

**University of Basra  
Collage of Nursing**

# **Community Nursing**

**{ PRACTICE }**

**4<sup>th</sup> stage**

By  
community nursing committee

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# PRIMARY HEALTH CARE

## Section 1: INTRODUCTION

### Definition:

**Health:** The concept health may mean different things for different people. Health may simply mean the absence of disease or it may mean the soundness of body. The World Health Organization (WHO) defined health as “ **A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.**”

**Health care:** the product of health care services delivered through personal and public health services. It implies a comprehensive care (promotive, protective, curative and rehabilitative).

**Medical care:** A term used to emphasize the organization and delivery of curative care. It is a subset of health care.

### Definition of primary health care (PHC)

Primary health care is essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at an affordable cost. It forms an integral part both of the country's health care system of which PHC is the nucleus and of the overall social and economic development of the community.

Primary health care stresses the provision of promotive, preventive, curative and rehabilitative care. It is not a second hand care .

### Problems facing PHC

**a. Financial.** The expansion of the objectives of the health care system under the strategy of primary health care with the establishment of extensive network of health centers and other outreach services certainly requires much more money than that is needed for the concentrated hospital care when no such network exists.

**b. Administrative and technical.** Primary health care centers require larger amount of supplies, equipment, drugs, transportation means etc.

**c. Political.** It is true to say that political will and political commitments are two crucial aspects without them primary health care strategy is unlikely to achieve its objectives.

COMPARISON BETWEEN PRIMARY HEALTH CARE (PHC) AND HOSPITAL CARE:

Item	PHC	Hospital care
1. accessibility:	universal.	limited.
2. cost:	affordable.	High.
3. catchment's population:	individuals & families In the community.	selected.
4. type of health services:	promotive, preventive, Curative & rehabilitative care.	medical care.
5. people participation:	+ + + ve.	- + ve.

## **Section 2 : Primary health care in Iraq**

Primary health care as a strategy has been adopted in Iraq since Al-Ma-Ata declaration in 1978. To meet the basic needs of the population and to fulfill the requirements for primary health care, an extensive network of health care institutions was established.

### **Sources of health care in Iraq**

**Health care is provided to all population through:**

1. Mobile units for remote areas and in campaigns.
2. Primary health centers.
3. Hospitals ( includes: District hospital, General multi-specialty hospitals, Specialized referral hospitals & Private hospitals ).
4. Clinics (Private & Cooperative clinics).

The list of the essential services adopted in Iraq is not different from the list recommended by the World Health Organization (WHO). They are clearly defined in the Iraqi Public Health Law No. 89 for 1981. A number of programmes, however, received special attention and a good deal of effort and resources has been devoted to execute them on national level. They received international, national and local support.

### **primary health care programmes:**

**The major primary health care programmes are:-**

1. Expanded programme on immunization (**EPI**).
2. Control of diarrhoeal disease programme (**CDD**).
3. Control of acute respiratory infection (**ARI**).
4. Maternal and child health (**MCH**).
5. Promotion of breast feeding.
6. Training of traditional birth attendant [**TBAs**].

**The principal objectives** of primary health care programmes are:-

1. To reduce morbidity and mortality levels in population.
2. To reduce morbidity and mortality levels in children aged under five years and women in the reproductive age.
3. Specifically to reduce infant and childhood mortality which result from specific targeted diseases.
4. To improve people's awareness and practices regarding health behaviour and child care.

5. To encourage people participation in caring for their health and supporting health programmes.
6. Other specific objectives for each programme.

## **1. Expanded programme on Immunization (EPI)**

### **[vaccination]:**

Immunization services are provided through variety of health care institutions as routine activities supported frequently by national immunization days to improve coverage rates.

Six diseases are targeted [**Tuberculosis, Poliomyelitis, Diphtheria, Tetanus, Pertussis"WhoopinCough"and Measles**]. Nowadays **hepatitis B. virus and Rota virus** are also included as target for routine immunization.

### **The main objectives of EPI are:**

1. To cover 90-100% of eligible children by immunization against targeted diseases.
2. To reduce infant mortality and childhood mortality from the targeted diseases.
3. To encourage people to immunize their children at proper age.

This programme (EPI) is perhaps, the most successful one among all primary health care programmes in Iraq, both in terms of popularity and accessibility and in its evident success in reducing the extent of targeted diseases.

### **The national recommended schedule of routine immunization in Iraq**

1. During 24 hrs. after birth: Hepatitis B vaccine "HBV" (1<sup>st</sup> dose).
2. During 72 hrs. after birth: BCG.  
Oral polio vaccine "OPV" ( 0 dose).
3. 2 months: OPV ( 1<sup>st</sup> dose).  
DPT\* ( 1<sup>st</sup> dose)+ Hib \* (1<sup>st</sup> dose) + HBV(2<sup>nd</sup> dose).  
Rota virus vaccine "RVV" ( 1<sup>st</sup> dose).
4. 4 months: OPV ( 2<sup>nd</sup> dose).  
DPT\* ( 2<sup>nd</sup> dose) + Hib (2<sup>nd</sup> dose).  
Rota virus vaccine ( 2<sup>nd</sup> dose).

