وزارة التعليم العالي والبحث العلمي

الجامعة التقنية الشمالية

المعهد التقني / الموصل

محاضرات الأطفال

المرحلة الثانية
المعهد التقني الموصل

إعداد وتصميم

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GROWTH AND DEVELOPMENT :

Knowledge of the normal growth and development in children is essential for preventing and detecting diseases by recognizing any deviation from normal.

Growth :(physical changes)

- Increase in weight ,length and size of internal organs.
- The changes can be measured by centimeters and kilograms.
- (the most sensitive measure of growth is weight).

Development: (mental and social changes).

Maturation of organs and systems.

It is changes in function that affected by emotional and social environment.

STAGES OF GROWTH AND DEVELOPMENT

1. **Fetus Stage :** from fertilization to the delivery of fetus.
2. **New born Stage :** From delivery to the end of first month of age.
3. **Infant Stage :** From one month to the end of first year of age .
4. **Toddler Stage :** From one year of age to the end of third year of age .
5. **Pre-School Stage :** From third year of age till the end of the sixth year of age .
6. **School Stage :** From sixth year till twelve year of age .
7. **Puberty Stage :** From ten - twelve year till eighteen year of age .

Factors affects Growth and development:

A number of extrinsic and intrinsic factors affect the rate of total growth and growth of various organs and systems:

1. **Heredity:**
2. **Race and Nation:**
3. **Sex:** (male and female)
4. **Environment:**

The environment affects the growth in three major stages :

a. Intrauterine: (by nutrition and health of the mother) .

b. During delivery: (by Types of delivery and it's complications).
c. After birth: (through nutrition and disease of the baby) .

TYPES OF GROWTH AND DEVELOPMENT

A. Physical Growth:

(1) Changes in weight :

- At birth male are slightly taller and heavier than female baby.
- Birth weight ranges between (2700 - 4000) g (the average 3.5 Kg)
- Double birth weight at (4 - 5) Month of age
- Triple birth weight at (1) Year of age

(2) Changes in length :

At birth the length ranges (48 - 53 Cm) the average (50 Cm).

- Double birth length at (4) Year of age
- Triple birth length at (13) Year of age

(3) Changes in head circumference.

- Head circumference average at birth (35) Cm
- Increase by (1) Cm / Month for the first year
- Increase (10) Cm for the rest of life

B. Changes in vital sign:

1. Heart rate : at birth (120 – 150) beats \ min, average (130) .
2. Respiration: at birth the respiratory rate (30 – 50) / minute, the heart rate and respiration decrease throughout child hood
3. Body temperature: at birth the average temperature is (36.8 C^0), during child hood the average (37.3 C^0) first year,(37.5 C^0) in the fourth year .

C. Teeth eruption:

- First Primary teeth erupt at (5 – 8) month of age, average (6) month.

- At age of (2) year the baby will have (16) primary teeth.
- At (3) year of age the baby will have (20) primary teeth.

- First permanent teeth erupt at (5 - 7) year of age, average (6) year.
- At (16) year of age the child will have (28) permanent teeth.
- The adult will have (32) permanent teeth.

D. Motor Development:

The new born infant can perform a number of motor movements, but these are mainly reflex .

The developmental process takes place in cephalocaudal direction: (control of head precedes control of the arms, and then control of legs).

E. Social and Mental Development:

This occur through development of speech and language also intelligence, mental concepts and memory.

Fetus Stages

- Gestational stages divided into three (3) periods:

  First Trimester: from fertilization till the end of (3^{rd}) month of pregnancy.

  Second Trimester: from the end of the (3^{rd}) month of pregnancy till the end of (6^{th}) month.

  Third Trimester: from the end of the (6^{th}) month till birth.

- This characterized by increase in growth of subcutaneous tissue and muscles.
- At (28^{th}) week of pregnancy Almost all organs of fetus are complete.

The Newborn Baby:

- Full term baby
- Premature baby

Full term New born :

the baby that deliver after (37 - 40)weeks of gestation , his weight range between (2700 - 4000)gm and his length range between (48 – 53) Cm .

Characteristics of the Full Term Newborn Baby:

1. The Skin :

Normal skin is smooth pinkish in color.

a) Vernix caseosa : Soft whitish cheesy material covering the skin it is usually present in body creases. It serves as:

- Lubricants
- Heat preserver
- Protection of the skin

b) Lanugo hair : Fine immature hair which found after 20 weeks of gestation and start to disappear after (32 week) of gestation.

Other minor anomalies which need reassurance of mother :

c) Capillary heamangioma : Pink spot around the eyes and at the neck, usually disappear in the first year.

d) Mongolian spots: Blue black pigmented area at the base of the back and on the buttocks are common in infant and usually fade over first year.

e) Milia : White pimples on the nose and chin are very common, which are blocked sebaceous glands and clear spontaneously.

2. The Head:

Head circumference is range between (33 – 37) Cm averages (35 Cm).The head is one fourth (1/4) of the total body size.

Fontanels : **(head soft spots) due to incomplete union of the skull bones.**

i. ***Anterior fontanel or (frontal fontanel)*** : It is the more important one it is a diamond in shape and located at the junction of the two parietal and the two frontal bones ,it closed at (18) month of age .

ii. ***Posterior fontanel :*** It is smaller than the anterior one it is triangular in shape, located at the junction between the occipital and the parietal bones in some time the posterior fontanel is closed at the time of birth but it is usually closed by (8 - 12 weeks) of age .

The anterior fontanel bulges when the baby cries or strain.

3.The muscle:

The muscle is smooth, small but it is strong, and has normal resistance to passive movement .

4. The Chest:

It is bell shaped and at birth is approximately the same circumference of the head or less. While the baby grows up the chest circumference become bigger than the head.

- Breast enlargement : May occur in both girl and boy infant and may even secrete small amount of milk which called **(Witches milk)** which may be continue for (3 – 4) weeks.

5. Nervous System:

The nervous system is not completely mature the responses to the external stimuli are reflexes and not voluntary movement.

Reflexes: Mechanical simple involuntary movement, some of these reflexes are essential to the infant life and many of them are protective.

1. **Blinking reflex**

يحصل عندما يتعرض الطفل إلى جسم غريب يقترب من جفونه أو توجيه ضوء قوي نحو عينيه

2. **Coughing reflex**

فعل انعكاسي يساعد في إخراج المواد الغريبة من المجاري التنفسية

3. **Yawing reflex**

يحدث عندما يحتاج الطفل إلى اخذ المزيد من الأوكسجين

4. **rooting reflex**

يحصل عندما يلمس شئ وجه الطفل فيدير الطفل وجهه باتجاه الشئ الذي لمسه

5. **sucking reflex**

يبدأ الطفل بالرضاعة عندما يلمس أي شئ شفة الطفل ويلازمه فعل انعكاسي أخر

6. **swallowing reflex**

هو منعكس البلع

7. **gag reflex**

يحصل التهوع عندما يضع الطفل في فمه كمية من الحليب لا يمكنه بلعها

8. **grasp reflex**

فعل انعكاسي موجود في اليدين والقدمين يتمكن الطفل من مسك المادة التي توضع في يده أو قرب أصابع قدمه

9. **Moro reflex**

عند وقوع منبهات قوية على الطفل (صوت علي أو تحريك الطفل بصورة مفاجئة) بعد أن كان بهدوء أو سكون حيث يرفع الطفل رجليه إلى الأعلى ويفتح ذراعيه ثم يثنيا هما ثم يرفع جذعه ويرجع رأسه إلى الخلف .

10. **Tonic neck reflex**

عندما يكون الطفل مستلقيا على ظهره فانه يدير رأسه إلى إحدى الجهتين ويمد ذراعه وساقه إلى الجهة التي أدار رأسه إليها .

Special Senses :

1. **Touch** : sensation of pressure ,pain, and touch are present at birth, the lips are hypersensitive so,(failure to grasp the nipple is indication of brain damage).

2. **Vision** : Infants eyes are only half opened and the lids are swollen, the pupil react to light . The iris color are blue or gray at birth, changing to permanent color at (3 – 6) months of age. The eye movements are not coordinated and both eyes may turn inward or outward .
3. **Hearing** : the new born infant cannot hear until his first cry, which leads to clear the canal from the discharge .(presence of Moro reflex mean good hearing).

4. **Taste** : This sense is highly developed more than that of vision or hearing, he accept sweaty fluid and reject acidic one.

5. **Smell** : the infant may have stronger sense of smell than the older individual.

6. **Internal Senses** : The infant feel the presence of gases in his stomach and intestine and usually react to this sense by crying also if there is change in temperature or if he fails pain.

Vital Signs:

1. **Body temperature** :
   - **a)** The infant's temp. at birth is slightly higher than his mother temperature. It drops immediately after birth then raise again to normal. his hands and Feet are colder than his body because the circulation is poor, this is due to un development of the circulation
   - **b)** normal temperature of infant is (36.8 C^0 - 37.3 C^0).

2. **Pulse :**
   - **a)** the infant pulse is normally irregular due to immaturity of cardiac regulating center in the medulla
   - **b)** the rate is rapid around (120 – 150) average (130) beats /minute.

3. **Respiration :**
   - a) respiration in the new born is irregular in depth, rate and rhythm and varies from (30 - 50 / minute).
   - b) normally respiration are gentle, quite and shallow.
   - c) we can observe the respiration through the movement of chest and abdominal muscles .
   - d) Dysapnea or cyanosis may occur suddenly in an infant who is breathing normally these signs may be the first indication of the presence of a congenital anomaly.

Care of the Full Term Newborn Baby

Nursing responsibilities in the delivery room:

1. Ensure a proper airway by suctioning; administer oxygen as needed.
2. Dry the neonate; keep the head lower than the trunk to promote drainage of secretion.
3. Apply a cord clamp , The umbilical cord should cut after stopping of pulsation in it by putting two artery forceps, The first put (2.5 cm) and the second (5 cm) from the abdomen. A bad of gauze moistened in normal saline put over the umbilicus and monitor the neonate for abnormal bleeding from the cord.
4. Observe the neonate for voiding and meconium.
5. Assess the neonate for gross abnormalities .
6. Continue to assess the neonate by using Apgar score .
7. Obtain clear foot prints and fingerprints.
8. Apply identification bands with matching number to mother and to the neonate.

Nursing responsibilities in the nursery:

1. Assess the neonate's vital sign :
    - Take the first temperature rectally to check rectal patency.
    - Take the apical pulse.
    - Count respiration.
2. Measure and record the neonate 's vital statistics:
    - Weight
    - Height
    - Head circumference
3. Assess the neonate by apgar scoring:

Rapid and very good method for assessing the need to resuscitate the newborn baby at interval of 1 minute and 5min after birth, depends on five physiological parameters :

(Pulse , Respiration , Muscle tone , Response to stimulation , and Skin color) checked and a degree ranges between (0 – 2) should be given for each item.

- A normal Full term infants should score (8 - 9) at (1 - 5) min.
- Below (8) score may needs resuscitation .

Apgar score

Point	Zero (0)	One (1)	Two (2)
Heart rate	Not present	Slow (< 100/ min)	(> 100 / min)
Respiration	Not present	Slow ,irregular	Good ,crying
Muscle tone	Non (flaccid)	Some flexion of extremities	Active motion
Color of skin	Blue or pale	Body pink ,extremities blue	Completely pink
Response to stimulation	Non	Some movement of facial muscle	Cry

4. Data compilation and medical record:

- Name of mother and father
- Date of delivery (in hours)
- Data recording of birth weight, length and head circumference.
- Health state
- Apgar score

FEEDING OF BABY:

(1) BREAST FEEDING

The breast feeding is most natural and economical way of feeding.

Benefit of breast feeding for the baby:

1. Sterile.
2. Economical
3. At correct temperature whenever infant needs it.
4. Contain bacterial and viral antibodies for more than (28) diseases. (Protection from infection).
5. Contain vitamins and essential material for growth of the baby .
6. Enhances Maternal-infant bonding **.**
7. Reduce the incidence of allergy .
8. Aid in uterus involution .
9. Reduces incidence of maternal breast cancer .

Colostrums (milk in the first 3 days after delivery) :

- Thick, yellowish fluid from the breast in the first few days after delivery
- Small in quantity but nutritious and sufficient for the baby.
- Highly protective against infections (It is contain antibodies against many disease) and some time called (**first vaccine) .**

How do we know that breast milk is enough for baby :

When the baby having only mother's milk (No water) :

1. By adequate weight gain .
2. Urinating (6 - 7) times or more in (24) hours.

Time amount and duration of feeding :

1. The normal baby can suck immediately after birth so the baby should be put to breast immediately.
2. They should be fed on demand (when baby is hungry).
3. More the sucking more will be production of milk.
4. Feed your baby even during the night.

5. You can breastfeed the baby lying down.
6. Feed at one breast at a time till it is empty then shift to the second breast .
7. The initial milk **(fore milk)** is watery (contain sugar and proteins) and satisfies the baby's thirst.
8. The milk that is secreted later **(hind milk)** is rich in fats and satisfies baby's hunger.
9. Mother should, learn to give nipple and maximum possible areola (dark portion behind the nipple) in baby's mouth during breastfeeding.
10. Mother's milk contains enough water, so even in summer; the infant does not need water.

