

A Guide to Maternal Nutrition and Changes in Pregnant Women

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DESCRIPTION

Maternal nutrition focuses on nutritional status of women as it relates to nurturing of children. It comprises of anthropometric factors such as pre-pregnancy weight for height and gestational weight gain, as well as intake of protein and micronutrients.

During pregnancy, body goes through emotional and physiological changes. 3 major changes that occur during pregnancy period are physiological, gastrointestinal and body fluid changes.

Physiological changes

These are the normal adaptations that women undergo during pregnancy to better accommodate the embryo or fetus. These also include cardiovascular, hematologic, metabolic, renal and respiratory changes.

Bodyweight: The enlarging uterus, the growing fetus, the placenta, the acquisition of fat and water retention, all contribute to this increase in weight.

Breast size: A women breast size increases during pregnancy. Once lactation begins, the women breast swell significantly and can feel itchy, lumpy and heavy.

Cardiovascular: During the course of pregnancy, blood volume slowly increases by 40%-50%. It results in an increase in heart rate, stroke volume and cardiac output.

Hematology: The plasma volume increases by 50% and Red Blood Cells (RBC) volume increases only by 20%-30%. Edema or swelling of the feet is common during pregnancy, partly because the enlarging uterus compresses the veins and lymphatic drainage from the legs.

Basal metabolic rate: Fetal growth and development increases the Basal Metabolic Rate (BMR) by 5% during first trimester and 12% during 2nd and 3rd trimester. This increases the total energy requirement.

Gastrointestinal changes

The following are the changes observed such as:

- Nausea and vomiting.
- Heartburn.
- Constipation.
- Diarrhea.
- Gallbladder stones.
- Hypersalivation.

Changes in body fluids

Estrogen and progesterone changes: These are the chief pregnancy hormones. Estrogen is thought to play an important role in helping the development of fetus. High level of progesterone causes internal organs to increase in size.

Weight gain, fluid retention and physical activity: These slow down the circulation of blood and body fluid, particularly in lower limbs. As a result, pregnant women remain swelling in legs, hands, feet and even face.

Nutritional requirement during pregnancy

The mother must include enough fat in her diet to meet the needs of her growing baby. There is no separate Recommended Dietary Allowance (RDA) for fat intake during pregnancy. The essential fatty acids such as linoleic acid (omega 6) and linolenic acid (omega 3) are necessary for optimal formation of brain and eyes. Vitamins, folate, iron, magnesium, etc. are included in diet of required quantities for a pregnant mother.

A well-nourished woman suffers fewer complications during pregnancy and there are few chances of premature births. Maternal diet during pregnancy has a direct influence on fetal growth, size and health of the newborn.

Consequences of maternal nutrition and pregnancy outcome

Pregnant woman who receive inadequate nutrient experience greater maternal morbidity and have a higher risk of poor pregnancy outcome (miscarriage, premature births). Poor maternal nutrition intake alters the preconception period during pregnancy and can also negatively impact fetal genetic growth

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trajectory and can result in fetal growth restriction. The effect of maternal protein restriction during pregnancy on fetal development increases the risk of cardio-muscular disease.

CONCLUSION

Pregnant women are most likely to remain healthy and bear healthy infants if they follow a well-balanced diet. 6 essential

nutrient classes should be taken such as carbohydrates, fats, proteins, minerals, vitamins and water. Folic acid is important for pregnancy, as it can help to prevent birth defects known as neural tube defects, including spina bifida. Anemia and pregnancy-induced hypertension are the 2 conditions that can be caused by inadequate nutrition.