5. 6 months: OPV ( 3<sup>rd</sup> dose).  
DPT\* ( 3<sup>rd</sup> dose )+ Hib \* (2<sup>nd</sup> dose) + HBV(3<sup>rd</sup> dose).  
Rota virus vaccine ( 3<sup>rd</sup> dose).
6. 9 months: measles vaccine.  
Vit. A supplement (100,000 units).
7. 15 months: MMR\* (1<sup>st</sup> dose).
8. 18 months: OPV ( 1<sup>st</sup> booster dose).  
DPT\* ( 1<sup>st</sup> booster dose )+ Hib \* (3<sup>rd</sup> dose).  
Vit. A supplement (200,000 units).
9. (4 – 6) years: OPV ( 2<sup>nd</sup> booster dose).  
DPT\* ( 2<sup>nd</sup> booster dose).  
MMR\* (2<sup>nd</sup> dose).

.....  
DPT\* = Diphtheria, Pertussis (whooping cough) & Tetanus vaccine.

Hib \* = Haemophilus influenza type b vaccine.

MMR\* = Measles, Mumps & Rubella (German measles) vaccine.

# **Vaccines**

Control /prevention of communicable diseases depend on many factors, immunization (vaccination) is one method of primary prevention (which means to prevent or avoid the disease before it's began).

Vaccination is procedure of giving an individual an Ag derived from or similar to a pathological organism in order to produce protection against that organism.

Successful vaccination program not only protect individual, but if large numbers of population are immunized it reduces the transmission of infectious diseases.

Vaccines are either live attenuated or killed vaccines.

## **Vaccine descriptions:-**

- ▶ **BCG** (Bacille Calmette Guerin): protects against tuberculosis.
- ▶ **HBV**: protects against hepatitis.
- ▶ **OPV**: protects against poliomyelitis.
- ▶ **DPT**: protects against diphtheria, tetanus & pertussis.
- ▶ **MMR**: protects against measles, mumps & rubella.
- ▶ **RVV**: protects against Rota virus.

## **Contraindications to vaccines**

### **A \* Contraindications to live vaccines:**

#### **General contraindications :**

- 1. acute febrile illness.**
- 2. malignant disease.**
- 3. steroid therapy, immunosuppressant & radiotherapy.**
- 4. within 3 weeks of another live vaccine (not absolute).**

### **B \* Contraindications to killed vaccine (pertussis):**

- 1. any abnormality of the CNS.**
- 2. acute febrile illness.**
- 3. history of convulsion in a child.**

4. severe local or general reaction to a previous dose ( so give DT vaccine ).

Specific contraindications :

- *B.C.G.* :- prematurity, LBW baby , active T.B. & skin disease.
- *Oral poliomyelitis* :- diarrhoea & vomiting.
- *Measles* :- active T.B. & allergy to neomycin.
- *Rubella* :- allergy to neomycin & thrombocytopenia.

*The cold chain*

Vaccines are effective only if maintained at the recommended temperatures. Exposure to high temperatures will lead to damage of these vaccines.

To keep them cold we need equipments ( freezer, refrigerator, cool boxes, vaccine carrier, thermometers & cold rooms ).

*Methods used for detecting heat exposure:*

1. CCM ( Cold Chain Monitor ): there is a color index with the vaccine that changes its color when exposed to higher temperatures than recommended.

2. VVM ( Vaccine Vial Monitor ): used only in polio vaccine vials , where each one has a sticker (a square & a circle in it) one is purple & one is white & when exposed to high temperature, both of them become purple.

*Destruction of unused vaccines*

When vaccines are not used, & because they were kept at room temperature during a vaccination session, they should be destroyed. This is done by incineration.

If thrown with the wastes, they may regain their potency & can cause an epidemic.



## Characteristics of vaccines

### \* **BCG.** :

It has an efficacy of 60-90 % . Its protection may last for up to 20 year.

### Side effects:

1. small red papule at the site of injection, which appears 6-8 weeks after vaccination and progress to a scar after 12 week.
2. if given subcutaneously (instead of usual intradermal rout) it will lead to abscess formation & regional lymphadenopathy.
3. if the child is tuberculin positive, it will lead to a severe reaction.

### \* **DPT.** :

Efficacy is 90 % after the 3 doses.

### Side effects:

1. swelling, tenderness & redness develop at the site of injection with fever lasting for about 24 hour.
2. severe side effects include convulsions, collapse & brain damage.

### **Note :-**

☀ The incidence of such complications is about (1\ 180,000) doses, which is much rarer than the complications of the disease itself.

