

Food Habits and Dietary Pattern of Expectant Mothers in the Palampur Sub-division of Himachal Pradesh

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ABSTRACT The experimental subjects formed thirty healthy pregnant women (20-30 year age) from each trimester of pregnancy (total 90). The data were collected through a pre-structured respondent questionnaire. Information regarding general information, food habits, food consumption pattern, mean daily food intake, and mean daily nutrient intake was gathered. Majority of expectant mothers were housewives belonging to rural areas and having low socio-economic status. The findings of the study revealed that there was not much a difference in the food and nutrient intake from the normal routine. The mothers nourished their babies on their own body stores only without much input from outside. Considering the fact that most pregnant mothers are not aware of the nutritional needs, nutrition education during antenatal visits should be considered as an important activity in providing antenatal care.

INTRODUCTION

Expectant mothers of a society form the high risk group from the nutritional point of view because during pregnancy the maternal requirement of almost all the nutrients is greatly increased. Hence, maternal nutritional status is considered as one of the most important factors influencing pregnancy and the state of offspring. Malnutrition during pregnancy continues to be the most important single cause of maternal mortality in India, and also impart for such abnormalities as premature and immature births, still birth and neonatal mortality. Thus, every expectant mother should have an adequate nutrition so as to achieve a successful outcome of pregnancy in terms of a healthy baby and maintenance of her own health (Anonymous, 1975).

Diet surveys carried out in India showed that average dietary intake of Indian pregnant women was deficient in important nutrients and their diets remain unaltered during pregnancy. Bowen (1992) suggested that psychological variables may interact with behavioural and physiological

variables to control food preferences and eating in pregnancy. There are very few reports on the food habits and food and nutrient intake of expectant mothers of the present study area. No detailed study of actual food and nutrient intake of this group is known. It was, therefore, proposed to study the food habits and dietary pattern of expectant mothers in the Palampur sub-division of Himachal Pradesh.

MATERIALS AND METHODS

Thirty healthy pregnant women from each trimester of pregnancy (total 90) in the 20-30 years of age were selected as experimental subjects from areas of Palampur sub-division of Himachal Pradesh. The areas under study were located at an altitude of about 1200-1500 metres above mean sea level.

The data were collected through a pre-tested structured respondent questionnaire by personal interviews with the subjects by using recall method. The general information, socio-economical status, food habits and food consumption pattern of expectant mothers were collected. The mean daily food intake was analysed with respect to different food groups *viz.*, cereals, pulses, green leafy vegetables and other vegetables, fruits, milk and milk products, fats and oils and sweeteners. The respondents were asked to estimate the amount of different foods consumed in possible units such as glass of milk, slices of bread etc.

Mean daily nutrient intake was computed using food tables as suggested by Gopalan et al. (1981) with respect to carbohydrates, protein, fat, iron and copper. The calculated values of food and nutrient intake were compared with the recommended dietary allowances in order to observe the extent of deviation in nutrient intake as well as imbalance in food groups consumption.

RESULTS AND DISCUSSION

General Information and Food Habits

The data on the general information and food habits of selected subjects have been depicted in the figure 1. The majority of the expectant mothers being housewives, generally assisted their spouses in the agriculture chores, thus, performing a dual duty. The prevalence of joint family system (60%) could be seen mainly in rural areas. Most of the male members were engaged either in agriculture or were daily wagers commuting to nearby areas. Average family composition was more than 5 in 53.30 per cent of the cases.

Income level as stated by the respondents was very low. Majority of them *i.e.* 66.70 per cent had family income between Rs 1000-1500 per month while 33.30 per cent of them had between Rs 500-1000 per month. The figure depicts that 26.70 per cent of the subjects were vegetarian while 73.30 per cent were non-vegetarian but usually consumed vegetarian foods. Most of the respondents (63.30%) were two meal eaters while 36.70 per cent took three meals a day.

Food Consumption Pattern

Among the cereals, rice and wheat were equally preferred daily. Pulses and legumes were also consumed daily. The most commonly consumed were bengal gram, black gram, lentil, green gram and horse gram. Frequent consumption of leafy vegetables was observed with mean intake of approximately 75 per cent of the recommended level. Other vegetables were consumed daily by 86.70 per cent of the respondents while 13.30 per cent preferred them frequently. Fruits were occasionally taken (63.30%) because of the cost factor. Consumption of nutritious foods like meat, fish, eggs and milk was very low. None of the respondents consumed milk either daily or frequently, whereas, intake of tea was high being preferred daily by 93.30 per cent of the respondents (Fig. 2).