For breast feeding success:

- The nursing mother needs :

  a. a balanced diet that includes (500) extra calories a day
  b. (6 - 8) glasses of fluid .
  c. She should also rest as much as possible .

- Breast engorgement (To relieve engorgement):
  1. mother should feed the baby frequently and on demand
  2. take Analgesic.
  3. apply warm, wet compresses to her breasts, and take warm baths to relieve the pain.

- Symptoms of breast infection include
  1. fever
  2. painful lumps
  3. redness in the breast.

  These require immediate medical attention.

Contraindication for breast feeding

From Mother's Side:

1. Maternal infection (active T.B ,HIV, typhoid rubella)
2. Radioactive and chemotherapy for cancer.
3. Chronic illness (diabetes, severe asthma, renal fail).
4. Ca of breast and abscess is not contra indication. mother can breast feed from unaffected breast.

From Infant's Side:

1. Sever cleft lip and palate.
2. Disorder of digestion (galactosemia). **اللاكتوز في الدم**
3. premature baby.
4. Twin or triple.

(2) ARTIFICIAL FEEDING : (Bottle feeding)

Artificial feeding in babies who suck well is usually by the bottle.

Disadvantages of bottle feeding:

1. Cost more than breast feeding.
2. Needs greater preparation time and effort
3. Needs cleanliness of hands, water, and equipment .
4. Needs adequate refrigeration and storage.
5. Does not contain antibodies.
6. No psychological benefit.

THE PRE MATURE NEW BORN BABY

Premature New born:
It is the baby that delivers before (37) weeks of gestation or his weight (2500 g) and his length range between(35 - 45) Cm.
(premature neonates between (28 - 37) weeks has the best chance of survival).

Characteristic of pre mature new born baby:

1. Skin is thin wrinkled there us an excess of laungo and little of Vernix.
2. Weight is between (1000 - 2500 gm).
3. Length is (35 - 45 cm).
4. Head size : the head is relatively larger from the head of the full term baby.
5. Small extremities with soft nails of hand and feet.
6. Small muscle with little subcutaneous fatty tissue.
7. Eyes are prominent.

Causes of prematurity:

In many cases the causes of premature delivery are unknown but some time there are causes related to the mother and other related to the baby.

Causes related to the mother:

1. Chronic diseases (diabetes , heart disease and renal disease).
2. Pregnancy – induced hypertension..
3. Infection (German measles and influenza).
4. Abdominal surgery or trauma.
5. Smoking and Poor nutrition.
6. Low pre pregnancy weight and low weight gain during pregnancy.
7. Maternal age less than (16) or greater than (35) years.

Causes related to the fetus:

1. Intrauterine infection.
2. Congenital abnormalities.
3. Multiple pregnancies.

Problems associated with prematurity: Immaturity of all systems.

Care of the premature baby:

During delivery:

1. A septic and hygienic way of birth process to prevent infection.
2. Preparation of essential equipment like (O2)equipment and sucker.
3. A Pediatrician should present near the birth room to resuscitate the baby.

At birth room:

1. Respiratory assessment and assistance.
2. Maintenance of fluid and electrolyte balance.
3. Prevention of infection.
4. Assessment of neurologic status.
5. Maintenance of body temperature.
6. Renal function monitoring.
7. Emotional support to parent.
8. Assessment of glucose and bilirubin level.

At incubator and nursery:

- Incubator prepared for the premature baby with essential equipment like (O2) equipment and sucker.
  The nurse should watch the infant in the nursery and write every sign like color of skin, respiration, movement, sucking and swallowing reflex, crying, cyanosis, diarrhea or vomiting.

- **Method of Oxygen therapy:**

1. By incubator:
The oxygen tube can attach to the incubator.

2. By nasal tube:
A rubber tube introduced through the nose of the baby after moistening it.

3. By mask:
It is small mask put over the mouth and nose of the baby (should be moistened in percentage not more than - 40 % -).

- **Regulation of temperature**:

a. The premature baby need warmth, so temperature of the incubator should be (32 – 36 C^0).to maintains the baby temperature at (36 – 37 C^0).
b. The infant should put inside the incubator without clothing or covering.
c. Humidity should be about (55 %).

- **Given medication:**

Some drugs should be ready in case of emergency and these are:

1. Epinephrine: given I.M for cardiovascular stimulant.

2. Vitamin K: To reduce the tendency of bleeding.

- **Handling the premature baby:**

- We should give attention to head when lifting and handling the premature baby.
- Try to put the arm behind the head and neck.
- The bed should be warm and soft.

Feeding the premature infant:

Some important functional abnormalities:

1. Weak sucking, swallowing and gage reflexes and some time absence of these reflexes even after putting the nipple in baby's mouth.
2. Small stomach.
3. Diminished absorption of fat and fatty soluble vitamins.
4. Immaturity of some metabolic process and digestive enzymes.

Nutritional needs of the Premature baby :

- He needs more carbohydrate and less fat.
- If he cannot suck properly express milk from mother breast and give to him by spoon.
- If we decide to give bottle feeding the milk should be **(Skimmed Milk)**.

Nutritional needs of the new born and Premature baby :

Energy	calories	protein	Vitamin C	Vitamin D	Fe
Newborn baby	120/Kg	2.5/Kg	35 mg	10 Mg (400 I.U)	10 mg
Premature baby	150/Kg	5gm/Kg	> 35 mg	> 10 Mg (400 I.U)	> 10 mg

Types of feeding in premature baby:

1. Breast feeding :
   - It is the more favorable nutrition for the premature baby.
2. Bottle feeding :
   - Soft nipple.
   - The milk should be warm.
   - Given in small amount and given repeatedly.
   - The baby should be in sitting or semi sitting position.
   - The period of feeding should not exceed (10 - 15 minut).
3. Feeding by small spoon : (no sucking reflex weak swallowing reflex).
4. Feeding by dropper : (weak swallowing and sucking reflex).
5. Gavage feeding : (no sucking and swallowing reflex).

Infant Stage

- The baby depends on sucking for feeding so this stage call the **(oral stage).**
- The baby put his hands and (any things in his hand) in his mouth.
- This stage characterized by rapid increase in weight and size.
- Development of muscle movement.
- Social and psychic development.

Weight:

- There is loss of about (10 %) of weight in the 1st few days after delivery
- After first (1st) week of age the weight start to increase
- In average of (150 - 200 gm / week months) in the first (6 months) of age.
- And it is about (100 - 150 gm / week) in the second (6 months) of age.

Length:

- Increase by average of(2.5 Cm \ months) in the first (6 months) of age.
- And it increase by(1.5 Cm / months) in the second (6 months) of age.

Movement:

The movement of the baby start as a simple one and it develop gradually till it became fine and accurate .

Feeding of the infant:

1. Continue breast feeding till (2) years of age.
2. During the first (6) months of life milk is constitute the main food.
3. In the second (6) month of life the solid foods introduced progressively replacing some of the calories and nutrient provided by milk . This process is called **weaning.**

- There are two types of weaning : * Abrupt weaning.
  *Gradual weaning.

Important point in characteristic of the weaning food:

1. Small amount of food at first.
2. Gradually increase the amount.
3. Prepare nutritious mixes.
4. Prepare in sterile way.
5. .Feed more during and after illness.

Toddler Stage

Weight and Length:

- increase in weight about (2.5 Kg / year),
- Increase in length about (7.5 Cm / year).

Vital signs:

- Pulse rate and Respiration rate decrease.

Teething:

- Primary teeth become (16 teeth) when baby (2 year).
- And become (20 teeth) when baby (3 year).

Movement development:

1. Movement increase and he could regulate urination and defecation.
2. he can wash his hands and face.
3. He can take off his clothes.

Pre-School Stage

This characterized by movement, playing and imagination some time called the **(playing and imagination period).**

Characteristic of this period **:**

1. Increase in weight and length but slower than before.
2. It is about (2 Kg / year) for weight.
3. It is about (7 Cm / year) for length (It is more in lower limb than the body).

Movement development:

1. Movements become more and faster.
2. He can go to the toilet by him-self.
3. He can wash hands, face and clean his teeth by brush.
4. He can also can take off his clothes and put on it.

Feeding of toddler and preschool stage:.

Characteristic of feeding:

1. Continue to give milk.
2. Give small amount of food but increase number of meals.
3. Give nutritious material like meat, egg, vegetable, fruits and rice

School Age Stage

This period start from the entry to the primary school it ranges (6 – 12) years.

Characteristic of this period:

1. Weight increase by average of (2Kg / year)
2. The length increase by average of (5Cm / year).
3. At the last year there is increase in the weight and length of female more than in the male child.

Muscle and bone development:

- Muscles become stronger and movements become more coordinated and more regular.

Feeding of school children:

The child should have good habit in feeding.

1. Don't force the child in order to eat.
2. Child should take fruits and milk instead of sweets.
3. Three mails are enough for his growth with two snacks

Puberty and Adolescent

1. It begins from (10 - 12) year in the female and (12 - 14) year in the male and end about (18) year of age.
2. In this period growth and development of body, mind, and sexual maturation occur.
3. Rapid increase of body growth, so, his size become as an adult size.
4. Weight range (43 - 45 Kg), And Height (150 - 160 Cm).

Age and sex	Calories	Protein	Ca	Vitamin D	Fe
11 - 18 y Male	2700 Calories	55 gm	1200gm	400 I.U	18 gm
11 - 18 y Female	2200 Calories	45 gm			

Nursing Care of Respiratory Diseases :

- Respiratory infection includes infection in any area of respiratory tract including the nose, ears, throat (pharynx), larynx, trachea, bronchi or bronchioles and lungs.
- Most children have about (4 - 6) acute respiratory infection each year.
- Majority of respiratory tract infection deaths in children are due to pneumonia.

ARI program :
(program for control of acute respiratory tract infection) which classified respiratory diseases depending on :

1. Clinical sign and symptom.(cough only or cough with rapid respiration)
2. The site of the infection.(upper and lower respiratory tract)
3. Age of the baby.(below (2) months and above (2) months)

Danger signs in respiratory tract diseases:

Age of the baby below (2) months :

1. Fever or low temperature.
2. Convulsion(sudden loss of consciousness with uncontrolled jerky movement) **.**
3. Stopped feeding well.
4. Abnormally sleepy or difficult to wake.
5. Stridor in calm child : (harsh noise when the child breaths in due to narrowing of the larynx, trachea or epiglottis).
6. Wheezing : (soft musical noise when the child breaths out due to narrowing of the small air ways of the lung).

Age of the baby above (2) months :

1. Not able to drink.
2. Convulsion.
3. Abnormally sleepy or difficult to wake.
4. Stridor in calm child.
5. Severe malnutrition.

Signs of pneumonia:

1. Rapid breathing**:**
   a. (If the child is age : less than (2) months (> 60) breaths per minute or more.

b. (2) months up to (12) months (> 50) breaths per minutes or more.

c. (12) months up to (5) years (> 40) breaths per minute or more.

2. Chest indrawing : the lower chest wall goes in when the child breaths in.

Pneumonia:

- It is infection of one lobe or more of the lung or the entire lung may be affected.
- It is one of the commonest causes of deaths in children below (5) years of age.
- Usually occur in winter and early spring.

Causative agent:

1. Viral.

2. Bacterial.

3. Mechanical pneumonia : (inhalation pneumonia).

Sign and symptom:

1. Acute and sudden symptom.

2. Fever with rigor.

3. Fast breathing (exceeds the danger range) .

4. Chest in drawing may be present or not.

5. Dry cough then change to productive cough.

6. Dyspnea and chest pain.

7. Difficulty in feeding in small infant and difficulty in drinking in big child.

Nursing care and treatment:

1. Bed rest in ventilated, humidified room.

2. Give antibiotic for (5) days. (methaprim, amoxicillin or ampicillin)

3. Increase fluid intake.

4. Clean nose from discharge.

5. Feed child during illness and increase feeding after illness.

6. Increase breast feeding.

7. Watch abnormal sign as (rapid breathing, cyanosis).

8. Advise mother to return the child after (2)days for assessment and earlier if he become worse.

9. Reassess the child :

a) If become worse refer to hospital.
b) If still the same .change antibiotic.
c) If become well continue antibiotic for (5) days.

10. If there is chest in drawing in child this case is sever pneumonia so he need hospitalization.

11. If there is fast breathing in infant below (2) months of age this case is sever pneumonia and need hospitalization also.

1. Common cold (cough) :

Acute viral infection affect the mucus membrane lined the upper respiratory tract (nose and throat).

Signs and symptoms:

1. Nasal discharge (white in color at first then become -- mucoid and purulent).
2. Fever and Headache.
3. Anorexia with Loss of interest in playing.
4. Sneezing and coughing, Congestion of the mucous membrane of the nose.
5. Difficulty of breathing due to obstruction of the nose by mucous discharge.
6. Irritation and redness of the edges of the nose.
7. Symptoms of the disease continue for (3 - 7) days, if there is no complication.

Complications:

1. Otitis media.
2. Sinusitis.
3. Acute laryngitis.
4. Acute tonsillitis.
5. Acute bronchitis.
6. Pneumonia.

2. Acute bronchitis:

It is viral infection of the mucous membrane of the bronchi. Usually they are occur as a complication of common cold or tonsillitis.