☀ Side effects increase in severity with increasing age, so we give TD. (full dose of Tetanus & reduce dose of Diphtheria toxoid) after the age of 6 year.

### \* **Measles vaccine:**

Maternal antibodies disappear at the age of 6 months, & cases of measles start to appear at the age of 1 year, so the best age to give the vaccine in Iraq is 9 months.

Side effects:

1. mild fever & rash develop after 8-12 days in about 15% of vaccinated children.
2. the risk of encephalitis 1\1,000,000 but the risk of developing encephalitis as a complication of measles is 1\1000 .

**\* Polio virus vaccine:**

Global eradication of poliomyelitis is possible because the virus can only survive in human.

Strategies to eradicate poliomyelitis:

1. Routine immunization: we must have a coverage rate at least 90%.
2. Polio "National Immunization Days" (NIDs); 2 round of vaccination (one month apart) are done during the low transmission season ( spring & autumn ).
3. Acute Flaccid Paralysis Surveillance.
4. Mopping up campaign: Door-to-door immunization campaigns in areas where the virus persists.

\* Characteristics of poliomyelitis vaccines:

There are 2 types of poliomyelitis vaccine ( Salk & Sabin ).

<u>Salk (IPV)</u>	<u>Sabin (OPV)</u>
Inactivated ( killed)	Live attenuated
<i>Injectable</i>	<i>Oral</i>
No shedding of vaccine in stool	Shedding of vaccine lead to passive immunity of close contact
<i>Expensive</i>	<i>Cheap</i>
No side effect	S\E: vaccine- associated paralytic poliomyelitis .

**\*MMR :**

It produces immunity in 90-95% of children.

**Side effects:**

1. fever & skin rash which appears 6-11 days after giving the vaccine & this is mainly due to measles components.
2. transient arthralgia (which is due to rubella components) & rarely arthritis.
3. very rare which is sub acute sclerosing encephalitis (which is due to measles vaccine).

**Safe daily immunization practices:**

1. Do not over fill the safety box.
2. Do not dispose the used syringes, needles in an open boxes.
3. Do not recap the needle after use.
4. Do not leave the needle inside the vial.
5. Do not touch the needle.
6. Destroy safety boxes by incineration or by burning.

# Maternal and child health care(MCH)

This programme emphasizes the provision of comprehensive care to mothers and children through primary health care strategy.

**MCH** is define as "woman have the ability to reproduce and regulate their fertility" or (women are able to go through pregnancy and child birth safely).

## **MCH Services:**

MCH Services are special services provided to special groups in the population specifically to Children under 15 years of age & Women in the reproductive age group (15 – 49 yrs).

## **Why special services for mothers and children:**

1. Mothers and children form the majority of population.
2. Generally both morbidity and mortality are high among mothers and children.
3. Most of the diseases that cause mortality and morbidity in children and those associated with pregnancy are preventable.
4. By decreasing childhood diseases , the incidence of physical and mental handicap can also be reduced.

## **Objectives of MCH services:**

### **The General objectives:**

1. Reduction of morbidity and mortality for mothers and children.
2. Promotion of reproductive health
3. Promotion of the physical and psychological development of the child within the family.

### **The Specific objectives:**

- **For mothers:** Every pregnant woman maintains good health, bears a healthy child and goes through a safe delivery.

- **For children:** Every child grows up in healthy environment, receives proper nourishment, and adequate protection from diseases.

### **Major MCH problems :**

1. nutritional anemia.
- 2.. infection.
- 3...uncontrolled reproduction.

## **MATERNAL HEALTH CARE**

**Components:** include:

- a. Preconception ( Pre-marital).
- b. Antenatal (Prenatal).
- c. Natal (Intra-natal).
- d. Post natal.
- e. Under five clinics.
- f. School health.

### **I. Preconception Care**

It is a care of females before conception. it is continued care from birth, until the time of conception and pregnancy.

Recent data from many different sources indicate that an important time to intervene for positive birth outcomes is BEFORE a woman becomes pregnant.

**Aim of Preconception care** : The aim of preconception care is:

Prevention and early detection of health hazards or diseases that may affect normal child bearing and delivery in the future.

### **Components of Preconception Care:**

1. Health promotion and prevention of health hazards specially those of particular risk to pregnancy through:
  - Counseling & Health education.
  - Vaccination.
2. Regular health evaluation .
3. Premarital care (for both partners).

### **1. Health promotion and prevention of health hazards:**

#### **Counseling & health education:**

women should be counseled regarding the benefits of the following activities:

- Exercising.

- Reducing weight before pregnancy, if overweight.
- Increasing weight before pregnancy, if underweight.
- Consuming Folic Acid.
- Abstaining from tobacco, alcohol, and other drugs before and during pregnancy.
- Maintaining good control of any pre-existing medical conditions.
- Family planning methods.