The dietary pattern of the mothers comprised meals subsisting mainly on cereal-pulse diet. It consisted combination of rice with *dal* and *chapati* with vegetable/*dal*. The respondents did not show any particular food liking and dislik-

ing and consumed whatever they could afford. Regarding the schedule of feeding, pregnant women consumed only the usual home meals prepared. They did not receive any priority in the food intake and consumed the food left after all the family members had their food, which was inadequate both in quality and quantity. Devadas and Easwaran (1986) also found similar findings while studying the food consumption pattern of pregnant women from rural areas of Madurai. The subjects under present investigation did not consume any special nutritious food during their gestation period nor they avoided any food during this time. However, some of them classified the non-vegetarian foods under "hot" foods and did not prefer during the first and second trimesters for the fear of abortion, but consumed in later period. Kapil et. al. (1991) assessed the knowledge of adolescent girls regarding diet during pregnancy. 23.69 per cent and 55.93 per cent of the subjects believed that pulses and non vegetarian food should be avoided during later half of pregnancy.

Mean Daily Food Intake

Average daily consumption of different food groups of pregnant women shown in the figure 3 suggests no particular increase in their dietary intake. Trimesterwise also, difference did not exist between the diets consumed. Consumption of cereal was 355, 413 and 399 g per day and of pulses 35, 32 and 43 g per day during the first, second and third trimesters, respectively. Both were inadequate when compared with RDA with higher deficit recorded for pulses. The consumption of leafy vegetables was adequate whereas it was more than RDA for roots and tubers. Corresponding values for each trimester were 73, 85 and 90 g and 60, 66 and 60 g, respectively. Their adequate consumption may be due to the fact that majority of them owned agricultural land where they could grow vegetables and cash crops for business as well as for their subsistence.

Consumption of fruits was below recommended level. Because of the economics and non-availability of fruits at household level due to more number of family members, fruits were rarely consumed by them. Although most of the subjects were non-vegetarian, none of them was