3. Acute bronchiolitis:

- It is viral infection of the mucus membrane of the small bronchioles which leads to obstruction of the lumen by discharge(this leads to wheezing).
- This is also occur as a complication of common cold or tonsillitis.
- It is common infection in winter and affects children from (1- 4) years of age.

Treatment and Nursing care for cough (common cold, acute bronchitis and bronchiolitis):

Our aim is to prevent complications which affect the health of the baby.

1. Bed rest in humidify room
2. Keep the young infant warm.
3. Increase fluid intake and, increase breast feeding.
4. Feed the child during illness and increase feeding after illness.
5. Clear nose if interfere with feeding.
6. Sooth the throat and relieve the cough with homemade drinks.
7. Treat fever : High fever (> 39 C^0 give paracetamol)
   Low grade fever (< 39 C^0 give more fluids)
8. Watch danger signs and return the child quickly to the health centre if :
   - Breathing becomes difficult.
   - Breathing becomes fast.
   - Child is not able to drink and in small infant if feeding become a problem.
   - Child becomes sicker.
9. Treat wheezing if present. (By rapid acting bronchodilator as nebulizer Salbutamol or subcutaneous Adrenaline).
10. Treat any associated problem (as ear infection or sore throat).
11. If coughing more than (30) days refer for assessment.

4. Asthma:

It is a chronic inflammatory disorder of the air way, this will leads to episodes of Dysapnea with wheezing.

Sign and symptom:

1. Episodes of Dysapnea with wheezing especially at expiration.
2. Symptoms worsen in night, exercise and in presence of allergen.

3. Discomfort with inability to play.
4. Rapid pulse.
5. History of a topic dermatitis or allergic rhinitis.
6. Family history of asthma or allergic rhinitis.
7. In severe cases symptom may continue for many days with sever dysapnea which may leads to death.

Nursing care and treatment:

1. Bed rest.
2. When the child affect by tonsillitis or common cold, give treatment quickly.
3. Study the predisposing factor in the child.
4. Health education of parents for home management and tell them of the danger signs (inability to talk, cyanosis and exhaustion).
5. Watch sign and symptom.
6. Give drug therapy.
7. Increase fluid intake.

5. Sore throat (Tonsillitis)

- Tonsillitis occurs due to infection of the tonsils; The tonsils are two lymph nodes at the two sides of the larynx; they prevent the entry of micro organisms to the lower respiratory tracts.
- usually not occur before (1) year of age.

Types of tonsillitis:

1. **Mild sore throat:**

Sign and symptom:

- Congestion and enlargement of the tonsils.
- Pain in the ear due to pressure on the ear.
- Fever.
- Vomiting especially in small children.
- No lymph nodes enlargement
- Not interfere with drinking.

2. Streptococcal sore throat:

Sign and symptom:

- White exudates on throat.
- Tender, enlarged lymph node on neck.
- Fever with rigor.
- Headache and Pain in the ear.
- Fatigue with Joint pain.

3. Throat abscess :

Sign and symptom:

- Not able to drink and difficulty swallowing.
- High temperature with rigor.
- Headache , Malaise and Anorexia.

Nursing care and treatment to all :

- Bed rest
- Give antibiotic for streptococcal infection (benzathine penicillin (I.M) or amoxicillin, ampicillin, or penicillin V for (10) days) to prevent complications.
- Sooth the throat with safe remedy.
- Give paracetamol for pain or high fever.
- Refer to hospital in Throat abscess .

Complications to all :

- Sinusitis
- Otitis media.
- Mastoiditis.
- Pneumonia.
- Septic arthritis.
- Acute rheumatic fever.
- Acute glomerulonephritis**.**

Tonsillectomy:

Tonsillectomy is removal of the tonsils by surgical operation.

Nursing care and treatment after operation:

1. Immediately after operation put the child in semi lateral position with flexion of the knee.
2. Giving ice cream to the child.
3. Prevent the crying of the child as much as possible.
4. Prevent screaming of the child as much as possible.
5. Watch any abnormal sign like Dysapnea, cyanosis, bleeding or vomiting.
6. Complete rest in bed for (1- 3) days.
7. Fluid and semi solid food (Easy for swallowing).
8. Psychological care ,watch vital signs with giving drug treatment.

6. Ear problem:

1. **<u>Acute ear infection:</u>**

Sign and symptom:

- Pus draining from the ear for less than two weeks.
- Ear pain.
- Red immobile ear drum by otoscopy.
- Fever.

2. **<u>Chronic ear infection:</u>**

Sign and symptom:

- Pus draining from the ear for more than (2) weeks.
- No fever.
- No pain.

Nursing care and treatment :

- Give oral antibiotic.
- Dry the ear by wicking (Soft cotton cloths).
- Reassess in five days.
- Treat fever.
- Give paracetamol for pain.

3. Mastoiditis:

Infection of mastoid bone (the portion of the temporal bone of the skull that is behind the ear which contains open, air-containing spaces)**.**

Sign and symptom:

- Tender swelling behind the ear.
- Fever and Ear pain.

Nursing care and treatment:

- Refer urgently to hospital.
- Give first dose of antibiotic.
- Treat fever.

MALNUTRITION DISEASES:

Protein – energy malnutrition is a leading cause of death for children younger than (5) years of age.

1. Marasmus:

It is a syndrome of generalized under nutrition in infancy due to inadequate caloric intake.

Causes:

1. Under feeding
2. Anorexia
3. Abnormalities or diseases in the mouth
4. Vomiting
5. Mal absorption syndrome
6. Metabolic disorder

Signs and Symptoms:

These depends on the severity of the disease and duration of illness

1. Delay growth and decrease weight.
2. Loss of subcutaneous fat.
3. Muscle wasting especially over buttocks and extremities.
4. Abdominal distention with liver enlargement.
5. Sunken eyes, with Loss of interest.
6. Sign of complications (anemia, pneumonia or even collapse symptom as decrease body temperature and pulse).

Treatment and Nursing Care:

1. Provide adequate nutrition by small repeated meals and gradually increase calories intake to (150 - 200 Kcal / Kg / 24h).
2. Provide warm bed in good ventilated room.
3. Prevent infection by Isolation of the baby from other diseased babies.
4. Treat the primary cause.

5. Prevent bed sore.
6. Repeated weighing of the baby daily.
7. Observation of any sign of complications.
8. May need blood transfusion or plasma.
9. Vitamin should be given.
10. Follow up.

Prognosis:

1. Death may occur in severe cases due to complications.
2. Growth retardation and mental retardation.

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2. Kwashiorkor:

It is deficiency diseases due to inadequate protein intake in the presence of adequate or even high carbohydrate intake.

- Usually occur in children (1 – 5 year) due to weaning from breast milk.

Causes:

1. Feeding of unbalance diet.
2. Chronic infection and diseases.
3. Low education of the parent and Multiple children in the family.

Signs and Symptoms:

1. Growth failure (weight below normal)
2. Edema usually peripheral.
3. Wasted muscle and persistence of subcutaneous fat.
4. Loss of interest.
5. Anemia with Poor appetite.
6. Sparse easily pluck able hair (usually dull brown red in color).
7. Small skin ulcers over pressure points.
8. Enlarged liver which led to distended abdomen.

Treatment and Nursing Care:

1. Treat the baby by giving high protein diet which should give gradually (like fish, Soya bean flour and dried milk).
2. Treat electrolyte imbalance and anemia.
3. Watching vital signs.
4. Blood and plasma in small amount to prevent heart failure.
5. Vitamin supplements.
6. Treat primary cause.
7. Daily weighing of the baby (weighing of the baby decrease at the beginning due to reduction of edema ,then weight increase).

Prevention of Protein –energy malnutrition :

1. By health education about:
   - Breast feeding till (2) years of age.
   - Give the baby balance diet (contain protein as well as carbohydrate).

2. Get benefit from child care services by follow up growth of the child by repeated weighing.

3. Prevent infection.

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Mineral and vitamins deficiency diseases:

1. Scurvy:

It is disease cause by <u>deficiency of vitamin (C)</u> in the diet.

This may either due to:

- A lack of fresh fruits, green vegetable and potato.
- Faulty cooking methods causing destruction of vitamin (C).

Sign and Symptoms:

1. Gum swelling and bleeding when touched, some time teeth become loose and dropped out.

2. Bruising.

3. Bleeding under the periosteum of long bone (which lead to tenderness)

4. The infant lies quietly in <u>frog leg position</u> and may lead to <u>pseudo paralysis.</u>

5. Any movement causes the child to cry from pain.
6. Hematuria and bleeding from rectum.
7. Anemia.
8. Cerebral hemorrhage (in severe cases).

Treatment and Nursing Care:

1. Large quantities of vitamin (C) as orange juice, or ascorbic acid for some days then decrease gradually. Vitamin (C) supplement as drops given for infant, big child can give vegetable, tomato and fruit juice.
2. The diet should be soft and high in vitamin (C) to prevent bleeding from gum.
3. Small soft pillows are used to support the swollen limbs.
4. Prevent infection.
5. Blood transfusion.
6. Reduce any handling to a minimum to prevent pain (Infant washed and feed in his bed, Clothing should be change without too much movement).

Prevention:

Scurvy can be prevented and treated by giving the baby enough quantity of vitamin (C).

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2. RICKETS:

It is a deficiency disease affect rapidly growing children from (3 months - 3 years of age) due to lack of vitamin (D) in the diet or mal absorption of vitamin (D).

Vitamin (D) is essential for the utilization of calcium and phosphorus which is essential for bone growth.

Sign and Symptom:

1. Delay teething.
2. Widening of the wrist.
3. Leg bowing with widening of the knee.
4. Enlargement of the ends of ribs.

5. Changes in the shape of the head from frontal.
6. Decrease deposit of calcium.
7. Hypo tonicity of muscle, with retarded motor growth.
8. Kyphosis will occur in severe cases.

Treatment and Nursing Care:

1. Care of rachitic baby in home and should be handle carefully.
2. Firm mattress should be used.
3. Supplement of vitamin (D) about (1500 - 5000 I.U) orally daily for about (4 - 5 weeks).
4. Deformities can be treated by splits and in severe cases by operation.
5. Prevent continuous pressure on the same bone and sitting for long time.
6. Sun light is important in (2) from day.
7. Prevent infection.

Prevention:

1. Supplement of vitamin (D) for the breast feeding babies by about (400 I.U daily) especially premature babies.
2. Sun light is important.
3. Health education of the mother.

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3. TETANY:

It is a deficiency disease which is due to prolong low level of calcium in the blood.

Signs and Symptom:

1. Numbness.
2. Cramps and Twitching of extremities.
3. Carp- pedal spasm and laryngeal spasm.
4. Retarded physical and mental development.
5. Headache, Convulsion, Diarrhea and Vomiting

Treatment and Nursing Care:

1. Increase serum calcium by giving calcium (I.V) or orally with vitamin (D).
2. Give tranquilizer.

3. Prepare oxygen and suction equipment.
4. Artificial respiration may need.
5. Psychological and physical rest.

Nursing care for Alimentary tract diseases

Gastroenteritis :

It is a common disease in childhood the main sign in this disease is vomiting **.**

***Vomiting* :**

It is a forceful ejection of gastric content. It is usually proceeds by nausea. It is a common symptom of gastrointestinal and non gastrointestinal disease in childhood.

causes of vomiting:

1. Gastroenteritis.
2. Meningitis.
3. Pyelonephritis.
4. Sore throat.
5. Irritated or Contaminated food.
6. Some drug.

Types of vomiting:

1. Sever vomiting.
2. Repeated vomiting.
3. Projectile vomiting.

Danger signs:

1. Vomit contains blood or bile**.**
2. Persisting vomiting with dehydration.
3. Malnutrition.
4. Associated with other sign and symptom.

Nursing care and treatment of vomiting and gastroenteritis:

1. We should know the cause and then give treatment.
2. Continue and increase breast feeding.
3. Give fluid in little quantity and repeatedly.
4. If vomiting continues give (I.V) fluid.

5. Register fluid intake and output.
6. Watch any abnormal sign or sign of dehydration.
7. Give drugs as prescribed by the doctor.
8. Educate the mother about sterilization of bottle, teats and milk.

Colic :

This condition is not a disease condition, it is due to accumulation of gases in stomach and intestine of the baby especially in bottle feed baby.

Causes:

1. Wrong way of feeding of the baby (wrong position, this lead to swallowing of gases).
2. Allergy to some types of food.
3. Enteritis may leads to colic.

Sign and symptom:

1. Discomfort with abdominal distention and pain.
2. Redness and congestion in face.
3. Special position by the baby, he may draw his knees up.

Nursing care and treatment:

1. Health education of the mother for good positioning of baby during feeding, and try to regurgitate the baby after sucking.
2. Try to calm the baby.
3. Put the baby on his abdomen and try to massage his back.
4. Not give drugs only as prescribed by the doctor.

Constipation :

- This is a symptom but not a disease.
- It is infrequent passage of stool (no. of defecation is less than normal and stool is hard).

Causes:

1. Under feeding with decrease intake of fluids especially in summer.
2. Irregular feeding and defecation time.

3. Congenital abnormalities like pyloric stenosis or intestinal Artesia**.**
4. Weakness of abdominal and intestinal muscle due to little movement of the baby.
5. Fear from defecation when there is painful condition in the anus like anal fissure.

