

Child Health Care

Preventive services are needed for children for the following reasons:

1- Many causes of morbidity and mortality are avoidable, such as malnutrition, accidents, as well as infectious disease which can be prevented by immunization, hygiene and sanitation.

2- Vulnerability of children and their parents during the earlier years of their life due to rapid growth.

Children under the age of 5 years are at particular risk of morbidity and mortality and should receive special care through programs specially designed to decrease morbidity and mortality rates in this age group.

These programs are: Growth Monitoring, Control of Diarrhoeal Diseases, Breast Feeding, Expanded Program on Immunization, Food Fortification and supplementation, Female Education and Control of Acute Respiratory Infections.

Growth Monitoring Programme

Growth and Development

Growth refers to increase in the physical size of the body and Development refers to increase in skills and functions.

Both are considered together. Because a child grows and develops as a whole. It include not only physical aspect but also intellectual, emotional and social aspects. It take place only in the presence of optimal nutrition, freedom from recurrent infections, freedom from adverse genetic and environmental influences.

Definitions:

Normal growth: is the progression of changes in height, weight, and head circumference that are compatible with established standards for a given population.

Weight :

Average newborn weight: 3.25 kg +/-0.5 at birth

Neonates may lose 5%-10% of birth weight in the first few days of life and regain their birth weight by (10 - 14 days)

Infants gain approximately :

30 g/day → 0 - 3 months

20 g/day → 3 - 6 months

10 g/day → 6 - 12 months

((Infants “double” their birth weight by 4 months of age and “triple” their birth weight by 1 year)

The average length at birth for a term infant is (50cm)+/-2cm

Height - length:

Use term of height after 2 years.

Infants grow (25 cm)50% → 1st year of life(75cm) Toddlers grow (10 cm) → (1st - 2nd) ~88cm

3 years → 96 cm

((Children “double” their length by 4 years of age .))

Estimated weight after first year is :

AGE (YR) X 2 +8

Estimated height after first year is :

Age (years) X 6 +77

Head circumference :

The average at birth is (35 cm)+/-1.5cm.

-at 1year it reaches 47 cm, -at 2years it reaches 49cm .

Definition of Growth Monitoring

It is a process of periodic measurements of the weight of children under the age of 5 years, in order to detect signs of malnutrition, (growth failure) as early as possible and to correct it.

This process should start soon after birth with the measurement of birth weight and the recording of weight on the growth chart.

Methods of Growth Monitoring

Weight for Age:

Growth of infants and children <5 years of age should be monitored regularly. Ideally, this should be done **every month**. In Iraq, weight is measured when the child is brought to the centre for routine immunization.

In the past, **standard growth charts** of a certain reference population were used to assess the growth of children. Weight and height for boys and girls are available now from age 0-18 years (WHO).

Birth weight is used as the 1st reading and weight is measured monthly, plotted on the chart and joined by a curve which is called the **growth curve**. In normal situation and if the child is gaining weight the curve is up going. A flat Curve means no weight gain. A down-going curve means weight loss. In both of the last situations, this is abnormal and action should be taken.

Steps in growth monitoring:

Five steps:-

Step 1: Determining correct age of the child

Step 2: Accurate weighing of the child

Step 3: Plotting the weight accurately on a growth chart of appropriate gender

Step 4: Interpreting the direction of the growth curve and recognizing if the child is growing properly

Step 5: Discussing the child's growth and follow-up action needed with the mother

Malnutrition is a very prevalent problem among under 5 children especially in the developing world. It is estimated that about 190,000,000 under five children are malnourished all over the world.