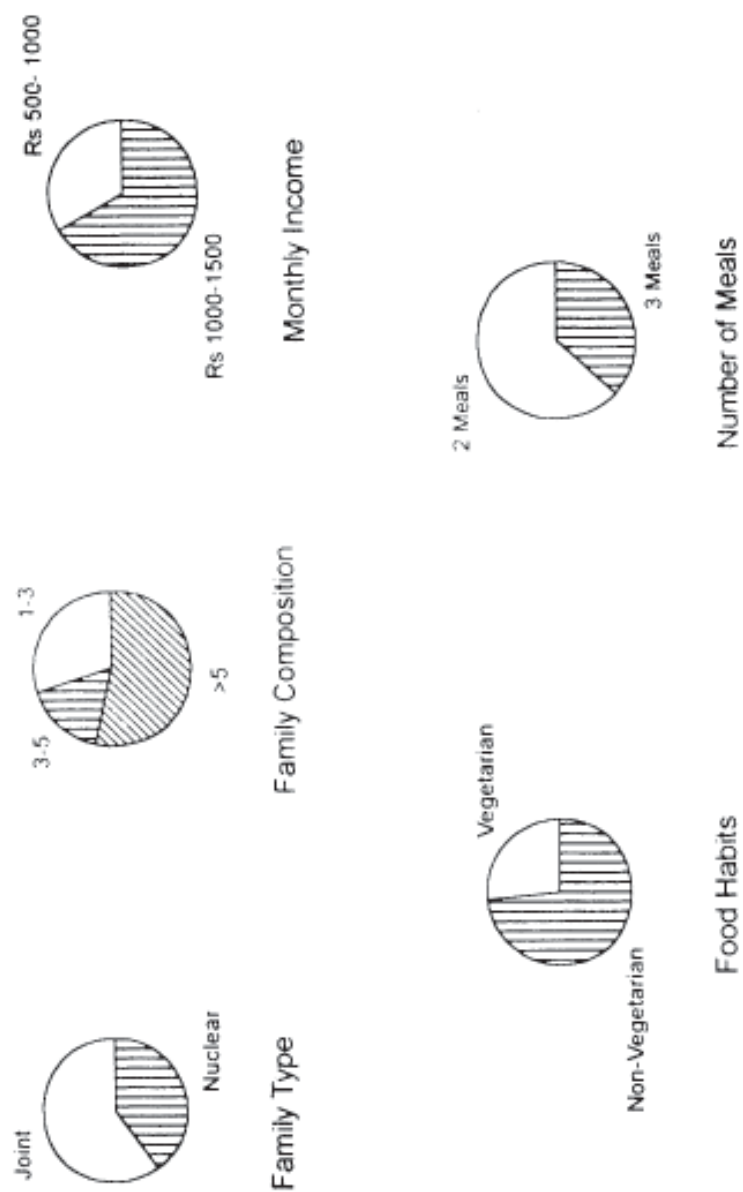


Fig. 1. General information and food habits of the subjects

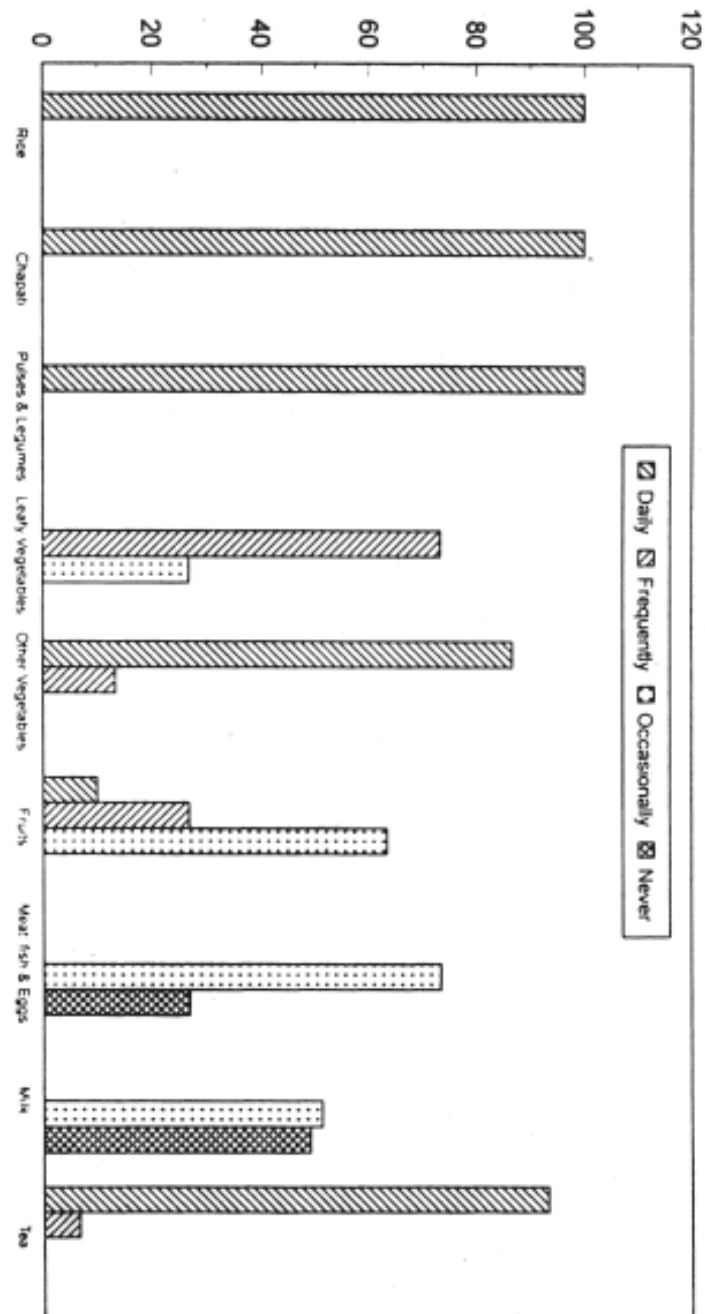


Fig. 2. Food consumption pattern on the subjects

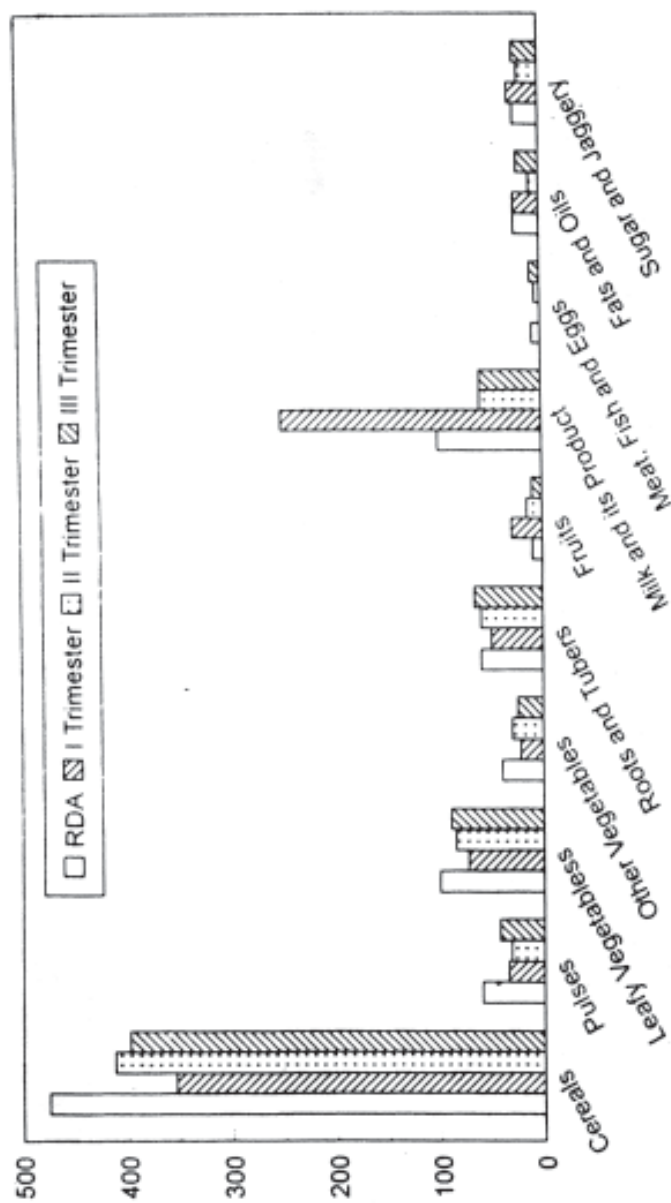


Fig. 3. Mean daily food intake (g) by the pregnant subjects

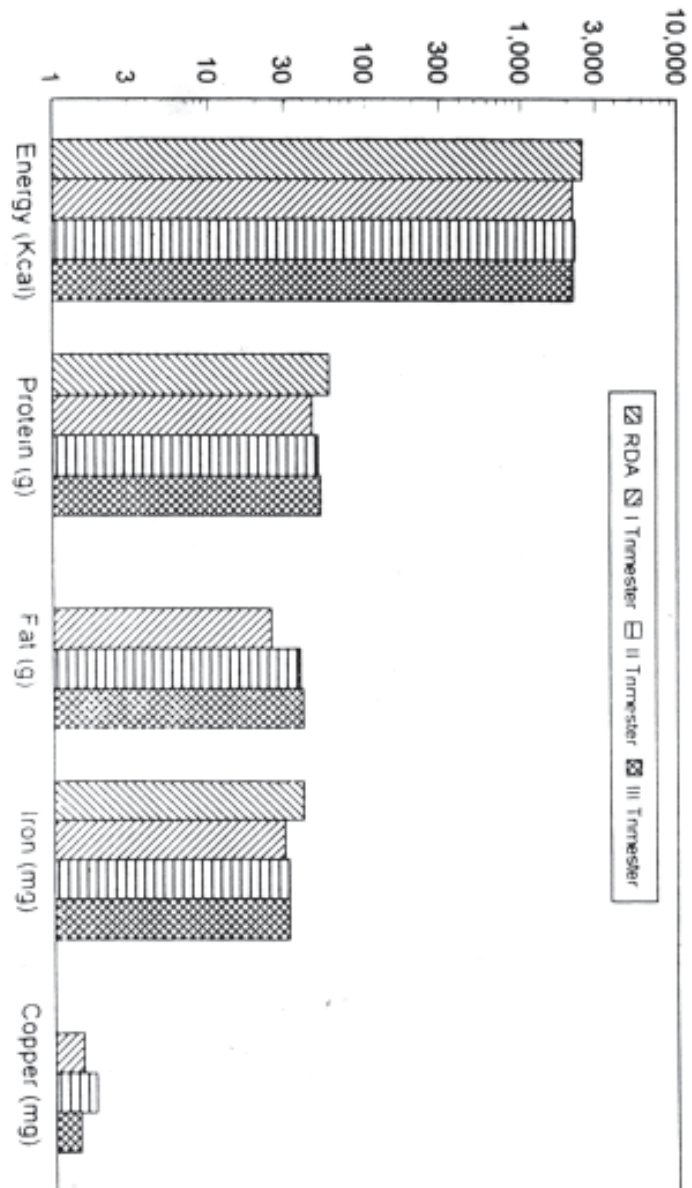


Fig. 4. Mean daily nutrient intake of pregnant subjects

a regular consumer due to the fact that they could not afford expensive non-vegetarian food items. Consumption of fats and oils was at par with RDA during second (22 g) and third trimesters (25 g) but was very low in first trimester (10 g). Its intake was restricted mainly as a cooking medium under which mustard oil was preferred. Intake of *Desi Ghee* (clarified butter) was less which may again be considered in terms of cost. It was also observed that the non-vegetarian foods *i.e.* meat, fish and eggs, though termed as hot and abortive were not avoided by them during pregnancy, although their frequency was not more than once or twice in a month.

Intake of milk was mainly in the form of tea. Its adequacy ratio was 0.24 during first and second trimesters and 0.40 during third trimester. Although majority of them owned milch animals, but the milk was quite often sold in the market.

Because of the prevailing joint family system, the tradition in the kitchen dictates that the children, followed by older members of the family have proper meals before the younger women. Since it is the younger women who belong to the child bearing age group, adequate food is often