Nursing care and treatment:

1. We should know the cause of constipation.
2. Increase fluid intake like juice and milk also increase intake of vegetable and fruits.
3. Regulate feeding and defecation time.
4. Encourage the baby for playing and movement.
5. Enema by soap and water in severe cases.

Diarrhea :

- It is the passage of loose watery stool, at least three times in (24) hour, or the passage of stool with blood or mucus.
- This disease is very common in children below (5) years of age and is one of the commonest causes of admission to hospital especially in summer so called (summer diarrhea).
- It is also an important factor in the causation and aggravation of malnutrition which may lead to death.

Causes of diarrhea:

1. Virus.
2. Bacteria.
3. Protozoa.
4. Allergy.
5. Mal absorption syndrome.
6. As a sign of other disease.

Types of diarrhea:

1. Acute diarrhea.
2. Bloody diarrhea (dysentery).
3. Persistent diarrhea.(chronic diarrhea)

Acute diarrhea:

Sign and symptom of acute diarrhea:

1. Frequent passage of watery stool with or without mucus.
2. Abdominal pain and colic.
3. Sign and symptom of dehydration may present.

***Dehydration*:**

Numbers of signs and symptoms occurs when loss of water and electrolytes in stool is greater than the oral replacement.

Sign and symptom of dehydration:

- Irritability or lethargy.
- Sunken eye.
- Absent of tears.
- Dry mouth.
- Thirsty or in severe cases not able to drink.
- Loss of skin elasticity.
- Decrease weight.
- Decrease urine output.

In small infant, **depress fontanel** also a sign of dehydration.

Treatment and nursing care of acute diarrhea:

This will depend on:

1. Presence of sign and symptom of dehydration.

2. Severity of the symptom.

First aim of treating diarrhea is to prevent dehydration, and then we should treat dehydration if present by using (O.R.S. solution).

O.R.S (oral rehydration solution):

It is a balance solution of salt, glucose and water for oral treatment and prevention of dehydration**.**

Formulation of *O.R.S* :

Ingredient	Grams / L
Sodium chloride (ملح) كلوريد الصوديوم	**2.6**
Sodium citrate ثلاثي الصوديوم سيترات ثنائي الهيدرات	**2.9**
Potassium chloride (بدون ملح) كلوريد البوتاسيوم	**1.5**
Glucose جلوكوز لا مائي	**13.5**
Water ماء اعتيادي ليس معدني	**1 liter**

Plan (A) : No dehydration or mild dehydration (0 – 5 %)

1. Give more fluid than usual (rice water, soup and yogurt).
2. Continue and Increase breast feeding.
3. Give small frequent feeding and give extra feeding after diarrhea stop for (2) weeks.
4. give (O.R.S) solution after each watery stool :
- A child under the age of two years between (50 – 100 ml)
- A child aged two or older between (100 - 200 ml).

5. Health education for mother how to prepared (ORS) solution.
6. Don't give treatment only if prescribe by the doctor (no need for antibiotics).
7. Give zinc supplements for children from (2) months up to (5)years.
8. Health education for the mother to know the danger sign which need return to health center :
- Signs and symptoms of dehydration.
- Blood in stool.
- Diarrhea more than (2) weeks.

Plan (B) : there is some dehydration (5 – 10 %)

1. Weigh the child.
2. Give (50 -100 ml/Kg) of (ORS) in the first (4 hours).
3. Using clean spoon or cup.
4. (ORS solution) giving tea spoon full every (1 – 2 minute).

5. If child vomits, wait (10 minute) then continue giving (ORS) solution slowly.
6. Reassess after (4 hours) if there is no dehydration; teach the mother how to treat at home (**plan A**). But if still dehydration, the baby become worse, treat as (**plan C**).
7. No need for antibiotics.

Plan (C) : I.V Rehydration for Severe dehydration (> 10 %)

1. Weigh the baby.
2. If cannot give I. V fluid may give ORS by nasogastric tube.
3. Educate the mother for home treatment and care.
4. Give I.V fluid : Reassess the baby every (1 - 2) hours.

As following	At first	Then
Infant under (12) months	**30 ml / Kg in 1 hour**	**70 ml / Kg In 5 hours**
Older children (> 12 months)	**30 ml / kg in 30 minutes**	**70 ml / kg in 2.5 hours**

Bloody diarrhea (dysentery) :

Causes:

1. Bacteria (shigellosis).
2. Protozoa (Amaebiasis).

Sign and symptom:

1. Abdominal pain and colic.
2. Blood in stool.
3. Mucus in stool especially in Amaebiasis.
4. Fever especially in case of shigellosis.
5. May be or may be no dehydration.

Treatment of bloody diarrhea (dysentery):

1. If no dehydration treat as plan (A).
2. Do stool examination to know the cause.
3. Give antibiotics in case of bacterial dysentery for (5) days.
4. Give antiprotozoal drug (Flagel) in case of Amaebiasis for (10) days.

Persistent diarrhea (chronic diarrhea):

Sign and symptom:

1. Diarrhea for more than (2) weeks.
2. Usually associated with malnutrition.

Treatment and nursing care:

2. Treat dehydration if present.
3. Send for stool examination.
4. Send for other investigation i.e. : Urine examination to exclude urinary tract infection as a cause of diarrhea.
5. Give supplementary vitamins and minerals**.**
6. Child should be evaluated after (7) days.

To assess the severity of diarrhea and the presence and degree of dehydration :

1. Assess the child **- General condition**	**Well, alert**	**Restless, irritable**	**Lethargic or unconscious**
- Eyes	**Normal**	**Sunken**	**Very sunken and dry**
- Tears	**Present**	**Absent**	**Absent**
- Mouth and Tongue	**Moist**	**Dry**	**Very dry**
- Thirst	**Drinks normally, No thirst**	**Thirsty , Drinks eagerly**	**Drinks poorly or Not Able to drink**
2. Feel skin Pinch	**Goes back quickly**	**Goes back slowly**	**Goes back very slowly**
3. Decide o level of dehydration	**Dehydration (0 – 5 %)**	**Dehydration (5 – 10 %)**	**Is severe dehydration (> 10 %)**
4. Treat	**Use plan A**	**Use plan B Reassess after Approx. (4) hours**	**Urgently Use plan C** • **Begin I.V fluid replacement in health center** • **Consider referral to hospital**

Nursing care for congenital anomaly of alimentary tract

Cleft lip and palate :

Causes:

1. Hereditary.
2. Diseases affect mother in first (3) months of pregnancy.
3. Drugs taken by the mother in the first months of pregnancy.
4. Radiation

Cleft lip :

- It is facial malformation which occur in the upper lip, due to failure of normal growth in the first (3) months of pregnancy.
- Usually occur in male baby, may be in one side, or in the middle or in both sides**.**

Treatment and nursing care:

- Treatment is surgical (plastic surgery), Aim of operation is cosmetics.
- Usually operation done when the weight of the baby is (5 - 6) kg.

Post operative care (care after operation):

Aim of care is to prevent laceration at the site of operation:

1. Fixes the hand of the baby to prevent playing by the bandages.
2. Pad of gauze moistened by antiseptic change daily.
3. Give water after feeding to clean the mouth.
4. I.V fluid in the first day.
5. In the second day, we feed the baby by dropper.
6. Suction of the discharge from the mouth.
7. Provide toys to the baby to prevent crying.

8. Follow up of the baby after discharge from hospital and return for removal of sutures , then feeding by bottle.

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Cleft palate :

- It is congenital abnormalities due to failure of the palatal process to fuse.
- Can occur alone or with cleft lips.
- Can be unilateral or bilateral.
- Interfere with feeding so it affect growth of the baby.
- May leads to nasal regurgitation so cause inhalation pneumonia and recurrent Otitis media**.**

Treatment and nursing care:

- Treatment is surgical (plastic surgery).
- Aim of treatment:
  a) to prevent abnormal speech.
  b) prevent mal-position of teeth.
  c) facilitate feeding and weight gain.
- Usually operation done when the baby is (12 - 18) months old.

Post operative care (care after operation) :

1. After operation immediately put the baby on his abdomen with his face on one side.
2. Elevate the bed from the leg end to prevent inhalation of blood and discharge.
3. Clean the mouth of the baby from blood and discharge by hand or by sucker.
4. Give I.V fluid at first day then fluid foods.
5. Psychological support to prevent playing with the wound site.

6. Give treatment as prescribed by the doctor.

7. Follow up of the baby and health education of the parent for good home care.

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Imperforated anus :

- It is congenital abnormalities when baby deliver without anal opening.
- There are two types:

1. Low type which is called hidden anus the opening is covered by thin membrane.

2. High type in which the opening is few (Cm.)from the skin.

Sign and symptom:

1. Failure of meconium to pass.

2. Abdominal distention.

3. Continuous crying of the baby because of abdominal pain.

Treatment:

- The low type is easy to diagnose, simple to treat with good prognosis.
- The high type is need two stage operation, and prognosis not very good.

Preoperative treatment and care:

1. Watch no. and quantity of urination.

2. If vomiting occurs watch no. and type of vomiting.

Postoperative treatment and care:

If we do ***colostomy***:

1. give I.V fluid

2. Take care for colostomy opening.

3. Give antibiotic.

4. Educate the mother about care of the colostomy.

5. Give schedule for visiting the doctor to follow up the baby.

6. Give date of the second stage operation.

NURSING CARE OF URINARY TRACT DISEASES :

Acute Glomerulonephritis :

- It is an acute disease that affects the kidney.
- It is common form of nephritis in children, and It is most common in boy.
- Rarely occur in children less than (3) years of age.

Causes:

1. Due to antigen - antibody reaction.
2. following infection in some part of the body.
3. Sign and symptom may occur (1 - 3) weeks after this infection.

Signs and symptoms:

1. Fever, Headache and Malaise
2. face edema and ankle edema
3. Hematuria with Oliguria or anuria
4. Hypertension with Diplopia and convulsion
5. Decrease pulse rate
6. May be heart failure

Prognosis:

1. Baby may become better in (1- 6) weeks (When good treatment may return to about normal condition).
2. Some baby affected by cardiac failure and die.

Nursing care:

1. Bed rest till temperature decrease and return to normal.
2. Give fluid to the baby, decrease salt, potassium and protein.
3. Weigh the baby daily and compare it with previous weight.
4. Register and watch vital sign. (Blood pressure many times daily).
5. Watch urination, edema, uremia and other abnormal sign.
6. when repeated vomiting watch sign of dehydration, may need (I.V.F)
7. When there is anuria may do peritoneal dialysis.

Pyelonephritis and Pyelitis :

Pyelitis:

- It is an infection which affects the renal pelvis.

Pyelonephritis:

- It is infection which affects the renal pelvis and renal parenchyma may be ureter and bladder.
- Usually affect baby between (2 months - 2 years).
- It occurs in female more than in male.

Cause:

Bacteria present in the diaper like

- streptococcal .
- staphylococcal.
- Mixed infection.

Predisposing factors:

- Congenital anomalies in the urinary tract.
- Poor hygiene.

Signs and symptoms:

The onset may be gradual or sudden.

1. High fever (up to 40.3 C^0) (centigrade).
2. Febrile convulsion.
3. Anorexia, vomiting and diarrhea.
4. Frequency and burning micturition.
5. Pallor and irritability.

laboratory investigation:

1.urine examination:

- pus cell ,bacteria, R.B.C and cast.

2.blood examination:

- Increase W.B.C.

Nursing care:

1. Bed rest, Increase fluid intake, Decrease salt and Antibiotics.
2. Urine collection for examination in a septic way.

Nephrotic syndrome :

- It occurs due to loss of proteins in the urine in large quantities.
- Lead to reduce the amount of protein in blood.
- Affect small children between (2 - 3) years of age.
- It is more common in boy.
- Some time is associated with other disease (With diabetes or chronic Glomerulonephritis).
- The cause is unknown.

Signs and symptoms:

1. The onset is gradual.
2. In early stage edema around the eyes in the morning , at ankle and then become generalized
3. Ascites and plural effusion also may occur.
4. Increase weight due to fluid retention.
5. Pallor .
6. Anorexia vomiting and diarrhea.
7. The baby may be irritable or may become lethargic.
8. Inguinal hernia, umbilical hernia and rectal prolapsed may occur.
9. Decrease immunity of the baby (lead to infection).
10. Protein in urine examination and Decrease protein level in blood.
11. Normal (B.P)and no fever.

Complication:

1. Cardiac failure.
2. Hypertension.
3. Renal failure.

Treatment and nursing care:

(1) Prevent infection by:

- Isolation of the baby from the diseased babies.
- Give vaccination.
- Treat infection when occur.

(2) Provide good nutrition by:

- Increase protein food.
- Decrease salt.

(3) Decrease edema by:

- Bed rest
- Register weight daily.
- Register fluid intake and output.
- Give diuretics, and prednisolone.
- In severe cases, may need paracentesis.

(4) Psychological support.

Prognosis:

Depend on severity and duration of the disease:

- May be gradually become well.
- May change to chronic nephritis.
- May lead to renal failure and death.

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<u>Acute</u> renal failure :

It is renal insufficiency which leads to uremia.

Types of renal failure:

1. Acute or chronic due to urinary tract infection.
2. Reduction of blood flow to the kidneys as in (hemorrhage , dehydration).