### **Vaccinations:**

Women prior to becoming pregnant, Vaccinations should be offered to her (women) against especially rubella, hepatitis B, and varicella.

### **ii. Regular health evaluation:**

- Screening tests: A number of tests can be performed for specific indications:
  - a. Screening for Sexually Transmitted Diseases (STDs)
  - b. Testing for specific diseases based on medical or reproductive history
  - c. Screening for other genetic disorders based on family history
- Management of chronic health conditions prior to pregnancy helps reduce risks to mother and baby. These conditions include, but are not limited to:
  - a. High blood pressure
  - b. Diabetes.
  - c. Asthma.
  - d. Kidney disease.
  - e. Depression.

### **iii. Health education of young girls.**

### **iv. Premarital Care:** it includes:

- a. Premarital counseling
- b. Premarital immunization
- c. Premarital examination:

## **II. Antenatal care (ANC):**

Antenatal (Prenatal) care: is defined as the systematic supervision (Examination and Advice) of a woman during pregnancy .

### **General objective:**

“The general objective of antenatal (prenatal) care is to prepare the mother both physically and psychologically to give birth to a healthy newborn and to be able to care for it.”

### **The traditional Antenatal care visits: are**

- Once a month in the first 28 weeks,
- Every two weeks till 36 weeks,
- Every week till birth.

Total of 14 visits.

### **Components of traditional Antenatal (Prenatal) Care**

1. Registration during the booking visit, and medical examination and investigations; for both the booking visit and continuing visits.
2. Health education.
3. Immunization.
4. Supplementations .
5. Early diagnosis and proper management of at risk pregnancy.

### **. Birth preparedness**

Too many women die because they suffer from serious complications during pregnancy, birth, or postpartum, therefore WHO recommends that all pregnant women have a written plan for dealing with birth as follow:

#### **► Make plans for the birth:**

- A. Prepare the necessary items for birth.
- b. Identify a skilled attendant and arrange for his/her presence at birth.
- c. Identify appropriate site for birth, and how to get there.
- d. Identify support people, including who will accompany the woman and who will take care of the family.

#### **► Establish a financing plan/scheme**

### **Role of community health nurse (CHN) during ( ANC ):**

1. the CHN should assist the parents in understanding the anatomy and physiology of pregnancy, labor and birth.
2. contact every expected mother early in pregnancy and help her to seek adequate medical supervision.
3. teach mother to monitor visual disturbances, edema of face, epigastric pain, signs of infection, dysurea and any vaginal discharge and absence or decrease in fetal movement after initial presence.

4. help parents discussion related to working, bathing, exercise,.....,etc.
5. prepare mother for physical work of labor through the use of relaxation and breath in exercises for the various phases of labor.
6. teach the mother to avoid prescription drugs without checking with their care provider.
7. teach the mother the importance of adequate fluid intake to promot circulation and prevent stasis.
8. teaching the mother and relatives on several aspects of maternity care.
9. training midwives and participating in training programs for nurses and midwives.

### **III. INTRA-NATAL CARE (DELIVERY CARE)**

Aims of Intra-natal care

1. To insure that every pregnant mother goes through safe delivery.
2. To reduce fetal loss from birth trauma & asphyxia,

These objectives can be achieved through:

1. Encouragement of Delivery by trained personnel in safe and hygienic surroundings.
2. Encouragement of Institutional delivery for women having complications.
3. Referrals should be made to first referral units for management of obstetric emergencies.

#### Advantages of Institutional deliveries

- 1-Better handling of Sudden &unexpected emergencies which may occur in even normal pregnancies .
- 2-Better care for asphyxiated child .

#### Disadvantages of Institutional deliveries

- 1- danger of cross infection.
- 2-High cost of hospital care.
- 3-less psychological support to pregnant women from her family.

#### **\* Roles of nurse in intra-natal care:**

1. CHN should inspect perineum for any laceration or tear and watch for bleeding.
- 2.clean the perineum.
3. provide instruction to family such as watch for bleeding in mother as well as cord bleeding in baby.



## **1V. POSTNATAL CARE**

Care of the mother ( and the newborn) after delivery, 6 weeks following birth in which the reproductive organs undergo physical and physiological changes.

It is also called puerperium or post partum care.

\*Objectives of post natal ( post partum care):

- 1) to prevent complications of post partum period.
- 2) to provide care for rapid restoration of mother to optimum health.
- 3) to provide family health services.
- 4) to check adequate of breast feeding.
- 5) to provide basic health education to the mother and family.

\*Post natal examination:

◆ Examination of the mother to rule out of any fever, tachycardia, laceration, erosion of cervix, displacement of uterus and inflammatory signs in the abdomen.

◆ Examination the neonates to rule out birth injuries, congenital defect and low birth weight.