not available to them by the time they come around for their meals. The diets of the expectant mothers under present investigation were more or less monotonous and followed the pattern of mainly two meals. The study also highlights some increase in the food intake near term.

Mean Daily Nutrient Intake

Trimesterwise, no difference existed in the intake of nutrients. The diets were deficient in important nutrients. The level of energy was short of the recommended allowances in each trimester, the adequacy ratio being lower in first trimester (0.87) followed by third (0.88) and second (0.90) trimesters. Beaton and Henry (1964) reported that energy requirement altered little during early gestation, increased sharply at the end of first trimester and remained constant from that time until term. During second trimester, most of the extra energy was related to maternal factors whereas that of third was principally due to the growth of foetus and placenta. Similar

pattern as for energy was also observed for protein. Second and third trimesters was 0.78, 0.85 and 0.88, respectively.

Mean intake of iron was found to be 30 mg in the first and 32 mg each in second and third trimesters with adequacy ratio of 0.75 and 0.80, respectively. The source of iron was in the form of non-haem iron. It was suggested that the single most important cause for wide spread iron deficiency anaemia in our country was inadequate iron intake in the habitual diets coupled with poor bioavailability of the iron (Anonymous, 1976). But, mean iron intake of our subjects can be said to be adequate because it was close to the RDA. Copper intake was 1.51, 1.82 and 1.43 mg during each corresponding trimester (Fig. 4).

CONCLUSIONS

The findings revealed that during pregnancy there was actually not much of a difference in the nutrient intake from the normal routine. The mothers nourished their babies on their own body stores only, without much inputs from outside. The low intake of some of the nutrients can be attributed to the lower amounts of total food consumed and the low consumption of some of the foods by the expectant mothers was mainly due to cost factor. This in turn probably reflected the poor financial status of the respondents as well as lack of knowledge regarding the importance of nutrition and increase in requirements of nutrients during pregnancy. This gets further accentuated in case of young women of child-bearing age because of the complexity of joint family system, which when crystallised in terms of tradition and convention affects their nutritional intake in a peculiar way. Also, a number of dietary habits are unique for a particular region and are influenced by custom, social pattern, economic development, educational level and host of other factors. So, efforts to develop feasible and effective ways of improving maternal nutrient intake during pregnancy are required. Nutrition education must be increasingly oriented towards pregnancy and its outcome, taking into consideration the local availability of foods, socio-economic and cultural environment of the society.

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