ABSTRACT

EFFECT OF SUPPLEMENTATION AND NUTRITION COUNSELING ON THE NUTRITIONAL STATUS AND NUTRITION KNOWLEDGE OF PREGNANT WOMEN

*N. Deepa, **Dr. Lalitha Ramaswamy

Background

Maternal nutrition during pregnancy is important as it affects the offspring’s health and development. Most of our pregnant women suffer from anemia in their journey towards motherhood. One of the prime causes for poor maternal nutrition is inadequate nutrition and lack of knowledge of the mothers on the right type of diet. Interventions to this vulnerable section of the population are important to improve their nutritional status and birth outcome.

Methodology

One hundred and fifty pregnant women in their 14 to 40 weeks of gestation in Tirunelveli district were selected. From among them, 100 (Group I) were selected for nutrition education. From the remaining fifty, a sub-sample of 25 (Group II) was selected for supplementation and bio chemical analysis and another set of twenty five pregnant women (Group III) were selected as controls. Base line data, details about pregnancy and foods included and avoided were collected by interview method. A 24-hour recall method was used find out the amount and type of food consumed which was used to calculate the intake of five selected nutrients.

A supplementary food (laddus) prepared with locally available foods providing 364k.cals, 11.6g protein, 4.9g iron and 130mg of calcium per day was used for supplementation for 90 days. Nutrition education was imparted to pregnant women using charts, handouts, flash cards, posters and demonstration. The height and weight of the pregnant women were measured by standardized techniques. The initial and final haematological parameters namely serum iron, serum ferritin, haemoglobin and PCV were estimated for women of Groups II and III before and after supplementation. A diet manual was also prepared for pregnancy.

Results

Among the pregnant women studied, 34% were between 18 and 22 years of age and 11% above 32 years, while the rest between 23 and 30 years. A higher percentage (40%) of the selected pregnant women had attained menarche between 13 and 14 years of age and 3% at 17 years. Forty three percent were married between 18 and 22 years of age and 8% after 30 years. Nine percent of the pregnant women were illiterates and 23% and 28% had studied up to primary and higher secondary school respectively and 27% were graduates. Fifty four percent of the selected pregnant women lived in joint family and 46% in nuclear families. Fifty seven percent of the selected pregnant women belonged to level I, 25 percent to level II and 15% to level III income groups.

* Ph.D. Scholar, Mother Teresa Women’s University
**Associate Professor, Department of Nutrition & Dietetics, P.S.G. College of Arts and Science, Coimbatore
percent of the pregnant women spent 20-40 percent of their monthly income on food 23% and 21% between 40-60 percent and below 20 percent respectively.

A majority of the pregnant women (87%) were non-vegetarians, consuming eggs, meat, fish and poultry but the frequency of consumption was low, the main reason being high cost and difficulty in digestion. Religious customs also influence the frequency of consumption of non-vegetarian foods. The mean nutrient intake of all the nutrients was significantly lower than the ICMR RDA, except for fat. Results of dependent t’ test obtained for energy, protein, calcium and iron intake of group II showed a significant improvement on account of supplementation. There was also a significant difference between the post test mean scores of both groups. Consumption of special foods was quite moderate and most of the pregnant women avoided papaya and pineapple as they believed them to be hot foods. Curd and ice cream were avoided as they were considered to be cold foods. The women also consumed household medicines and commercial supplements.

A greater number (n=123) of the selected pregnant women had experienced nausea and vomiting during pregnancy. Twenty three of them experienced cravings for food materials like sweets and dairy products, while pica was experienced by a small number of pregnant women. None of the pregnant women had varicose veins and muscular cramps. Eighteen and 15% of the pregnant women studied suffered from pre-eclampsia and eclampsia respectively and there were given continuous medical attention till the birth of infant which helped in averting any serious consequence.

The mean height of the pregnant women was significantly lower than NCHS standards, thus confirming that the intake of nutritious foods during their growth period had been inadequate. The selected adult pregnant women had a normal weight gain of 11.21 kg despite a poor nutrient intake. The mean serum iron values of group II (53.6 μg/dl) was less that of group III (62.12 μg/dl) and the final values of group II had increased to 89.5 μg/dl, but the same in group III did not show any change. The serum ferritin value of group II had increased significantly from 35.3ng/dl to 90.30ng/dl, but in group III it had increased from 39.5ng/dl to 49.94ng/dl only. The blood haemoglobin and PCV levels had also increased significantly in group II, however there was only a marginal increase in group III. Further the value of ‘F’ ratio obtained indicates that there is a significant difference between adjusted post test means of groups II and III, thus clearly indicating that the pregnant women consuming the supplementary mix were greatly benefitted. Nutrition education had improved substantially as there was an increase in the number of women who gave the right answers. There was a significant difference between the scores obtained before and after nutrition education. The feedback from the pregnant women about the diet manual was highly satisfactory.

Conclusion

Balancing the nutrient content of the diet ensures good nutrition in pregnant women. Specific nutrition counseling and supplementation are essential for the pregnant women, whose diets are affected by family situation, religious beliefs, ignorance and associated health issues. The synergistic effects of improved food intake, food supplementation and nutrition education will be revealed in the form of optimal weight gain, prevention of anemia, improved weight of infants and successful lactation.