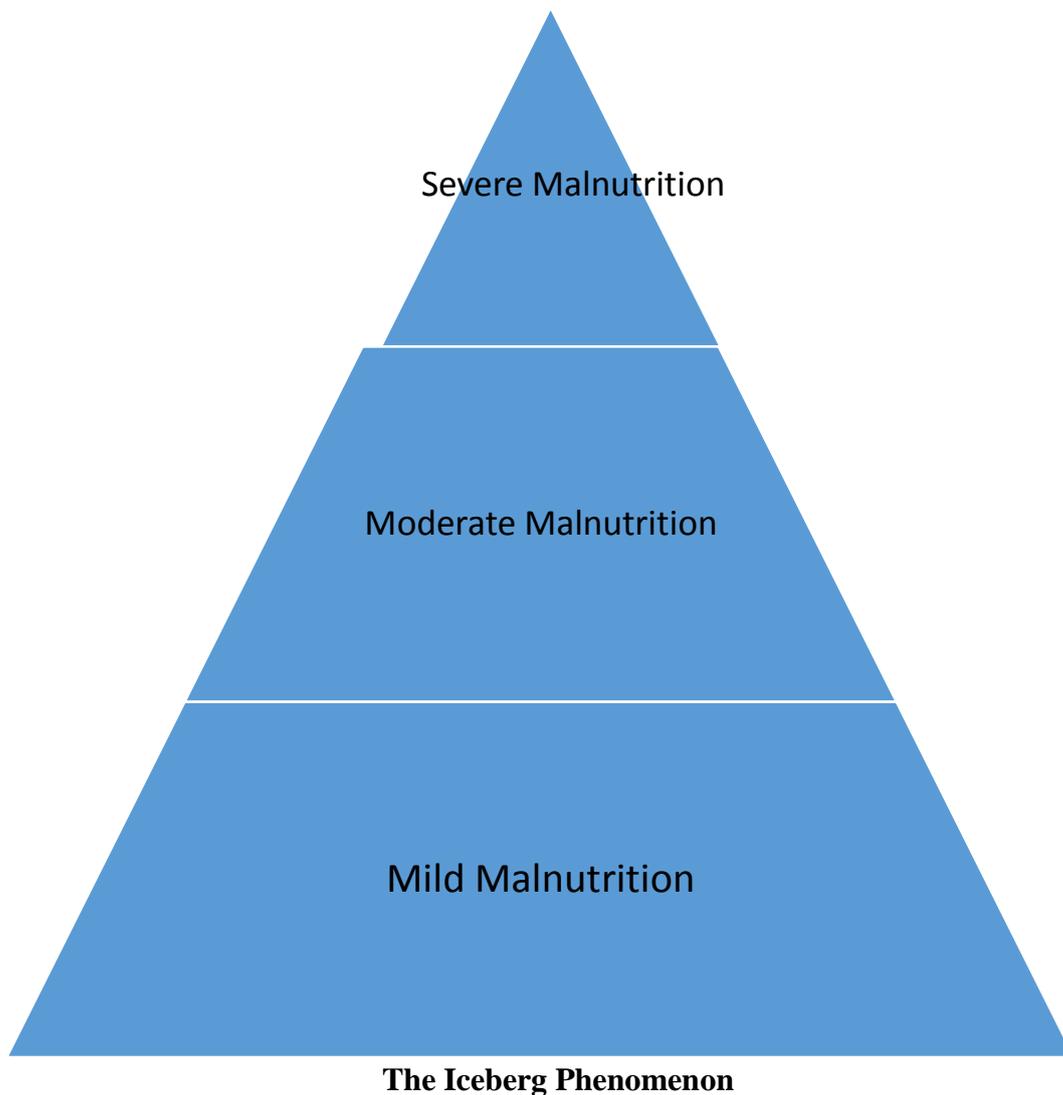
Most malnutrition is invisible, and most parents of malnourished children do not know that there is any thing wrong. Even health workers can't detect early malnutrition using the reference population weight for age charts. Only 1-2% of all malnourished children will show signs of clinical malnutrition in the form of marasmus and kwashiorkor which is severe (third degree) malnutrition. This is what is called the **Iceberg Phenomenon**.

This type of malnutrition results from the deficiency of protein and energy, which is called protein-energy malnutrition (PEM). Many malnourished children live in homes where there is no absolute shortage of sufficient food or adequate diet. The majority of the cases of malnutrition are caused by:

1. Repeated infections such as diarrhoea where there is loss of appetite and vomiting.
2. Poor knowledge of mothers of the type of feeding needed by infants and children & incorrect feeding practices.

If the early signs of faltering growth can be made visible to the mother, and if at the same time, she can be made aware of the special nutritional needs of the infant and the young child, then it would be possible to

prevent more than 50% of all child malnutrition in the developing world, even within existing family resources.



Height (Length) for age:

Height should be taken in a standing position without footwear with the help of height machine or measuring scale fixed to the wall.

Suitable for children 2 years or above.

Height is a stable measurement of growth as opposed to body weight.

Whereas weight reflects only the present health status of the child, height indicates the events in the past also.

Low height for age: also known as nutritional stunting or dwarfing.
Reflects past or chronic malnutrition.

Weight for Height :

Weight and Height are interrelated.

If there is low weight for height, it is called as nutritional wasting or emaciation (acute malnutrition).

A child less than 70 percent of the expected weight for height is classed as severely wasted.

Head and Chest circumference :

At birth head circumference is about 35 cm, about 2 cm more than the chest circumference.

By the age of 6 to 9 months, these two measurements become equal, after which the chest circumference overtakes.

This overtaking may be delayed by 3 to 4 years in severely malnourished children.

Needs for growth charts at community level:

- 1-For early identification of children's growth failure for detection of
- 2- malnutrition and taking appropriate interventions
- 3- For early identification of overweight/obesity in the children
- 4-To sensitize health workers
- 5-To educate parents and allay their anxiety by showing normal growth in chart. •

Uses of growth charts:

1. For growth monitoring which is of great value in child health care
2. Diagnostic tool: for identifying "high risk" children.

3. Planning and policy making: by grading malnutrition, it provides an objective basis for planning and policy making in relation to child health care.
4. Educational tool: for mothers.
5. Tool for action : helps health worker on the type of intervention needed
6. Evaluation: of the effectiveness of corrective measures and the impact of the program or of special intervention
7. Tool for teaching

In Summary,

Growth indicators:

Weight-for-age → changes in nutritional or health status.

In early infancy it is suitable for monitoring weight

Height/length-for-age → shortness or tallness .

Weight-for-length/Height → an indicator to classify infants and young children as overweight and underweight.

Head circumference-for-age → reflect brain size.

critical during infancy and can be charted up to 36 months of age.

BMI-for-age (children and adolescents) →underweight, overweight, or at risk of overweight.