Signs and symptoms:

1. Decrease urine (Oliguria or anuria).
2. Anorexia, nausea and vomiting.
3. Edema in face and ankle then become generalize.
4. Convulsion.
5. Hypertension.
6. Hyper apnea.
7. Coma.

Nursing care:

1. Bed rest.
2. Good diet. (Increase carbohydrate, vitamins and decrease protein, sodium and phosphate.)
3. Give I.V fluid (glucose water 5 %).
4. May need blood transfusion.
5. Collection of urine for laboratory examination.
6. Good hygiene.
7. Psychological support.

Nursing care for nervous system diseases :

Spina bifida :

- A mal formation of the spine (the posterior portion of the lamina of the vertebra fails to close).
- may occur in any site of the vertebral column but usually in (lumbo-sacral) region.

Types:

1. **Spina bifida occulta:**
   - In this case the spinal cord and the meninges are normal.
   - The defect only in the spine of the vertebrae.
   - This condition is asymptomatic.

2. **Meningocele:**
   - The defect affects also the meninges.
   - It presents as tumor in the back of the child.
   - The tumor may be small or large as the head of the newborn baby.
   - It is treated by surgical operation and prognosis is good.

3. **Myelomeningocele:**
   - In this case the spinal cord also is affected.
   - weakness and absence of sensation in the feet, and urinary incontinence**.**

Treatment and nursing care before operation (pre operative):

1. Put in incubator, to prevent trauma and infection.
2. Prevent pressure on the tumor (feeding the baby in semi sitting position, sleeping on abdomen).

Treatment and nursing care after operation (post operative):

1. Register vital sign.
2. Watch signs and symptoms of shock.
3. Put baby on abdomen.
4. Cleaning of the site of operation.
5. Feeding by Gavage feeding.

6. Measure size of head because some time there is hydrocephalus after operation.
7. Drug treatment.

Hydrocephalus :

- This is due to obstruction of path way of the cerebrospinal fluid.
- The fluid accumulates in the ventricles inside the brain.
- Increase the pressure within the intracranial cavity.

Signs and symptoms:

1. Increase head size in infant.
2. The bones of the skull become thin.
3. Irritability and Convulsion.
4. Anorexia and vomiting.
5. **Bulging** of fontanel.
6. Delay motor development.

Treatment:

It is by surgical operation, tube with a valve is inserted in a ventricle of the brain and the lower end leads into the heart or into the abdomen (to control the rate of drainage and prevent back flow) (ventriculo-peritoneal shunt).

Preoperative care:

1. Prevent hypostatic pneumonia and bed sore by repeated changing in position.
2. Special care during feeding by support of the large head.
3. Register any abnormal sign.

Post operative care:

1. Watch and register vital sign especially temperature.
2. Prevent infection at the site of operation.
3. Measure size of the head repeatedly.
4. Give antibiotics.
5. Special position to prevent pressure at the site of operation.

Brain abscess :

brain abscess in children is uncommon but if occur it is serious infection. it is due to inflammation and collection of pus in the brain tissue.

Predisposing factor:

1. From local infection (Otitis media, dental abscess, paranasal sinuses infection, mastoiditis and epidural abscess) .
2. From remote infection (lung, heart, kidney. By blood stream)
3. Through a skull fracture following a head trauma or surgical procedures.
4. Usually associated with congenital heart disease in young children and children with low immunity.

Signs and symptoms:

The most important :

1. Fever and headache
2. Hemiparesis or speech difficulties, (depend on the location of the abscess).
3. vomiting
4. neck stiffness
5. fatigue
6. Confusion and then coma.

In newborns and infants :

1. Irritability
2. Sleepy
3. May feed poorly
4. Not comforted by holding (convulsion could be late in the disease).
5. **Bulging** fontanel, and a rapid increase in head circumference.

Causative agent:

1. Anaerobic cocci
2. gram-negative and gram-positive bacilli .
3. Many be poly microbial.
4. Fungi and parasites may also cause the disease.

Diagnosis:

1. **MRI** (magnetic resonance imaging).
2. **CT** (computerized tomography).
3. **C. S .F** (Lumbar puncture procedure) .

Treatment:

1. lowering the increased intracranial pressure.
2. Starting intravenous antibiotics (before the result of blood culture) at least (4 - 6) weeks.
3. Surgical drainage of the abscess with either needle aspiration or excision.
4. Treat the primary lesion also the removal of any foreign material (bone, bullets and other foreign material).

Prevention:

1. Proper therapy of infections of scalp, face, ear and paranasal sinuses to prevent complication which lead to brain abscess.
2. In patients with cyanotic congenital heart disease early corrective surgery for cardiac malformations.

Meningitis :

- Bacterial meningitis is an important cause of mortality and morbidity in neonates and children throughout the world.
- This disease affects the meninges of the brain and spinal cord, may occur in epidemic and usually in winter and spring.

Causative organisms:

- It may be **bacterial** or **viral.**
- Bacterial type is more serious, it is a medical emergency and needs potent antimicrobial treatment without delay.

Method of spread:

1. Droplet.

2. Direct (by kissing the disease baby).

The causative organism enters through nose and mouth to blood stream then to the meninges ,or as a complication of mastoiditis.

Signs and symptoms : Sudden onset of the disease.

1. Fever and headache.
2. Nausea and vomiting .
3. Spasm of the muscle of neck.
4. then rigidity affect back and leg.
5. Irritability and Photophobia.
6. may be delirium and loss of conscious.
7. Dysapnea and cyanosis may occur.
8. Urinary retention.
9. Death may occur in few days.

Treatment and nursing care :

1. Isolation in hospital in quiet dark room.
2. Cleaning of the baby and sterilization of articles.
3. Good nutrition by I.V or Gavage feeding (by nasogastric tube).
4. Put the baby on his lateral side.
5. Suction from mouth and nose.
6. Register vital sign.
7. Give treatment by (I.V) route **(** Ampicillin +Chloramphenicol or ciprofloxacin).
8. Lumber puncture for examination of (C. S .F) .

Complications :

1. Pneumonia.
2. Otitis media.
3. Deafness.
4. Convulsion.
5. Paralysis.
6. Mental retardation and learning disorders.
7. Neurological disturbances.
8. Hydrocephalus.
9. cerebral palsy.

Prevention:

1. Isolation of patient.
2. Health education.
3. Good ventilation in crowded area.
4. Vaccination for children in nursery and school in epidemic.

   Note: vaccination is contra indication in babies smaller than (2) years.
5. Follow up of contact with chemoprophylaxis.

NUSING CARE OF BLOOD DISEASE AND HEART DISEASE:

***Anemia* :**

- It is one of the more common blood disorder in infant and children.
- Occurs when the number of healthy red blood cells and hemoglobin decreases in the body below the normal range for age and sex.
- R.B.C are disc-shaped and contain **hemoglobin** that carries oxygen to the body's tissues.

Signs and symptoms:

1. Gradual paleness of the skin (lips, lining of the eyelids and the nail beds).
2. Dizziness, Fatigue and Irritability.
3. Rapid heart rate.

Other signs and symptoms may occur Depending on cause of the anemia, as:

4. Jaundice.
5. Easy bruising or bleeding.
6. Enlargement of the spleen or liver.

In infants and preschool children:

1. Developmental delays.
2. Decreased attention.
3. Behavioral disturbances and problems.

Causes:

- Increased destruction of red blood cells (RBCs)
- Increased blood loss from the body (hemorrhage).
- Inadequate production of red blood cells by the bone marrow.

Treatment and nursing care:

Treatment for anemia depends on the cause of the condition**.**

1. Give healthy diet.
2. Iron supplement in form of drops or tablet for older children.

3. Folic acid and vitamin (B12) supplements may be prescribed if we suspect pernicious anemia.
4. Treat infection if present.

Treatment for more severe or chronic anemia may need (depending on the cause):

5. Transfusions of blood.
6. removal of the spleen
7. Bone marrow transplantation may be considered in some cases of sickle cell anemia, thalassemia and a plastic anemia.

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Thalassemia :

Genetically determined defect in the synthesis of certain hemoglobin chains, lead to abnormal and short-lived red blood cells.

There are two types :

1. **Thalassemia minor :** (only one parent have the defective gene)**:**

1) Only mild anemia and minimal red blood cell changes.
2) Pallor and general weakness.
3) Supplementation with folic acid , no special treatment**.**

2. **Thalassemia major** : (both parent carry the defective gene)**:**

1) It is a severe form of anemia in which red blood cells are rapidly destroyed and iron is deposited in the skin and vital organs.
2) Delay puberty.
3) Spleen enlargement and Livre enlargement.
4) Abdominal distension.
5) Mild jaundice.
6) Cardiac failure with respiratory distress.
7) Lymph node enlargement.
8) Mongolian facieses.
9) Skeletal changes.

Treatment and nursing care:

1. Periodic blood transfusion to maintain (Hg) level at (10 – 11) mg.
2. Iron chelating agent (deferoxamine).
3. Splenectomy may done, and this need special care before and after operation
4. Folic acid.
5. Radical treatment by bone marrow transplantation.

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Leukemia **:**

- Common form of Cancers in children (rapid increase in the number of W.B.C, Large numbers of abnormal (W.B.C) are produced in the bone marrow).
- These abnormal white cells are present in the bloodstream.
- Accompany with anemia and bleeding problems.
- Increased risk of infection caused by white cell abnormalities.
- Occurs in children ages (2 – 8 years) and mostly at age (4).
- It affects boys more often than girls.

Causes:

1. Unknown cause.
2. Radiation.

Types of leukemia:

1. **Acute leukemia** (rapidly developing): In children, about (98 %) is acute.
2. **Chronic leukemia** (slowly developing): It is rare in children.

Signs and symptoms:

1. Fever.
2. Pallor with weakness and fatigue.
3. Anorexia, nausea and vomiting.
4. Loss of weight.
5. Dysapnea.
6. Cardiac enlargement.
7. Lymph node enlargement.
8. Spleen and liver enlargement.
9. Pain and enlargement of joint.
10. Purpura and bleeding tendency from nose and minor wounds.
11. Necrotic lesion in the mouth, gum, stomach and intestine.

Diagnosis:

1. Physical examination to check for signs of infection, anemia, abnormal bleeding, and swollen lymph nodes and enlarged liver or spleen.
2. Complete blood count to measure the numbers of white cells, red cells and platelets.
3. Blood film.
4. Bone marrow aspiration and biopsy, Lymph node biopsy to know the type of leukemia.

Treatment and nursing care:

1. Treatment is palliative and supportive.
2. Cytotoxic drug.
3. Radioactive substance.
4. Blood transfusion.
5. Antibiotics.
6. Psychological support during the treatment by radiation or the course of chemotherapy and when there is side effect of treatment.
7. Rest in bed.
8. Prevent infection.

Hemorrhagic disease :

- Hemophilia is a rare bleeding disorder that prevents the blood from clotting properly.
- Male usually affected more than girls.
- Girls are rarely affected by this hereditary condition but she is a carrier.
- Clotting factors help stop bleeding and allow a blood vessel to heal after an injury.
- This process needs clotting factors (VIII) and (IX).
- People with hemophilia are deficient in one of those factors.

Classical Hemophilia (Hemophilia A) :

- known as factor (VIII) deficiency.
- It is the cause of about (80 %) of cases.

Christmas disease (Hemophilia B) :

- It makes (20 %) of cases.
- It is a deficiency of factor (IX).

Signs and Symptoms: (depending on severity of the deficiency):

1. Prolonged bleeding from nose.
2. excessive bleeding following a tooth extraction.
3. Hematuria and excessive bleeding following operation.