\*complications of post natal period:

**1. Puerperal sepsis:**

Which is infection of genital tract within 3 weeks after delivery, the patient present with fever, tachycardia, foul smelling lochia and pain with tenderness in lower abdomen.

**2. thrombophlebitis :**

Which is infection of the vein of the legs, frequently associated with varicose vein.

**3. secondary hemorrhage:**

Bleeding from vagina any time from 6 hours after delivery to the end of the puerperium(6weeks) which is may be due to retained placenta or membrane .

**4. UTI.**

**5. Mastitis.**

## **CARE FOR THE NEWBORN**

The World Health Organization guidelines from 1998 recommend that postnatal care for all newborns should include:

1. immediate and exclusive breastfeeding.
2. warming of the infant.
3. hygienic care of the umbilical cord.
4. timely identification of danger signs with referral and treatment (routine postnatal exams).

### **Aims of newborn examination in first 24-72 hours:**

- 1-To detect congenital abnormalities .
- 2-To ascertain that the baby has not suffer from injury during birth.
- 3 -To look for signs & symptoms of diseases peculiar to the newborn period.

# CHILD HEALTH CARE

Child health services are services for children and youth from birth through 18 years. quite simple services can do much to reduce the mortality and morbidity of the children,

**These services include:**

- i. **Services for pre-school children:**  
are concerned with curative and preventive services for children between birth and school entry.

## Components of preschool services

These services include:

1. Curative services for Infants and Young Children.
2. Scheduled Periodic health assessments .
3. Immunizations .
4. Health education (Information on child care).

**Growth monitoring** is defined as the regular recording of a child's weight, coupled with some specified remedial actions if the weight is abnormal in some way.

## Indicators of growth of children

The indicators of growth of children include measurement of weight, height, chest circumference, mid-arm circumference, and skin fold thickness (anthropometric-measures ).

### **Weight measurement:**

the most important single method of assessing growth is the child's gain in weight.

### **Growth chart:**

Whether a child is growing normally or not can be decided on by comparing the weights to “normal” or “standard” or “reference” weights of children of the same age or (height), by plotting the weights on a weight chart which is called “ Growth chart” or “Road to health chart” (Figure1).

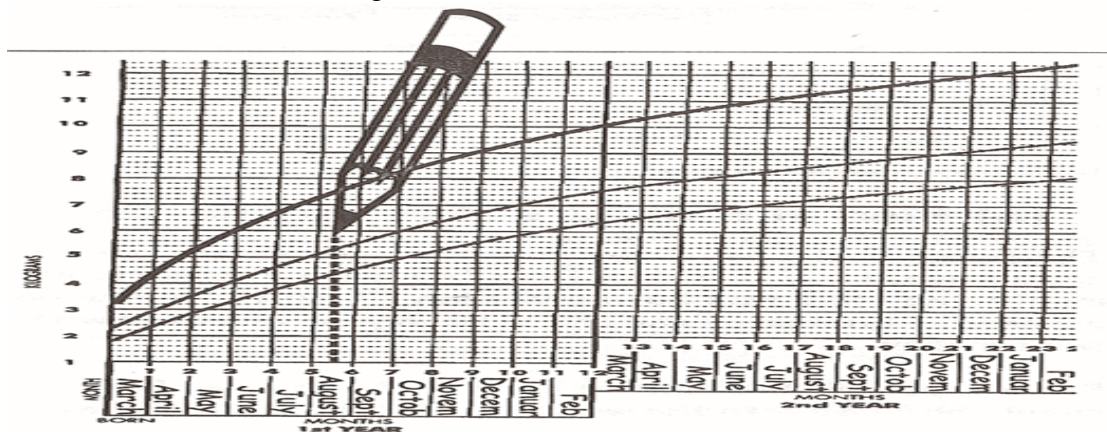


Figure 1: Growth chart (weight for Age).

## **ii. Services for school children:**

School health services are defined as “The procedures used by physicians, dentists, nurses, teachers , etc, that are designed to appraise, protect, and promote optimum health of students and school personnel through planned programmes.

### **Objectives:**

**The general objective** of the school health programme is to ensure that every child is as healthy as possible so that he can obtain the full benefit from his education.

#### **The specific objectives:**

1. The promotion of positive health.
2. The prevention of disease.
3. Early diagnosis, treatment and follow up of defects.
4. promotion of health awareness among children.
5. The provision of health full environment.

### **Role of the Community Health Nurse in the school Health**

- 1- She is a counsel or and educator of health.
- 2- She plans the health talks to be given in school.
- 3- She provides guidance to the teachers and parents in matter of health.
- 4- She is the coordinator and organizer of the school health programs.
- 5- She helps and bridge the gap between what the child learns at school and practices at home.

