana (JSY)

It is a safe motherhood intervention under the National Rural Health Mission (NRHM). It was launched in 12th April 2005. The objective of JSY is reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women. A monetary benefit is given to the mother under this programme for institutional delivery.

Janani Shishu Suraksha Karyakaram (JSSK)

Government of India has launched Janani Shishu Suraksha Karyakaram (JSSK) on 1st June, 2011. This programme aimed to motivate the mother for institutional delivery.

The following are the free entitlements for pregnant women:

- Free delivery
- Free Caesarean Section
- Free drugs and consumables
- Free diagnostics
- Free diet in the hospital
- Free provision of blood
- Exemption from user charges
- Free transport from home to hospital
- Free transport during referral services
- Free drop back from hospital to home

The following are the free services for sick newborns till 30 days after birth.This has now been expanded to cover sick infants:

- Free treatment
- Free drugs and consumables
- Free diagnostics
- Free provision of blood
- Exemption from user charges
- Free Transport from Home to hospital
- Free transport during referral services
- Free drop back from hospital to home

Rashtriya Bal Swasthya Karyakram (RBSK)

It is a new initiative launched in February 2013. It includes provision for child health screening and early intervention services through early detection and management of 4 Ds, prevalent in children. These are

- Defects at Birth
- Deficiencies
- Diseases of Childhood
- Developmental delays and disabilities

Integrated Management of Neonatal and Childhood Illnesses (IMNCI)

It is one of the main interventions under the Reproductive and Child Health programme as well as under NRHM. It has two components.

Care of Newborns and Young Infants (infants under 2 months)

It includes

- Keeping the child warm
- Initiation of breastfeeding immediately after birth
- Counseling for exclusive breastfeeding and non-use of pre lacteal feeds
- Cord, skin and eye care.
- Recognition of illness in newborn and management and/or referral
- Immunization
- Home visits in the postnatal period.

Home visits are an essential part of this intervention. Home visits done by health workers help mothers and families to understand and provide essential newborn care at home and detect and manage newborns with special needs due to low birth weight or sickness.

Care of Infants (2 months to 5 years)

It includes

- Management of diarrhoea, acute respiratory infections (pneumonia) malaria, measles, acute ear infection, malnutrition and anemia
- Recognition of illness in children and management/referral
- Prevention and management of Iron and Vitamin A deficiency
- Counseling on feeding for all children below 2 years
- Counseling on feeding for malnourished children between 2 to 5 years
- Immunization

Dr.Muthulakshmi Reddy Maternity Benefit Scheme

This scheme is being implemented in Tamil Nadu with a noble objective of providing financial assistance to poor pregnant mothers to meet expenses on nutritious diet, to compensate for the loss of income during motherhood and to avoid low birth weight of new born babies. In this scheme, Rs. 12,000 per beneficiary is given from 20 Feb 2017, it is increased to Rs. 18000 for the improvement of healthy motherhood.

Amma Baby care kit

This is launched in Tamil Nadu in the year 2015. Under this scheme, all the babies born in Government institutions are given Amma Baby Care Kit worth of Rs.1,000/-. It is distributed with the objective of improving the hygiene of the postnatal mothers and the newborn baby and inculcating hygienic practices among the mothers for self and baby care. The Amma Baby Care kit contains 16 items viz. baby towel, baby dress, baby bed, baby protective net, baby napkin, baby oil, baby shampoo, baby soap, baby soap box, baby nail clipper, baby rattle, baby toy, liquid hand wash, bathing soap, sowbagyasundilehiyam and a kit bag to securely keep all the items.

Activity 1

Go to nearby Primary Health centre and observe the Immunization process and cold chain systems followed and write a report.

Go to nearby ICDS centre and ask for the growth chart of the children. Study in detail the growth chart and write a report.

SUMMARY

- A newborn otherwise known as a "neonate" is a child under 28 days of age.
- The period between birth to first 28 days is known as neonatal period.
- The APGAR score is taken at 1 minute and again at 5 minutes after birth.
- It requires immediate and careful observation of the Appearance, Pulse, Grimace, Activity and Respiration.
- Heat is lost from the newborn by four ways such as convection, radiation, conduction and evaporation.
- The first milk which is called "colostrum" is the most suitable food for the baby during early period because it is rich in anti-infective factors.
- Immunization is a mass means of protecting the greatest number of people

- ❖ vaccines should be stored at an appropriate temperature (preferably low) and the temperature should be maintained during its transport from the manufacturing site to the actual vaccination site.
- ❖ This system of storage and transport is known as the "cold chain". The World
- ❖ The Health Organization officially launched a global immunization programme, known as Expanded Programme on Immunization (EPI) in May 1974, to protect all children of the world against six vaccine –preventable diseases.
- ❖ Babies should be exclusively breastfed for the first 6 months of life to achieve optimal growth, development and health. Thereafter, infants should be given complementary foods which are nutritionally adequate and safe to meet their nutritional requirements,while continuing to breastfeed for up to two years or beyond.
- ❖ Growth is defined as an increase in size of an individual
- ❖ This increase in size is due to increase in the number and diameter of the cells. Development denotes the functional maturity of the child.
- ❖ It is the mental maturation with acquisition of skills. Growth chart is developed by Prof. David Morley.
- ❖ It is a visual display of child's growth and development. Weaning is the process by which a baby slowly gets used to eating family or adult foods and relies less and less on breast milk
- ❖ Maternal and Child Health services include the curative, preventive and social aspects of maternity services, paediatrics, family welfare, nutrition, child development and health education

