Maternal Nutrition

MATERNAL Nutrition is a very important factor in nation building. If a woman is already undernourished, pregnancy puts a strain on her, and her off spring starts off in life with a negative balance. If perchange they do withstand the perils of childhood and reach adulthood, they seldom attain their full potential, mental or physical. So the community gets peopled with below par or second rate individuals.

Hence it is for M.C.H. workers in particular, and nation builders in general, to pay much more attention to the nutritional needs of women in the reproductive age group, and specially to concentrate on pregnant and lactating woman.

The Problem

Many studies have been done of the incidence of problems arising from undernutrition in the pregnant and lactating woman. Most of these have been done in the developing countries. They are as follows :—

1. **Anaemia**—is the biggest and most widespread problem. N.I.N. Hyd. and W.H.O. studies in INDIA show 30—50% of women in the low socio-economic group as having Hb. levels below 70% (10 Gms) in the 3rd trimester. (3), (4), (5). W.H.O. recommends that for the purpose of studies Hb. levels below 11 Gms/100 ml. should be considered as anaemia.

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Dr. M.K. Krishna Menon is of the opinion that a level should be fixed below which maternal and foetal progress will be impaired. He suggests 60% (8.4 Gms.) (4).

2. **Varying degrees of undernutrition from mild to severe resembling a picture of protein calorie malnutrition. (2).**

Under these would come certain general symptoms ; we found the following :—

General weakness.....56%
Poor appetite and or poor digestion.....54%
Pain all over/back/lowerlimbs/without fever...50%
Palpitation.....32%
Giddiness.....32%
Swelling feet.....21%
Puffy face..... 3%

We also found certain symptoms and signs that could fit into other groups, but specially into the Iron and Protein deficiency groups.

Jelliffe and Maddocks (1964) describe a condition called 'Maternal depletion syndrome' which relates to women in a stage of constant nutritional stress. These women start off with an early marriage and reproduction before their own growth has ceased, carry out heavy household duties like pounding, grinding, lifting of weights etc. on an inadequate diet. The condition is further aggravated by social and religious customs during pregnancy and lactation. This constitutes a continuous cumulative nutrition drain, resulting in the above.

3. **Pregnancy wastage**—abortions, still births, and very immature Live Births, the infant dying soon after birth (**Perinatal Deaths**).

4. **Low weight gain during pregnancy**—Well-nourished subjects gain 15—25% of pregravid body weight. Undernourished subjects gain much less. N.I.N. reports a gain of 6 to 6.5 Kg. on an average after the 12th week of pregnancy. The average wt. of the mother at 12 weeks was 42 Kgs. But the study goes on to say that the gain in body fluids was computed and found to be 10 Kgs. So there was probably a loss of subcutaneous fat. A study in Ceylon (1961) showed a loss of 5% weight in women. (2). In a study in our rural area amongst the lower socio-economic group 9% of the women had lost weight after the 1st trimester. It is normally expected that the pregnant woman will steadily gain weight after the (1st trimester) because of the growing placenta, the enlarging uterus to accommodate the growing foetus, the physiological hydremia, the enlarging mammae in preparation for lactation, and the increase of subcutaneous fat.

5. **Toxaemias**—have been reported in some studies, and not in others. Reports are conflicting (2).

6. **Low birth weight**—i.e. 2.5 Kgs. and less. One study (1) reports a 29.3% prevalence. The prevalence may be higher in other rural areas and lower socio-economic groups. If women are given a high protein diet in the last trimester, their babies are born significantly heavier. Folic acid with iron taken by the mother showed no significant influence on the mothers Hb. level but if taken in the last 100 days had a significant beneficial influence on the Bwt. It was also seen that infants weighing above 2 Kgs. at birth were fully mature physically (1), (2).

7. **Low foetal storage of nutrients**: Maternal malnutrition during pregnancy may reduce the foetal stores of nutrients, and thereby contribute to the development of nutritional disorders in the infant.

8. **Vitamin deficiencies** : B. Complex deficiency is reported in the 3rd trimester (1). In our series we found Glossitis (Niacin deficiency) in 22%, and Angular Stamatitis (Riboflavine deficiency) in 16% of our cases. Vit. A.C, and Folic acid concentrations in the serum

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