## *Breast feeding*

### *Advantages of breast feeding*

- 1. nutritional.**
- 2. immunological properties and protection from infection.**
- 3. psychological bonding between mother and infant.**
- 4. fertility control.**
- 5. decreased post partum hemorrhages.**
- 6. protection against breast cancer.**
- 7. convenience.**
- 8. economic.**

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### *Disadvantages of bottle feeding*

- 1. contamination which may result in diarrhea and malnutrition.**
- 2. cost.**
- 3. iron and vitamin deficiency .**
- 4. low cholesterol and higher content of saturated fatty acid (while infant need unsaturated fatty acid and high cholesterol for brain development.)**
- 5. allergic condition.**

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### *Relative contraindications of breast feeding*

- 1. breast cancer.**
- 2. inborn error of metabolism.**
- 3. breast milk jaundice.**
- 4. Beta-streptococcal infection of throat of infant.**
- 5. puerperal psychosis.**

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### *Breast feeding is NOT contraindication in:*

- 1. viral infection of the mother.**
- 2. T.B. of the mother.**
- 3. neonatal jaundice.**
- 4. prematurity and LBW.**
- 5. pregnancy.**

# **The Ten Steps of the WHO/UNICEF for successful breast feeding**

## **The Baby Friendly - 10 Steps**

- ✓ **Have a written breastfeeding policy that is routinely communicated to all health care staff.**
  - ✓ **Train all health care staff in skills necessary to implement this policy.**
  - ✓ **Inform all pregnant women about the benefits and management of breastfeeding.**
- ✓ **Help mothers initiate breastfeeding within one half-hour of birth.**
  - ✓ **Show mothers how to breastfeed and maintain lactation, even if they should be separated from their infants.**
  - ✓ **Give newborn infants no food or drink other than breast milk, unless medically indicated.**
- ✓ **Practice rooming in - that is, allow mothers and infants to remain together 24 hours a day.**
  - ✓ **Encourage breastfeeding on demand.**
  - ✓ **Give no artificial nipples or pacifiers (soothers) to breastfeeding infants.**
  - ✓ **Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.**

## **Control of acute respiratory infection (ARI)**

**Definition of (ARI)** : These are infections which involve part of the respiratory system and caused by a variety of viruses, bacteria and mycoplasma. They represent, together with malnutrition and diarrhoeal diseases the three major causes of morbidity and mortality in developing countries. The main risky individuals are children aged under five years.

**The main objectives of control of ARI programme are:**

1. To reduce mortality associated with severe ARI cases.
2. To improve case management at PHC level.
3. To rationalize the use of antibiotics.
4. To educate parents about recognition of severe cases and about some home practices to deal with diseased children.

### **Classification of ARI :**

1. Anatomical classification: Upper and lower respiratory infections.
2. Aetiological classification: Bacterial, viral, chlamydial, rickettsial, fungal, metazoal and protozoal.
3. Clinical classification: A recently advocated classification by the World Health Organization (WHO). In this classification cases are grouped into cough & cold, pneumonia, severe pneumonia and very severe pneumonia.

### **\* RISK FACTORS**

1. malnutrition.
2. poor socioeconomic status & large family size & presence of siblings with ARI.
3. parental smoking & household air pollution.
4. prematurity & low birth weight.
5. lack of breast feeding.
6. Congenital abnormalities of heart or lung.
7. day care centers & nurseries.
8. seasonal variation.

**The ARI control strategy (Prevention strategies)** includes the following components:

1. **Immunization** against diphtheria, pertussis, measles and childhood tuberculosis.
2. **Case management**: This is based on two stages:

- a. Classification of cases according to clinical features into groups of different severity (cough & cold, pneumonia, severe pneumonia and very severe pneumonia).
- b. Proper management guided by clinical severity of cases.

### **3. Health education:**

The aims of health education include:

- a. Increasing the capabilities of families to differentiate severe from non severe cases and to take proper action.
- b. Educating the community regarding simple supportive therapy at home.
- c. Promoting timely immunization against measles, pertussis, and diphtheria and childhood tuberculosis.
- d. Promoting breast feeding.
- e. Reducing parental smoking and other domestic pollution.
- f. Improving nutrition of children.

**Case management:** This is based on two stages:

**First** is to assess the case to classify it according to severity. The assessment is based on full history and physical examination. The following are important to consider in clinical assessment of a child with ARI:

- a. Count the breaths in one minute: Fast breathing is when the respiratory rate exceeds:  
60 bpm for children aged <2 months,  
50 bpm for children aged 2-12 months,  
40 bpm for children aged 1-5 years.
- b. Look for chest in drawing.
- c. Look and listen for stridor.
- d. Look for wheeze.
- e. See if the child is sleepy or drowsy.
- f. Feel for high or low temperature.
- g. Check for severe malnutrition.
- h. Look for cyanosis as a sign of hypoxia.



**Second** is to treat the case according to specific plan:

► **Cough and cold:**

Characterized by cough but no difficulty breathing, chest in drawing or other danger signs.

