

LOW BIRTH WEIGHT

Low birth weight is defined as a term baby born with weight less than 2.5 kg. Low birth weight is one of the adverse pregnancy outcomes, which has a great implication on newborns subsequent survival, growth and development. A child's nutritional future begins with the mother's nutritional status in adolescence and in pregnancy. Low birth weight occurs because of poor maternal health and nutrition and poor foetal growth. LBW is common in developing countries where it is estimated that 16.4% or 20 million children are affected. In Tanzania the prevalence is estimated to be about 16% with variations from one region to another. Study conducted in seven districts (Magu, Mbarali, Kilosa, Mtwara, Masasi, Hai and Kibaha) in Tanzania showed variations ranging from 7.1% in Hai to 21.1% in Masasi.

CAUSES OF LOW BIRTH WEIGHT

- Deficiency of micronutrients among pregnant women. Micronutrients such as vitamins and minerals are essential elements for normal body functioning and growth. During pregnancy there is increase in nutrients requirements to take care of fetal, placenta and increase in maternal weight. The impact of micronutrient deficiency on pregnancy and birth outcome is associated with increased maternal morbidity and mortality, abortions, stillbirth, low birth weight, premature birth, congenital abnormalities and mental deficiencies in early childhood.
- Infections such as malaria, syphilis and worm's infestation e.g. Hookworms and schistosomiasis. Malaria and schistosomiasis contributes to anemia of which have secondary effects to the pregnant women and the fetus. Worms such as hookworms compete with the host for nourishment and thus cause iron and protein deficiency which leads to pregnant mothers having low birth weight babies.
- Maternal malnutrition (undernutrition) it is characterized by energy deficiency, micronutrient deficiencies, low weight gain and low body mass index. Maternal malnutrition is caused by inadequate dietary intake (calories, proteins and micronutrients); infection and parasite infestations which interfere with nutrients absorption and utilization in the body; increased physiological requirements for the nutrients to take care of fetal; placenta and increasing maternal weight; heavy women workload strain energy intake and expenditure; undernourished before pregnancy; frequent child bearing and customs and traditions. A mother chronically undernourished will likely give birth to an underweight baby,

- Women's workload. It is a condition characterized by many and heavy physical labour or activities done by women. Such activities include household chores, farm work, taking care of children, fetching water, firewood. These activities leads to high energy expenditure resulting in wasting ,inadequate weight gain during pregnancy and contribute to maternal depletion syndrome which leads to having low birth weight babies.
- Low pregnancy weight and height
- Adolescent motherhood. Adolescent motherhood is when a woman gets pregnant in the ages between 11 years and 18 years. In this age group the mother has increased requirements of micronutrients as she needs nutrients for growth and development of her body and also for the fetus and placenta.
- Use of drugs, alcohol and exposure to tobacco during pregnancy. Smoking, drugs and alcohol use during pregnancy is associated with fetus growth retardation.
- Numerous pregnancies and lactation especially at short intervals are likely to deplete the mother of nutrients as a result of pregnancy and the loss of blood during childbirth. Also during lactation there is loss of nutrients first through colostrums and then through breast milk. Therefore women with many children narrowly spaced are more likely to have poor nutritional status that may lead them to have low birth weight babies.

EFFECTS OF LOW BIRTH WEIGHT ON NEWBORN

- Increased risk of prenatal and postnatal morbidity and mortality.
- Impaired growth and mental development
- Increased risk to diseases like hypertension, diabetes in adult hood.
- Risk of being malnourished especially stunting
- Growth into short stature
- Impaired psychosocial and cognitive development

PREVENTION OF LOW BIRTH WEIGHT

Supplementation:

During pregnancy a woman's nutritional needs increase. During the whole period of pregnancy it is estimated that a woman needs extra iron requirements of about 100 mg. Extra iron and folate requirements are due to expansion of the maternal red cell mass, growing fetus, umbilical cord and placenta. Inadequate folate during the first months of pregnancy can cause neural tube birth defects, such as spina bifida. It can also increase the risk of the baby being born with low birth weight and the mother dying. Diet alone can not meet the body iron and folate requirements of most pregnant women, therefore all pregnant mothers need to be routinely supplemented with fefol drugs. The dosage is one fefol tablet a day or 200 mg ferrous sulphates plus 1.0 mg folic acid 200mg once a day throughout pregnancy and four weeks after delivery.

Pregnant mothers can also be supplemented with multiple micronutrients which contain vitamin and minerals.

Prevention and control of malaria:

Malaria is still one of the significant public health problems in Tanzania. Pregnant women need additional protection as they are particularly vulnerable to malaria and that the infection is a major cause of anemia perinatal mortality and low birth weight. Malaria causes anemia in several ways, primarily by destroying red blood cells and suppressing production of new red blood cells. To reduce malaria among pregnant women several interventions can be conducted;

- Use of intermittent presumptive treatment (IPT) with Sulphadoxine pyrimethamine (SP). Pregnant mothers are given a dose of SP in the 2nd and 3rd trimester of pregnancy.
- Environmental modification to destroy breeding sites for mosquitoes
- Early diagnosis and adequate treatment
- Use of Insecticides treated nets (ITNs)

Prevention and control of worm Infestation

Infection with worms is very common in our environment and it is mainly associated with poor sanitation, poor general hygiene and the tropical climate which favour the existence and multiplication of these worms. People get infected through ingestion of food contaminated with ova containing developed embryos

or by larva penetrating the skin. These worms compete with the host for nourishment such as iron, protein and other micronutrients. The worms also anchor on the mucosa of the intestine and withdraw blood which cause bleeding that leads to anemia. Deficiency of micronutrients that occurs during pregnancy may result into having low birth weight babies.

- Pregnant women should be dewormed during the 2nd trimester by being given a single dose of 500mg of Mebendazole.
- Improve personal hygiene.
- Improve environmental hygiene.

Prevention and control of Schistosomiasis

The most common species of schistosoma in Tanzania are *S.hematobium* and *S. mansoni*. *S. hematobium* affects urinary system and *S.mansoni* large intestine. These infections results into anemia that cause effects to pregnant mothers and the fetus. To prevent schistosomiasis there is a need to;

- Early diagnosis and treatment
- Improve personal hygiene
- Improve environmental hygiene
- Post natal treatment of pregnant women with praziquantel(40mg/kg)

Treatment of Syphilis

All pregnant women should be checked for syphilis during pregnancy and those found positive treated with their partners.

Promotion of care and support for pregnant women

- Promote early booking of pregnant mothers and proper clinic attendance so as to be able get all the antenatal clinic services in time and also early diagnosis and treatment of diseases.
- Give health education on personal hygiene, environmental sanitation, nutrition and prevention and control of diseases.
- Reduction of women workload by excusing pregnant mothers from heavy labour demanding activities, providing more time to rest especially during the last trimester of pregnancy, discourage gender based division of labour and traditions and customs that undermine women.