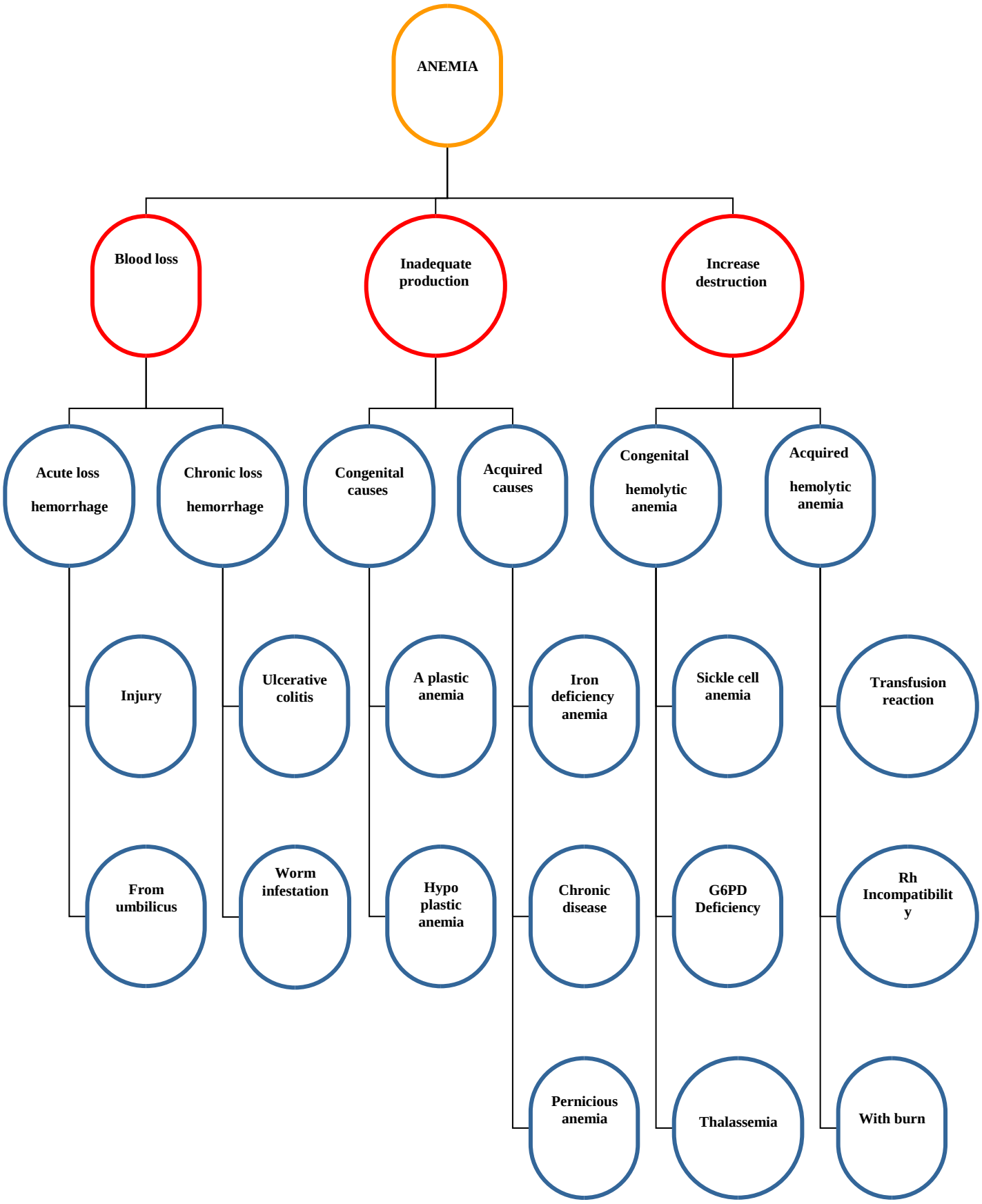
Diagnosis:

1. Complete blood examination.
2. Prothrombin time.
3. Factor (VIII) and Factor (IX)level.

Treatment and nursing care:

1) Periodic infusions of the deficient clotting factor given by (I.V).
2) Fresh blood and plasma for blood transfusion.
3) Care for teeth and mouth and prevention of trauma and injury.
4) Healthy diet (protein and vitamins).
5) Drugs given by oral route (not by injection).
6) Health education for family and teachers to prevent trauma.

Types and causes of anemia



CONGINETAL HEART DISEASES

- Abnormalities in the structure of the heart that are present at birth.
- Due to abnormal or incomplete development of the heart.

Causes:

1. Hereditary.
2. Viral.
3. Vitamin deficiencies.

Types of congenital heart disease:

1. Cyanotic heart disease (the deoxygenated blood is mixed in the systemic circulation the child usually blue) .
2. A cyanotic heart disease (the deoxygenated blood is not mixed in the systemic circulation the child is not blue) .

Common Heart Defects :

There are many types of heart defects; it can affect any part of the heart or its surrounding structures.

Cyanotic heart disease :

1. Tetralogy of Fallot (TOF) :

Tetralogy of Fallot is a combination of four heart defects it includes:

1. Pulmonary artery stenosis.
2. Right ventricular hypertrophy.
3. Ventricular septal defect.
4. Overriding aorta (that is connected to both the left and right ventricles).

2. Transposition of the Great Arteries :

<u>The pulmonary artery and the aorta are switched</u>:

1. So that the aorta originates from right ventricle.
2. The pulmonary artery from the left ventricle.

A cyanotic heart disease :

1. ***Patent Ductus Arteriosus :***

- The ductus arteriosus is a blood vessel in the fetus that diverts circulation away from the lungs and sends it directly to the body.
- It usually closes shortly after birth.
- If it does not close this leads to patent ductus arteriosus.

2. ***Caorctation of aorta (Aortic stenosis) :***

There is a narrowing of a portion of the aorta, so decreases the blood flow from the heart to the rest of the body.

3. ***Septal defect :***

- **Atrial Septal Defect:** opening in the wall between left and right atrium.
- **Ventricular Septal Defect** it is opening in the wall between the left and right ventricles (One of the most common congenital heart defects).

Signs and symptoms of congenital heart disease:

- Some time no any symptoms and can be discover by routine examination.
- The symptom may be immediately after delivery.
- Or at childhood.
- Or at adolescent.

1. Cyanosis on the lips and tongue which increase in case of crying.
2. Increased breathing rate or difficulty breathing
3. Poor appetite or difficulty in feeding.
4. Failure to gain weight or weight loss.
5. Abnormal sound of the heart.
6. Clubbing of finger.

Complication: Congestive heart failure.

Congestive heart failure :

It is a clinical syndrome of heart disease when the (R) or (L) ventricle cannot contract enough to supply tissues with adequate blood.

Signs and symptoms:

Left sided heart failure:

- Weakness.
- Dysapnea.
- Cardiac hypertrophy.
- Cyanosis may be present or not.

Right side heart failure:

- Edema.
- Hypertrophy of liver.

Nursing care:

1. Bed rest.
2. Put in special position to promote respiration.
3. Oxygen.
4. Good nutrition.
5. Give diuretic.
6. Give tranquilizer.
7. Decrease fluid and salt intake.
8. Psychological support for child and family.

NURSING CARE FOR INFECTIOUS DISEASES

MEASLES (Rubeola) :

Virus disease occur in winter and spring rarely occur before (**6**) months of age.

Causative organism: Measles virus

Method of spread: ***by general spread***

1. Droplet (when coughing and sneezing).
2. Direct contact (as kissing).
3. Using contaminated articles.

Incubation period: (7 - 14) days (average 10 days)
(period from entering of causative agent to the body till the appearance of the symptom)

Isolation period: usually from appearance of rash till feeding out of the rash (about 5 - 10 days).

Signs and symptoms:

1. High fever up to **(40 Centigrade)** and usually sudden.
2. Coryza (common cold) symptom.
3. Conjunctivitis with photo phobia.
4. **Koplik's spots** : Spot which is (white – blue) in color over the red congested mucous membrane of the mouth, this disappear after the (2^{nd}) days of the disease.
5. This symptom continues for **(4 – 5)** days.
6. Macular skin rash appears usually behind the ear and on the face then extend to the neck and it become generalized, which disappears after **(4 – 7)** days.
7. Irritability.

***** Some time deaths occur due to complication.

Complication:

1. Otitis media.
2. Acute bronchitis.
3. Pneumonia .
4. Gastroenteritis.
5. Encephalitis and Meningitis.

Nursing care :

1. Isolation of the child in quiet and ventilated room.
2. Complete bed rest.
3. Increase fluid with easily digested food.
4. Clean the mouth and nose of the child.
5. Cold sponges and anti pyretic.
6. Register vital sign.
7. Give drug treatment as prescribed by the doctor.

Prevention:

1. Isolation of the patient.
2. Sterilization of baby articles.
3. Vaccination with measles vaccine at **(9)** months of age.

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GERMAN MEASLES (RUBELLA) :

It is virus disease rarely occur under one year of age, usually occur in spring and summer.

Causative organisms: Rubella virus.

Method of spreads: ***by general spread***
Incubation period: 14 - 21 days (2 - 3) weeks.
Isolation period: period of rash, for (1) week or more.

Sign and symptom:

1. Slight increase in temperature (slight fever).
2. Mild coryza symptom.
3. Macular skin rash start in the **(2nd)** days of illness behind the ears then at fore head and then become generalized, rash start to disappear after(2) days.
4. Tender swelling of the occipital lymph nodes.
5. There are no Koplik's spots and no photophobia.

Nursing care and treatment:

There is no special treatment only care and conservative treatment.

1. Isolation of the baby especially from pregnant women.
2. Bed rest in ventilated room.
3. Increase fluid with easily digested foods.
4. Cleaning of mouth and nose.
5. Give treatment as prescribed by the doctor.

Complication:

1. Encephalitis.
2. Arthritis.
3. Abortion or congenital abnormalities (when affecting pregnant women)

Prevention:

1. Isolation of the patient.
2. Sterilization of child's articles.
3. Vaccination by **(M.M.R)**vaccine at **(15)** months of age
4. Vaccination of the females before marriages by **German measles** vaccine.

MUMPS :

Virus infection which affect children and adult it occur mostly in winter and spring rarely occur before **(1)** year of age , most cases occur before **(15)** years of age .

Causative organisms: Mumps virus.

Method of spread:

The virus enter the respiratory tract then to the salivary glands then to the testis and ovaries and may be transmitted to the central nervous system, ***with general spread***.

Incubation period:

(14 – 28) days (2 - 4 weeks).

Isolation period:

(1 – 9) days (before appearance of symptom till the swelling sub side).

Sign and symptom:

1. Fever and rigor.
2. Headache.
3. Anorexia and malaise.
4. Difficulty in swallowing.
5. Swelling of salivary glands (parotid, sub lingual and sub maxillary) with pain and tenderness, After (**2 – 3)** days the swelling will resolve.

Nursing care and treatment :

1. Isolation of the baby.
2. Complete bed rest until swelling resolve.
3. Increase fluid intake with easily digested food.
4. Antipyretic with cold sponges.
5. Cleaning of the baby.
6. Psychological support.
7. Sterilization of baby's articles and toys.

Complication:

Complication of mumps in children is less than in adult

1. Inflammation of ovaries and testes
2. Prostatitis
3. Pancreatitis
4. Meningitis and encephalitis
5. Deafness (may occur)

Prevention:

1. By vaccination with **(M.M.R)** at (**15**) month of age.
2. Isolation of diseased baby.
3. Sterilization of baby articles and toys**.**

DIPHTHERIA :

Communicable disease affect children below (15) years of age and it increase in humid atmosphere ,this disease does not cause long life immunity.

Causative organism: corynebacterium diphtheria.
Incubation period: (2 – 7) days.

Method of spread: ***by general spread***

Signs and symptoms :

The bacteria enter through the mucous membrane specially of throat, nose &tonsils.

1. High fever, Malaise, Headache.
2. Pain in the throat.
3. Dysphasia.
4. Sever cough and Dysapnea.
5. Appearance of whitish – yellow membrane over the tonsil and throat and may extend to the bronchi and trachea.
6. Offensive smell from the nose and throat.
7. Enlarged cervical lymph node.

Complication:

1. Paralysis of palate, diaphragm or muscle of face.
2. Otitis media.
3. Myocarditis.
4. Nephritis.
5. Peripheral neuritis.

Treatment and nursing care:

1. Isolation of baby in hospital.
2. Giving diphtheria antitoxin in the first (48) hours.
3. Complete bed rest in quite well ventilated room for (6 – 8) weeks.
4. Sterilization of contaminated articles.
5. Increase fluid intake and increase sugar.
6. Register vital sign and especially respiration.
7. Drug treatment (high dose of antibiotics) at least (10) days.
8. Cleaning of nose and mouth of the baby.
9. In case of Dysapnea may need tracheotomy and oxygen therapy.

Prevention:

1. Isolation of the disease baby.
2. Sterilization of baby's articles.
3. Vaccination with **(D.P.T)** By (I.M) injection **(5)** dose.
4. **Schick test** for the contact (intra dermal injection of diphtheria toxin).

PERTUSIS (WHOOPING COUGH) :

Infectious disease affect upper respiratory tract, usually affect children from (1 – 5) year of age (even the new born baby may affected by the disease). It occurs in late winter and early spring and it may occur in epidemic not endemic.

Causative organism: Bordetella pertusis.
*****Infection with whooping cough gives lifelong immunity.

Method of spread: ***by general spread***
Incubation period: (1 – 3) weeks.
Isolation period: For (4 – 6) weeks.

Signs and symptoms: There are three **(3)** stages:

1. **Catarrhal stage.**
2. **Paroxysmal stage**
3. **Convalescence stage.**

Catarrhal stage:

1. Coryza symptom (dry cough with low grade fever).
2. This symptom continue for **(1 – 2)** weeks,
3. Then temperature decline but cough increase.

Paroxysmal stage:

1. Multiple series of (5 - 10) forceful coughs during expiration
2. Followed by sudden inspiration producing the (whoop).
3. Cyanosis may occur during the attack
4. Follow by vomiting.
5. This symptom continues for **(2 – 4)** weeks.

Convalescence stage:

1. Paroxysmal coughing and vomiting decrease in number and severity.
2. But chronic cough may continue for several months.
3. This symptom continue for **(1-2)** weeks.

Nursing care and treatment:

1. Isolation of the baby from the healthy person.
2. Isolation of the baby from the disease person with other infectious disease.
3. Complete bed rest in good ventilated room.
4. Good nutrition with small and repeated meal.
5. Sterilization of baby articles and toys.
6. Vital sign registration.
7. Give drugs as prescribed by the doctor.
8. Oxygen on need.
9. Psychological support.

Complication:

1. Sub conjunctival hemorrhage.
2. Otitis media.
3. Broncho pneumonia.
4. Bronchiectasis.
5. Pneumonia.
6. Encephalitis.
7. Hernia.

