YBN University, Ranchi

Growth And Development

Learning objectives: At the end of this unit, the students will be able to: ƒ Understand components of weight during pregnancy Risk factors, which have an influence on a child's nutritional state ƒ Describe low birth weight and its causes

Explain the nutrition of the mothers

Assess the nutritional status

Tell uses of nutritional assessment. It is worth remembering that the fetus development in 40 weeks from the two cells joined at conception into an independent infant with a functioning nervous system, lungs, heart, stomach, and kidneys. To support this rapid growth and development major changes takes place in the mother's body. Under normal conditions the mother's weight increases by 20 per cent during pregnancy. Components of weight gain during pregnancy. ƒ Fetus, placenta, amniotic fluid 4750gms ƒ Uterus and breasts 1300gms ƒ Blood 1250gms ƒ Water 1200gms ƒ Fat 4000gms Total 12500gms

Causes for low weight gain during pregnancy ƒ Low food intake, ƒ Many women continue to do hard physical activities like carrying wood and water, and do other strenuous jobs until childbirth. Many factors cause variation in weight at birth, but in developing countries the mothers' health and nutritional status and her diet during pregnancy are probably most important. Low birth weight (LBW) is defined as being below 2.5kg. There are two main reasons for L.B.W: ƒ Premature or early delivery ƒ Retarded fetal growth Causes of premature delivery ƒ Poor maternal nutrition, ƒ High maternal blood pressure ƒ Acute infections ƒ Hard physical work ƒ Multiple pregnancies ƒ In many cases the cause is unknown Causes of retarded fetal growth ƒ Fetus, due to infections such as Rubella and syphilis ƒ Placenta, if it is abnormally small or with blockage ƒ Mother, maternal nutrition and health ƒ Anemia ƒ Acute or chronic infections such as TB

Mothers are often the key care takers for the children in the household. They have to be healthy and need the time, the knowledge and the right environment to carryout their duties. Proper care of children ƒ Appropriate hygiene and sanitation ƒ Safe food preparation and storage ƒ Successful breast feeding and adequate weaning practice ƒ Psychosocial care such as attention, affection and encouragement ƒ Equitable health services and a healthy environment, ƒ Spacing of child birth. Children at risk High risk factors which often have influences on a child's nutritional

states are the followings: ƒ Low birth weight ƒ Twins or multiple births ƒ Many children in the family ƒ Short intervals between births ƒ Poor growth in early life ƒ Early stopping of breast milk < 6 moths ƒ Introduction of complementary feeding either too early or too late ƒ Many episodes of infections ƒ Illiterate mothers

Resources scarcity, ƒ Recent migration of mother to the area, ƒ Children with single parent. Assessment of nutritional status Nutritional assessment is the process of estimating the nutritional position of an individual or groups, at a given point in time, by using proxy measurement of nutritional adequacy. It provides an indication of the adequacy of the balance between dietary intake and metabolic requirement. Uses of Nutritional Assessment It should aim at discovering facts to guide actions intended to improve nutrition and health. Š Diagnostic tool; (individual and group) - Does a problem exist – identify - Type of problems - Magnitude of the problem - Who are affected by the problem Š Monitoring tool (individuals and group) – Requires repeated assessment over time – Has the situation changed? – Direction and magnitude of changeResources scarcity, ƒ Recent migration of mother to the area, ƒ Children with single parent. Assessment of nutritional status Nutritional assessment is the process of estimating the nutritional position of an individual or groups, at a given point in time, by using proxy measurement of nutritional adequacy. It provides an indication of the adequacy of the balance between dietary intake and metabolic requirement. Uses of Nutritional Assessment It should aim at discovering facts to guide actions intended to improve nutrition and health. Š Diagnostic tool; (individual and group) - Does a problem exist – identify - Type of problems - Magnitude of the problem - Who are affected by the problem Š Monitoring tool (individuals and group) – Requires repeated assessment over time – Has the situation changed? – Direction and magnitude of change.

Evaluation tool (individual or group). To what extent has the intervention, treatment, or programme had the intended effect (impact) Anthropometrics assessment It is the measurement of the variation of physical dimensions and the gross composition of the human body at different age levels and degrees of nutrition. Anthropometrics assessment of growth Common measurements include; – Stature (height) – Body weight – Skin fold – Mid Upper Arm Circumference (MUAC) Indices derived from growth measurements; – Weight-for-height, – Height-for-age, – Body Mass Index (BMI) = Weight in Kg divided by Height in metre square that is Wt/(Ht)2The Waterlow Classification Waterlow pointed out two different types of deficit: a deficit in WEIGHT-FOR-

HEIGHT (wasting) and a deficit in HEIGHT-FOR-AGE ('stunting'). 1. Waterlow has suggested classification based on wasting (current malnutrition) or stunting (chronic malnutrition) WFH = 80% of the Reference standard or –2.5D below the median HFA = 90% or – 2.5D below the median