**The treatment** consists of reassurance of the parents, antipyretics if fever exists and fluids. NO antibiotics.

► **Mild or moderate pneumonia:**

Typically, such a case is characterized by cough and rapid respiratory rate, difficult breathing but no chest in drawing or other danger signs.

**The treatment** consists of supportive treatment plus antibiotics and sent home. No referral to hospital but the mother is asked to come back after two days for re-evaluation.

► **Severe pneumonia:**

Cough and difficulty in breathing, chest in drawing but no other danger sign.

The child is **managed** with first dose of antibiotic and referred to hospital immediately.

► **Very severe pneumonia (Very severe disease):**

Cough or difficult breathing and any of the following danger signs:

- Inability to drink.
- Convulsions.
- Abnormal sleep, difficult to wake, convulsions.
- Malnutrition.
- Strider on rest.

**The treatment** include first dose of antibiotics, immediate referral to hospital( you may start iv fluid if referral is not immediate).

**Critical indications for referral:**

- Age less than two months.
- Presence of danger signs.
- Failure to improve with appropriate therapy after 2-4 days.
- History of cystic fibrosis or severe asthma.
- Immuno-compromised children.

## \* Asthma :

asthma is a chronic reversible inflammation of lung airways resulting in intermittent airflow obstruction.

- dry cough.
  - repeated wheeze.
  - SOB.
  - chest tightness.
  - cyanosis ( life threatening )
- these features increased airways irritants & worse at night.

## \* Causes of wheeze in children:

1. Infection: viral or bacterial cause.
2. Asthma.
3. Anatomical abnormalities of airways.
4. Inherited.
5. Aspiration syndromes.
6. Foreign body.

## \* Croup :

- Laryngotracheitis caused mostly by viral infection.
- 6 months – 6 years.
- barking cough, harsh, strider.
- mild fever.
- hoarse voice.

## **Control of diarrhoeal diseases (CDC)**

Diarrhoeal diseases of childhood represent one of the major causes of morbidity and mortality among under five children in developing countries.

Dehydration is the important preventable and correctable complication of diarrhea.

### **The main objectives of CDD are:**

1. To reduce infant mortality rate.
2. To educate people regarding recognition of severe cases and home management of disease.

The main measure to control diarrheal disease is oral rehydration therapy (ORT). Oral rehydration units exist in almost every health care institution concerned with primary health care.

**DIARRHOEA** : is passage of liquid or watery stool for at least 3 times\day.

Diarrhea may be

- acute ..... Less than 14 days.
- persistent .... More than 14 days caused by infections.
- dysentery ..... mucous with or without blood.
- chronic ..... recurrent due to non infectious cause.
- paraneural ..... due to infections elsewhere in the body.

### **Acute watery diarrhea**

**diarrhea that starts acutely and last less than 7 days without visible blood , might have nausea and vomiting and fever .**

### **Causes :**

**Rota virus (50%) , Shigella , Entero invasive E. coli(EIEC) , salmonella , Vibrio cholera , campylobacter jejune , Enteropathogenic E. coli .**

### **Complications and consequence**

- 1-Dehydration.**
- 2-Potassuim depletion.**
- 3-Acidosis.**
- 4-Convulsion.**
- 5-Renal failure.**
- 6-Cerebral damage.**

### Dysentery (bloody diarrhea)

diarrhea that is accompanied by mucus with or without blood .

1-Septicemia.

2-Hemolytic uremic syndrome.

3-Malnutrition.

#### Causes :

Shigella , Entameba Histolytica , EIEC , C . jejuni , Salmonella , EHEC .

### Persistent diarrhea (post-infectious diarrhea)

diarrhea that begins as acute watery or bloody diarrhea , last for at least 14 days ,it caused by infection or the damage that result from an infection.

#### The danger (complication):

Dehydration, septicemia, Cow's milk protein allergy and malnutrition .

#### Causes :

any organism , especially Shigella , enteroadherent E. coli.

### Chronic diarrhea :

It is the recurrent or long standing diarrhea due to noninfectious etiology as celiac disease , cystic fibrosis , autoimmune villous atrophy . It can cause malnutrition.

### Parenteral diarrhea

It occurs due to infection elsewhere in the body as otitis media , meningitis , pneumonia , or UTI . treatment of the original cause will stop the diarrhea .

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#### \*Causes of diarrhea :

1. infections ..... viral , bacterial or parasitic.
2. non infectious..... Feeding problem , anatomical , surgical, malabsorption, endocrine ...etc.

### **Transmission of diarrheal disease:**

1. Most diarrheal causative agents are transmitted by the fecal-oral route.
2. Some viruses (such as rota virus) can be transmitted through air.
3. Nosocomial transmission is possible.

*\*Diarrhea can lead to dehydration or malnutrition.*

**DEHYDRATION:** loss of water & electrolytes.

Q\ Why infant more affected by dehydration than adult ?