GLOSSARY

Rooming in	-	An arrangement in hospitals where newborn babies stay with their mothers
Prelacteal	-	Any food except mother's milk provided to a newborn before initiating breastfeeding.
Abduction	-	Movement of a limb or other part away from the midline of the body, or from another part.
Adduction	-	Movement of a body part toward the body's midline.
Mortality	-	Death
Morbidity	-	Sickness
Satiety	-	State of being completely satisfied

Evaluation

I. Choose the correct answer

1. The neonatal period is
   a) Birth to 28 days
   b) Birth to 1 year
   c) Birth to 90 days
   d) Birth to 120 days

2. The normal birth weight of newborn ranges from
   a) 2-4 kg
   b) 1.5-3 kg
   c) 2.5 -4 kg.
   d) 4-6 kg

3. An ideal APGAR score for newborn is
   a) 6-8 b) 9-10
   c) 4-6 d) 5-6

4. The injection given to newborn to prtevent bleeding is
   a) Vitamin A b) Vitamin D
   c) Vitamin K d) Vitamin C

5. Rota virus vaccine is given to protect the child from
   a) Pneumonia b) Polio
   c) Tuberculosis d) Diarrhoea

6. Exclusive breast feeding to the infant is recommended for upto
   a) 4 months b) 6 months
   c) 8 months d) 10 months

7. The child will be able to walk independently by the age of
   a) 12 -14 months b) 10-12 months
   c) 16-18 months d) 18-20 months

8. Free delivery & Free Caesarean Section is done under
   a) Rashtriya Bal Swasthya Karyakram (RBSK)
   b) Janani Shishu Suraksha Karyakaram (JSSK)
   c) Janani Suraksha Yojana (JSY)
   d) Janani Bal Swathya Yojana(JBSY)

9. The breast milk which is thick and yellow is
   a) Foremilk b) Hindmilk
   c) Mature milk d) Colostrum

10. 10. The first milk which is secreted from the mother immediately after delivery is known as
    a) Colostrum b) Foremilk
    c) Hind milk d) Mature milk

11. The technique done to avoid regurgitation in newborn in
    a) Latching b) Burping
    c) Positioning d) Attachment

12. The example for fine motor activity is
    a) Hand skills
    b) Maintaining social relationship
    c) Walking
    d) Running

13. The system of storage and transport of vaccine is known as the
    a) Cold chain b) Hot chain
    c) Warm chain d) Ice chain

14. The child from birth to one year is known as
    a) Neonate b) Infant
    c) Toddler d) Preschooler

15. The child will be able to sit independently by
    a) 12 months b) 14 months
    c) 8 months d) 6 months

16. Early detection and management of 4 Ds is done in
    a) Janani Shishu Suraksha Karyakaram (JSSK)
    b) Janani Suraksha Yojana (JSY)
    c) Rashtriya Bal Swasthya Karyakram (RBSK)
    d) Janani Bal Swathya Yojana(JBSY)

17. RMNCH+A is launched in the year
    a) 2013 b) 2012
    c) 2014 d) 2015
18. The milk which satisfies the thirst of the infant is
    a) Hind milk b) Mature milk
    c) Cow milk d) Foremilk
19. The vaccine which protects the child from Tuberculosis is
    a) DPT b) OPV
    c) BCG d) MMR
20. The ideal time of starting of weaning is
    a) 3 months b) 6 months
    c) 8 months d) 10 months

II. Short answers

1. Define newborn
2. Define cold chain
3. List any four red flag signs
4. List any four principles of newborn care
5. List the methods of Heat loss
6. List any four cold chain equipments
7. What is colostrum?
8. Name two reflexes useful for breast feeding?
9. Define growth and development
10. Define weaning
11. Expand the Following
    - ❖ WHO ❖ ICDS
    - ❖ JSSK ❖ JSY
    - ❖ RBSK ❖ RMNCH+A
    - ❖ APGAR ❖ IMNCI
    - ❖ NRHM ❖ DPT

III. Brief answers

1. Characteristics of Newborn
2. Neonatal Reflexes
3. Harmful practices for the newborn
4. Diseases and protecting vaccine
5. Advantages of breast feeding
6. Stages of growth & development
7. Gross motor mile stones
8. Factors influencing growth & development
9. Janani Shishu Suraksha Karyakaram (JSSK)

IV. Detailed answers

1. Write in detail about Newborn care
2. Write Universal Immunization Programme
3. Explain exclusive breast feeding
4. Explain in detail about the weaning
5. Explain maternal child health services

Answers

1. a	2. c	3. b	4. c
5. d	6. b	7. a	8. b
9. d	10. a	11. b	12.a
13. a	14. b	15. c	16. c
17. a	18. d	19. c	20. b

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