Prevention:

1. Isolation of the baby .
2. Sterilization of articles.
3. Vaccination by (**D.P.T**) with (**5**) dose.

TETANUS (LOCK JAW) :

Bacterial disease can affect children and adult , it can affect new born baby and called **Tetanus neonatorum** which lead to high death rate .This type occur due contamination of the umbilical root .

Incubation period: (3 days - 3 weeks).
Causative organism: Clostridium tetane bacillus, it usually present in sand.

Method of spread:

- The disease is not communicable disease (cannot transmitted from person to person)
- Entering of the bacteria to the body through contaminated wound especially deep wound, this is ideal for growth of the bacteria which is anaerobic bacteria because of presence of necrotic tissue.

Signs and symptoms :

1. High fever
2. Pain at the site of wound.
3. Painful spasm of muscle especially of jaw, face and neck.
4. Then spasm all over the body which is occurs in paroxysm.

5. Dysphagia due to difficulty of opening the mouth.
6. Dyspnea and Cyanosis.
7. Irritability and Convulsion.
8. Death occur due to asphyxia, heart failure and respiratory failure.

Nursing care and treatment:

1. Notification.
2. Admission to hospital in quiet room with little light.
3. Antitoxin tetanus immunoglobulin.
4. Antibiotics.
5. Cleaning of wound.
6. Sterilization of wound.
7. Drug as prescribed by the doctor.
8. I.V fluid or Gavage feeding.
9. Clearing of respiratory tract by suction.
10. Oxygen tent.
11. May need tracheotomy.

Prevention:

1. Vaccination by **(D.P.T)** five doses.
2. Vaccination of pregnant women by tetanus toxoid.
3. Clean delivery.
4. Health education.
5. Sterilization of articles.

POLIOMYELITIS :

Usually affect children, occur in summer and autumn.

Causative organism: Poliomyelitis virus . The virus is affected by heat (die at about (50) degree centigrade).

Incubation period: (1 - 2 weeks).

Method of spread:

Eating or drinking contaminated food or water (fecal contamination) ***with general spread*** .

Signs and symptoms: The virus multiplies in pharynx and intestine.

Clinical presentation:

1. **Asymptomatic infection:**

   Over **(90 %)** of cases there is no sign and symptom.

2. **Non specific illness:**

   About **(4 – 8 %)** of cases there is symptom of Fever, Malaise, Anorexia, Nausea, Vomiting, Headache, Pharyngitis, Abdominal pain.

3. **Non paralytic form (aseptic meningitis):**

   About **(1 %)** of cases there is symptom **Similar** to the non specific illness + Stiff neck + headache.

4. **Paralytic form :**

   About **(0.1 - 1 %)** of cases the symptoms occur in two stages:

   A. Minor stage: fever, upper respiratory and gastrointestinal symptom.

   B. Major stage : begin with :

   - Muscle pain
   - Spasm
   - Return of fever
   - Rapid onset of flaccid paralysis leg more affected than arms, usually in one side.
   - Paralysis may affect respiratory muscle and lead to respiratory difficulty and death from asphyxia.

Prognosis for paralytic type:

1. Recovery may occur depending on severity of lesion.
2. Death may occur due to asphyxia.
3. Permanent paralysis.

Treatment: Symptomatic treatment (no special treatment)

1. Analgesic.
2. Avoid exercise.
3. Avoid muscular injection in non paralytic polio.

Treatment of paralytic polio :

1. Notification and Isolation.
2. Bed rest at hospital (to provide respiratory support when needed).
3. Analgesic and Heat packs.
4. Good nutrition.
5. Register vital signs.
6. Mobilization of the patient as soon as possible with physical therapy.
7. Psychological support.

Complications:

1. Paralysis of urinary bladder.
2. Respiratory failure.
3. Encephalitis.
4. Deformity.

Prevention:

1. Isolation of the patient.
2. Health education.
3. Good disposal of excretion.
4. By vaccination (**O.P.V)** oral polio vaccine **(6)** doses with extra doses during campaign.

CHICKEN POX (VARICELLA) :

Viral infection usually affects children below (10) years of age, rarely affect infant.

Causative organism: Chicken pox virus.

Method of spread: ***by general spread***

Isolation period: (10 - 14) days after appearance of rash.

Signs and symptoms:

1. Fever and Malaise.
2. After (1 - 2) days skin rash with pruritus, (rash start on abdomen and chest wall then arm , legs and lastly the face).
3. Rash continue for (2 - 7) days changes to vacuole then to scales which occur in groups.

Treatment and nursing care :

1. Isolation.
2. Cleaning.
3. Cutting of nails.
4. Fluid and good nutrition.
5. Sterilization of articles.
6. Drug treatment as prescribed by the doctor (anti pyretic and anti-pruritic).

Complication: (rarely occur)

1. Encephalitis.
2. Neuritis.
3. Pneumonia.
4. Conjunctivitis.

TUBERCULOSIS :

- Tuberculosis is infectious disease that affects children; it may affect lungs and so called **pulmonary tuberculosis.**
- Or it may affect other parts of the body.
- This disease is still prevalent in developing country.

Causative organism:

this disease is caused by **Mycobacterium tuberculosis** Other type of bacteria is **Mycobacterium Bovis / Incubation period:** Usually from (2 – 7) weeks.

Method of spread:

1. By drinking contaminated milk
2. Using contaminated articles
3. Droplet from the disease person

Predisposing factors:

1. Over crowding
2. Poverty
3. Malnutrition

Sign and symptom:

1. Cough with Hemoptysis.
2. Dysapnea.
3. Fever with Night sweating.
4. Anorexia and Loss of weight.
5. Fatigue.

Complication:

1. Pneumonia
2. Pnemothorax
3. Miliary (T.B)

Treatment and nursing care:

1. Isolation from other children.
2. Complete bed rest.
3. Healthy diet with protein and vitamins: (milk, meat and egg).
4. Cleaning of the baby and Sterilization of patient's articles.
5. Psychological support.
6. Give drugs as prescribed by the doctor, which is usually (Isoniazid, streptomycin and (P.A.S) - Para amino salicylic acid - Also Kanamycin, Neomycin, Viomycin and Cyclocerin).

Prevention:

1. Isolation of the diseased person with good and healthy disposal of contaminated articles.
2. Close contact should be investigated.
3. Pasturalization of milk.
4. Vaccination by **(B .C.G.)** at **(1st)** week of age.

Viral hepatitis :

Acute infectious disease there is two type of viral hepatitis:

1. **Hepatitis A (infectious hepatitis).**
2. **Hepatitis B**.

Hepatitis (A) :

It is a worldwide disease occurs in crowded area in children in autumn and winter.

Causative organism: hepatitis A virus.
Incubation period: (15 – 50) days.
Isolation period :(2 – 6) weeks, till one week after the onset of jaundice.

Method of spread:

1. Droplet.
2. Contaminated food, especially raw food (food taken without cooking).
3. Contaminated water.

Signs and symptoms:

1. Fever (sudden in onset).
2. Nausea ,Anorexia.
3. Malaise, Upper abdominal pain.
4. Jaundice after few days with clay color stool.
5. Pruritic.
6. Enlargement of spleen and liver which is painful.

Treatment and nursing care:

1. Isolation.
2. Sterilization.
3. Investigation of contact.
4. Good nutrition.
5. Follow up.

Hepatitis (B):

It is a worldwide and some time endemic can occur in dentist, health personnel work in laboratory and surgeons, addicts.

causative organism: Hepatitis B virus.
Incubation period: (60 – 90) days.

Isolation period: (2 - 3) months after appearance of symptom.

Methods of spread :

1. Blood and other body fluids.
2. Contaminated syringes and needles.
3. From mother to fetus.
4. Sexual.
5. Contaminated articles like tooth brush and shaving razors.

Signs and symptoms:

It is dangerous disease with gradual onset.

1. Anorexia, Nausea and Vomiting.
2. Abdominal discomfort.
3. Mild fever with Rash.
4. Arthralgia.
5. Jaundice then appears.
6. Hepato splenomegaly, (enlargement of spleen and liver).

Prognosis:

1. Chronic hepatitis
2. Liver cirrhosis.
3. Ca. of liver.
4. Death.

Nursing care and treatment:

1. Notification and Isolation.
2. Sterilization of articles.
3. Bed rest at hospital.
4. Good nutrition.
5. Register vital signs.
6. Drug treatment (symptomatic treatment), when pruritus is sever use anti pruritic lotion.
7. Urine and stool examination.

Prevention:

1. Health education about good personal and cleaning and bathing.
2. Cleaning of vegetables and hands.
3. Sterilization of articles.
4. Using of disposable syringes
5. Vaccination of health personnel.
6. Vaccination of children by hepatitis B vaccine.
7. All blood donors should be investigated for hepatitis (B) antigen.

Typhoid fever :

This disease is endemic in Iraq.

Causative organism: Salmonella typhae it can live in low temperature (like in ice cream) and can die by heating.

Method of spread:

1. By eating contaminated food, milk and water. (By direct method or by flies).

2. Contaminated articles, Bacteria enter through the mouth – stomach – blood - lymph glands of intestine and abdomen.

Incubation period: Few hours one week in babies and children.
In adult (1 – 3) weeks.

Signs and symptoms:

- In infant it ranges from mild gastro enteritis to sever septicemia without diarrhea.
- In older children characterized by :
  1. High fever Headache.
  2. Malaise and Lethargy.
  3. Pinkish rash.
  4. Myalgia.
  5. Hepato splenomegaly.
  6. Abdominal pain and tenderness.

7. Diarrhea may occur in early stage, but constipation occurs in later stages.
8. Delirium and confusion.
9. Bradycardia.
10. Leucopenia

Treatment and nursing care:

1. Hospitalization.
2. Isolation of the baby.
3. Sterilization of articles.
4. Increase fluid intake.
5. Cleaning of the baby especially after defecation.
6. Drug treatment as prescribed by the doctor: (Antipyretic and antibiotic as, Chloramphenicol, Amoxil or Ciprodar).
7. Psychological support.

Prevention:

1. Health education about good personal hygiene.
2. Vaccination of all personnel that work in food preparation in restaurant and all health personnel.
3. Environmental health (good disposal of wastage).

Nursing care for child with endocrine diseases

Hypothyroidism :

Congenital un development or insufficiency of the secretion of thyroid gland.

Or acquired due to autoimmune disease of glands.

Signs and symptoms:

1. Pallor and lethargy.
2. Dry skin , rough and brittle hair and nail.
3. Low vital signs(temperature and pulse).
4. Special facial appearance.
    - Protrusion of tongue.
    - Thick pale lips.
    - Depressed nasal bridge.
    - Periorbital edema.
5. Arms and legs are short.
6. Delay closure of anterior fontanel.
7. Delay teething.
8. Constipation.
9. Umbilical hernia.
10. Delay physical and mental development.

Treatment and nursing care:

- Give the treatment early to prevent mental and physical retardation by giving thyroxin orally.

Diagnosis:

1. Thyroid function test.
2. Bone x ray.

Hyperthyroidism :

- This due to increase secretion of thyroid hormones by the thyroid glands.
- Usually manifest itself after puberty.

Signs and symptoms:

1. Excessive growth rate.
2. Increase appetite.
3. Tachycardia.
4. Temperature above normal.
5. Increase sweating.
6. Increase rate of metabolism.

Diabetes (juvenile diabetes) :

- This disease affect children between (2 years - 15 years) of age .

Causes:

1. Due to decrease secretion of insulin by pancreas.
2. There is abnormal metabolism of carbohydrate and some time for protein and fat also.

Signs and symptoms:

1. Polyuria and Polydipsia.
2. Dry skin with Pruritus or Pruritis.
3. Dry tongue.
4. Increase appetite.
5. Weight loss and malaise.
6. Abdominal pain and vomiting.
7. The child may present with coma.

Laboratory finding:

1. Increase glucose in blood
2. Presence of glucose in urine.

Diabetic coma :

Signs and symptoms of diabetic coma:

1. Decrease blood pressure.
2. Rapid weak pulse.
3. Decrease body temperature.
4. Rapid respiration.
5. Acetone odor from the mouth.
6. Drowsiness.
7. Dry skin with sign of dehydration.
8. Abdominal pain with nausea.
9. Flushed face, lips and tongue.

Treatment and nursing care:

1. Insulin given by intradermal injection.
2. Good nutrition, decrease sugar and carbohydrate, increase vegetables and protein.

Hypoglycemic coma:

1. Can occur when the child took large amount of insulin leads to decrease level of glucose in blood.
2. Treated by giving sugar by mouth.
3. If the child cannot take by mouth give glucose by (I.V .F. **)**

Nursing Care For Environmental Diseases

Cholera :

Infectious disease caused by bacteria can affect adult and children may occur in epidemic.

Causative organism:

Vibrio cholera, it can multiply and grow in cold and wet atmosphere and die in high temperature.

Incubation period: usually **(1 - 3)** days, with a range of (**5 hour - 5 days**).

Method of spread:

1. Contaminated water and food. ***{ usually by house fly }***
2. Contaminated articles.
3. Direct contact with the patient.

Signs and symptoms:

1. Painless and profuse watery diarrhea with rice water appearance, (clear fluid with flecks of mucus).
2. Nausea and vomiting.
3. Signs and symptoms of dehydration.
4. Muscular pain due to loss of electrolyte.
5. Oliguria.
6. Hypotension.
7. Delirium and may lead to coma
8. Coma ⟶ Death.