1. higher total body fluid.
2. increased metabolic rates.
3. large body surface area.
4. decreased fluid intake due to anorexia.
5. increased fluid loss due to fever.
6. frequency of gastroenteritis in infant more than adult.

*\*Causes of dehydration :*

1. G.E. ( VOMITTING & DIARRHEA ).
2. MOUTH DISORDER.
3. D.M.
4. BURN.
5. INTESTINAL OBSTRUCTION.
6. THYROTOXICOSIS.

## ***Assessment of Dehydration***

	<b>Mild (no dehydration)</b>	<b>Moderate (some)</b>	<b>Severe dehydration</b>
<b>General appearance</b>	Alert Thirst Restless	Alert Thirst Drowsy	Drowsy Sweaty Coma
<b><i>Anterior fontanel</i></b>	<i>Normal</i>	<i>Depressed</i>	<i>Deeply depressed</i>
<b>Eyes</b>	Normal	Sunken	Very sunken
<b><i>Tears</i></b>	<i>Present</i>	<i>Decreased</i>	<i>Absent</i>
<b>Tongue</b>	Moist	Dry	Very dry
<b><i>Respiratory rate</i></b>	<i>Normal</i>	<i>Rapid</i>	<i>Rapid + Deep</i>
<b>Skin retraction (Turgor)</b>	Rapid	Over 2 seconds	More than 2 seconds
<b><i>Urine out put</i></b>	<i>Normal</i>	<i>Decreased</i>	<i>An urea</i>

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## **\* Treatment:**

***According to WHO method, Dehydration is treated as :***

**1) No dehydration ..... give plenty of fluid and discharge the baby , if develop bloody diarrhea or become thirsty readmitted again .**

**2)Some dehydration ..... use ORS 75 CC / kg . after 4 hrs recheck : No dehydration ,Some dehydration , Severe dehydration .**

**3)Severe dehydration ..... use IV fluid  
Less than 1 year give 100CC / kg as follow  
30 CC /kg / 1 hr , 70 CC / 5 hrs  
More than 1 year give 100CC / kg as follow  
30 CC /kg / 1/2 hr , 70 CC / 2.5 hrs . after 6 hrs recheck : No dehydration ,Some dehydration , Severe dehydration .  
Fluid choices here are : N S OR Ringer lactate.**

***The ongoing loss calculated as :***

**Number of passed vomiting \* 100CC + number of passed diarrhea \* 100 CC**

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### ***\* Drugs not to be used in diarrhea :***

1. antibacterials..... used only when there is lab evidence of bacterial infections.
  2. anti-protozoal ..... used only when there is lab evidence of amoebic dysentery or giardiasis.
  3. mycostatin..... given when there is evidence of oral thrush .(monilia is normal inhabitant of G.I.T).
  4. anti-spasmodic & antimotility..... can caused paralytic illus.
  5. pectocaolin..... will coat the G.I.T. ,allow colonization of bacteria & lead to persistent diarrhea.
  6. anti-emetic..... may cause CNS side effects.
- 

### **Prevention of diarrhea :**

1. Safe water and food.
2. Hand washing.
3. Proper sanitation.
4. Breast feeding.
5. Immunization.
6. Fly control.

# *Malnutrition*

Malnutrition is a general term for a medical condition caused by (under nutrition) or (over nutrition) .

It most often refer to under nutrition resulting from inadequate intake, poor absorption or excessive loss of nutrients, but the term can also include over nutrition resulting from overeating or excessive intake of specific nutrients.

\* WHO define **Malnutrition** as " the cellular imbalance between supply of (nutrients & energy) and (the body's demand) for them to ensure growth, maintenance and specific functions " .

## *\* Causes :*

### **1. inadequate food intake which may be due to:**

- A. insufficient or improper food supply.
- B. early cessation of breast feeding.

### **2. infection which may lead to :**

- A. decrease appetite leading to reduced food intake.
- B. infection may lead to mal absorption.
- C. some infectious disease have catabolic effects (e.g. kala azar & T.B.)

### **3. chronic illness which may lead to :**

- A. decrease appetite leading to reduced food intake.
- B. increased inflammatory processes so increase metabolic demand.
- C. any chronic illness that involves liver or small bowel affect nutrition by impairing digestive & absorptive functions.

Examples : cystic fibrosis, malignancies, chronic renal failure, congenital heart disease & chronic inflammatory bowel diseases.

## *\* Measuring Malnutrition:*

Malnutrition is assessed by a combination of clinical features and body measurements. The indicators used are :

1. wasting : weight for height, mid upper arm circumference & body mass index.
2. stunting : height for age.
3. wasting and stunting combined : weight for age.
4. edema.

## *\* Management :*

Management of severe malnutrition is best divided into 3 phases:

1. initial phase: involves resuscitation, treatment of infection and correction of disordered metabolism.
2. rehabilitation phase.
3. follow up phase.