Treatment and nursing care :

1. Isolation of the baby.
2. Admission to hospital.
3. I.V.F.

4. Register vital sign.
5. Watch for dehydration sign.
6. Give drug treatment. (Tetracycline for children above (10) years of age and trimethoprim for children less than (10 years).
7. Good disposal of child excretion.
8. Sterilization of baby articles.

Prevention :

1. Health education for personal health.
2. Good disposal of sewage.
3. Isolation of diseased person with sterilization of articles.
4. Vaccination against cholera in epidemics.

Brucellosis (Malta fever , Undulant fever) :

Worldwide disease, systemic disease with insidious or acute onset characterized by interrupted or continues fever

Causative organism: Bacillus type of bacteria**.**

a. **Brucella abortus**.it present in cattle
b. **Brucella melitensis .**it present in goat.
c. **Brucella Suis.** It present in pigs**.**

Incubation period: Usually **(5 - 30)** days and may be **(1 - 2)** months.

Methods of spread:

1. Contaminated milk and dairy product from infected animals.
2. Contaminated foods.
3. Enter from small wounds in the skin of butchers and worker in laboratories.

Signs and symptoms:

1. Malaise and general weakness.
2. Intermittent fever with sweating.
3. Pain all over the body.
4. Anorexia .
5. liver and spleen enlargement.

Treatment and nursing care:

1. Bed rest.
2. anti pyretic and cold sponges.
3. Increase fluid intake.
4. Antibiotic (tetracycline, streptomycin, and methaprim for (4 – 6) weeks).

Prevention :

1. Sterilization of milk **.**
2. Health education about method of spread of the disease**.**
3. Isolation of the diseased animals.

ENDEMIC DISEASES:

MALARIA :

It is a parasitic disease and it is an endemic disease in Iraq (all over the country) due to ideal weather for growth of the mosquito.

Causative organisms:

The parasite Plasmodium which has four types:

1. Plasmodium vivax:,(this type is not dangerous).
2. Plasmodium malarae.
3. Plasmodium falciparum.
4. Plasmodium ovale.

The most dangerous type is plasmodium falciparum which may affect brain, kidneys or liver and lead to renal failure or may leads to coma and leads to death.

Mode of transmission:

By the bite of an infected female of the Anopheles Mosquito.

Sexual and asexual stages:

Plasmodium parasite had two stages in its life cycle.
Sexual stage: this occur in the mosquito.
Asexual stage: this occur in the human.

Incubation period:

This depend on the type of the parasite:

1. For P. Vivax, P. Falciparum, and P. Malarae it is about (10 – 14) days.
2. For P. Ovale it is about (10 – 30) days.

Signs and symptoms:

1. A cyclic sign of (high fever ,chills and profuse sweating). This cycle return, every other day in P. Vivax, P. Falciparum, and P. ovale ,and every third day in P. Malarae
2. Headache and irritability.
3. Nausea and vomiting.
4. Rapid pulse and rapid respiration.
5. Congested face .
6. Pain all over the body with malaise .
7. Spleen enlargement
8. Anemia.

Diagnosis :

1. By blood smear.

Treatment and nursing care:

1. Psychological support.
2. Treat fever .
3. Give good nutrition
4. Increase fluid intake orally or by (I.V) fluid.
5. Drug treatment (chloraquin, daraprim, premaquin).
6. In severe cases blood transfusion.

Prevention:

1. Notification of cases.
2. Control of the anopheles.
3. Chemotherapy for infected person.
4. Chemoprophylaxis for travelers to the endemic area.
5. Mosquito repellents.

BILHARIZIA (SCHISTOSOMIASIS) :

Affect children and adolescents.

Causes:

Trematodes (schistosoma mansoni, S. japonicum, S. haematobium) .

1. S. haematobium present in Iraq it affect urinary tract and urinary bladder.
2. S. japonicum not present in Iraq and it affect large intestine, liver and spleen.
3. S. mansoni present in Africa (not present in Iraq).

Incubation period:

Incubation period is unknown.

Signs and symptoms:

1. Itching at the site of entry of the Cercariae.
2. Slight fever with pain all over the body.
3. Urinary colic and pain in the lower part of abdomen.
4. Frequency and burning micturition.
5. Hematuria (after urination).

Complications:

1. Acute and chronic cystitis .
2. Urinary calculus.
3. Prostatitis.
4. Nephritis
5. Renal failure
6. Ca. of urinary bladder.
7. Chronic Schistosomiasis.

Diagnosis:

1. Urine examination
2. x-ray of the urinary tract.
3. Blood urea.

Prevention:

1. Notification.
2. Health education.
3. Environmental health promotion.
4. Elimination of the intermediate host (the snail).
5. Treatment of cases.
6. Filling in or draining places where water collect.

WORMS

Thread worm (Oxyuris) :

Method of spread: ***Ova*** through contaminated nails, contaminated food through mouth to intestine-------- ***adult worm*** .

Signs and symptoms:

1. Pruritis in the anus (usually at night).
2. Irritability and difficulty in sleeping.
3. Nausea and slight abdominal pain.

Complication:

1. Appendicitis.

Diagnosis:

1. Watching worm in the anal opening.
2. Eggs in the stool (G.S.E).

Nursing care and treatment:

1. Drug orally.
2. Antipruritic ointment for the anus.
3. Health education.
4. Personal health by washing of hands after defecation and before eating.

Hook worm (Ancylstoma) :

Methd of spread: ***Ova*** through skin to the blood stream to --- heart ,lungs, bronchus, esophagus, stomach , intestine -become ***adult***.

Signs and symptoms:

1. Fatigue and malaise.
2. Anorexia and Anemia.
3. Irritability.
4. Abdominal distention.

Complication:

1. Heart enlargement and heart failure.
2. Lung congestion.
3. Liver congestion.
4. Leg edema.

Tape worm (Teaniasis) :

1. It is an intestinal infection with the adult stage of large Tape worm.
2. It occurs when eating of insufficiently cooking foods.

Types:

Tenia solium :Usually infection occurs after eating raw meat of pigs.

Tenia saginata:

1. Usually infection occurs after eating uncooked or under cooked Beef meat.
2. The worm is about 4-6 meter, attached to intestine and it had more than (100) segment, last segment contain large amount of ***eggs***.
3. When this segment go out with the stool ruptured.
4. And can infect Cattles ***(larva stage)*** in- muscle of the cattle and beef ***(larva)*** ------ in the intestine of the human ---------- ***adult form***.

Signs and symptoms:

1. May be asymptomatic.
2. May be only the passage of segments through stool.
3. Or may complain from:
    - Abdominal pain and Abdominal distention.
    - Loss of weight.
    - Anemia.
    - Increase appetite.

Diagnosis: G.S.E.

Treatment:

1. By oral drug (yomesan, piperazen).

Prevention:

1. Health education about personal hygiene.
2. Health education about good washing of vegetables.
3. Good cooking of meat.
4. Do not use the human faces as fertilizer.
5. Discard meats infected with this worm.

PREVENTION OF ACCIDENT

Poisoning :

This may happen by:

1. Ingestion of poisons, medicine, bleach, and kerosene.
2. Inhalation of poisonous gases like (CO) and (CO2).
3. Eating contaminated food.

Prevention:

1. House ventilation is very important especially at sleeping hours.
2. Carful watching of the small child.
3. Poisonous material should never be stored in drinking bottle.
4. Put the poisonous material out of children sight and reach.
5. Hygienic and healthy way in preparing food.

Burns :

Either by fire, boiling water or by electricity, and may lead to death or deformity.

Prevention:

1. The small child and the baby should be kept away from the kitchen.
2. Put the stove in the corner of the room and it is better to put safety guard.
3. Health education for school children about preventive measure.

Fall from height :

Falls are a common cause of bruises, broken bones and serious head injuries.

Prevention:

1. Stairs, balconies, roofs, windows and play areas should be made secure to protect children from falling.
2. Discouraging children from climbing onto unsafe places.

Roads injuries :

Children under five years old are particularly at risk on the road but even school children and older children may be at risk.

Prevention:

1. Children under five years old should always have someone with them.
2. Children should be taught safe roads behaviors as soon as they can walk.

Drowning :

Children can drown in less than 2 minutes and in very small amount of water.

Prevention:

1. Children should never be left alone when they are in or near water.
2. Children should be taught to swim when they are young as they will then be less likely to drown.

Wounds and injuries :

Babies and young children may affected by wounds and injuries through playing with knives or any sharp objects (broken glass).

Prevention:

1. Knives and scissors should be kept out of the reach of young children.
2. Older children should be trained to handle them safely.

CARE FOR THE HANDICAP CHILDREN

Handicap child :

that complain from inadequate development either physically, mentally or socially.

Types: **1**. Physical, **2**. Mental, **3**. Social.

Physical handicap:

1. Blindness and squint**.**
2. Deaf and autism.
3. Congenital anomalies of bone and joints.
4. Chronic diseases like, diabetes and epilepsy.
5. Deformities due to accidents or diseases like poliomyelitis.

Mental handicap:

1. Sub normal.
2. Mentally retarded.
3. Psychopathic and psychosis.

Social handicap:

1. Adolescent that had juvenile delinquency, usually associated with other types of handicap.

Importance of physical therapy (rehabilitation) for handicapped :

Movement is an important part of a child's development and learning. When the development of normal movement is impaired, the child depend on others for daily activities and need more time and energy :

1. Therapy focuses on helping a child learn new movements.
2. Develop safe and efficient movement.
3. The physical therapist also teaches parents and other care givers how to handle the child for good function and learning.

Centers for the handicapped:

There is many centers in Iraq for diagnosis, treatment, and rehabilitation of the handicaps, socially and physically which help the handicap in self dependence.

Causes for mental and physical handicapped:

Pre natal causes:

1. Diseases of the pregnant women especially infectious and viral diseases.
2. Also Down's syndrome (mongolism).

Natal causes:

1. Due to birth trauma.

Postnatal causes:

1. Encephalitis
2. Meningitis
3. Neoplasm
4. Trauma (accident)

Care for the handicapped:

1. Find the cause and try to treat it if possible.
2. Arrange the surrounding environment to help the handicapped in adaptation of everyday life.
3. Psychological support for the child and his family
4. Prevention from diseases.
5. Rehabilitation.

Prevention of the handicapped:

1. Prenatal care for pregnant women.
2. Vaccination of adolescent girls by German Measles vaccine.
3. Good treatment for pregnant women
4. Prevention of birth trauma and sepsis.
5. Prevention of accident and trauma in home, nursery and school.

The nursing care of the dying child

The terminal stage of illness where curative treatments are not applicable but palliation is given.

Signs and symptoms:

1. Health condition of the child deteriorates and his vital sign drops.
2. Respiration become shallow with a sound of death rattle due to accumulation of saliva in the mouth.
3. There is circulation failure also.
4. Urine and stool incontinence.
5. Pallor.
6. Sunken eyes.
7. Irritability and may become comatose.

After death:

1. skin become cold.
2. pupil not react to light.

Nursing care:

1. Psychological care for the child and his family.
2. The nurse should present all the time near the child and call the doctors on need.
3. Put the child in special room to be far from other children.
4. Warm the child by blankets and covering.
5. Put a lot of pillow behind the child to give him rest, to assess respiration and prevent asphyxia caused by secretion in the mouth.
6. Good ventilation and lighting.
7. Moist the mouth of the baby by sweat fluid.
8. Suction of mouth discharge.

9. Watch urination and defecation (may need catheter).

10. give drugs as prescribe by the doctor.

11. Give the child what he like from food.

12. Watch vital sign.

After death:

1. Psychological support for the family.

2. Close the mouth and eye of the child.

3. Put arms at the side of the body, put a ring with name and time of death.

4. Change the cloths of the child and cleaning his body from secretion, blood or other dirt.

5. If the child had infectious disease, his cloths and other articles should destroyed and disinfected.

6. Late disinfection for the bed and room.

7. Return the child's record to the hospitals administer.

CARE FOR THE ORPHAN CHILD

- **An orphan** is a child, who has lost one or both parents.
- The best social, mental and intellectual growth of any body is the influence of family.
- The future of country can be identified with the future of children, and the future of children itself is determined by their intellectual, social, spiritual and physical growth.
- The orphan see himself different from others and thus his relations with others depend upon pity instead of love.

Orphan Care & Rehabilitation Program :

- Is the support service program to those types of children who have nobody to care for them and nowhere to go.
- Orphanages are a suitable ways to provide orphans with an educational and comprehensive environment to assisting them to become productive members in the society, as well as promoting their values and preserving their religion and national identity.

So he need:

Social adjustment: (Adaptation of the person to the social environment). Adjustment may take place by adapting the self to the environment or by changing the environment.

This can done by:

1. Provide a family environment for orphans and cover children's basic needs through this program. This includes shelter, food, clothing, proper healthcare and most importantly education.
2. In order to grow up healthy & productive citizen of society, they need a healthy psychological construction of orphan personalities.
3. Promoting citizenship values and ways of preserving their religion and national identity.
4. Provide skill for future projects, job- skills and develop a training programs.
5. Offer them good facilities to enjoy their leisure time and experience a happy childhood.
6. The support and counseling are extended to the adults long after they leave the homes.

((تَمَت بِفَضلِ الله))

((بالنجاح والتوفيق للجميع))

((بإذن الله))