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Intake of nutrients and prevalent food beliefs among pregnant women in Punjab, India

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Abstract
The malnutrition problem among pregnant women is common. An attempt was made to determine the nutrient intake and food beliefs during pregnancy. The present investigation was conducted on one thousand and two pregnant women from Faridkot district of Punjab. Majority of the respondent (72 per cent) did not believe in 'hot' and 'cold' foods.28 per cent of subject believed in 'hot' and 'cold' foods. Out of these 22 per cent took 'hot' food such as ginger, garlic, egg, meat, fish, brinjal, aniseed, jaggery, cloves during pregnancy because according to these respondents consumption of 'hot' food caused easy delivery. The average intake of energy by the low and the, higher socio-economic group subject in their sixth to seventh, seventh to eighth, eighth to ninth month was 1659,1704,1791and2184,2206 and 2301Kcal. Protein intake in higher socio-economic group was adequate where as in lower socio-economic group was below RDA. The average intake of iron was adequate. Hence there is a strong need to provide nutrition counselling to mother as nutrient intake during pregnancy in turn reflects to nutritional status of new born.

Keywords: Nutrients, food beliefs, nutrition counselling, nutritional status, socio-economic group

Introduction
Maternal nutrition is the most important single environmental factor influence in the life of unborn child. Cultural practices food beliefs followed by various communities during pregnancy influence to a large extent the nutritional status of pregnant women. The prevalence of such ideas affects the outcome of pregnancy. It is postulated that appetite compulsions of pregnant woman may have originated from physiological reactions under the stress of pregnancy which would influence the health of pregnant women as well as the foetus. Prevalence of pica is generally associated with anaemia. This is common among the less educated pregnant women belonging to low socio-economic groups. The diets of fifty four and thirty two per cent of Negro pregnant women consuming clay and raw maize starch respectively were reported to be low in energy, calcium, iron, thiamine and niacin as compared to inadequate diets of fourteen per cent of the control subjects (Edwards *et al*. 1959, 1964) [2, 4]. It was also reported that the blood haemoglobin level, iron and calcium level of pregnant Negro women eating clay and raw corn starch daily were found to be low.

Traditional food beliefs and taboos strongly influenced the food choice of expectant mother in India. Branca, F & Pastore, Gianni & Demissie, T & Ferro-Luzzi, A. (1994) interviewed 1200 Tamil expectant mother. The author reported that only 56 of them had no dietary restriction. Fear of abortion, caused by uterine haemorrhage or causing heating the body was reported to be the main reason for fruit like papaya, pineapple, mango, sesame and horse grain were considered 'hot' foods and abortive. Cultural practices food beliefs and taboo followed by various communities during pregnancy influence to a large extent the nutritional states of pregnant women. The prevalence of such ideas affects the outcome of pregnancy. It is postulated that appetite c0mpulsions of pregnant women may have originated from physiological reactions under the stress of pregnancy which would influence the health of pregnant women as well as the foetus. Prevalence of pica is generally associated with anemia. This is common among the less educated pregnant women belonging to low socio-economic groups. The diets of fifty four and thirty two per cent of Negro pregnant women consuming clay and raw maize starch respectively were reported to be low in energy, calcium, iron, thiamine and niacin, as compared to inadequate diets of fourteen per cent of the control

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subjects (Edwards *et al*. 1959, 1964) [2, 4]. It was also reported that the blood haemoglobin level, iron and calcium level of pregnant Negro women eating clay and raw corn starch daily were found to be low.

Devadas *et al*. (1978) [1] also studied the food preferences and the beliefs prevalent in a group of 650 mothers from low and middle socio-economic groups. They observed that food beliefs of both the well fed and poorly fed groups were more or less the same.

Methodology
The present study Intake of nutrients and prevalent food beliefs among pregnant women of Faridkot district of Punjab belonging to lower and higher socio-economic group was carried out. One thousand and two pregnant women who were in their last trimester of pregnancy were divided into lower and higher socio-economic group in such a manner that at least fifty per cent of these belonged to the lower socio-economic group and the rest were from higher socio-economic group. A one day survey by the questionnaire schedule was conducted. On the basis of diets consumed, the weight of raw foods and the nutrients intake of the subjects, incidence of pica and food preferences were determined.

Results
The data on the intake of the nature of food showed that majority of the respondent (72 per cent) did not believe in 'hot' and 'cold' food. Out of the 22 per cent took 'hot' food during the different trimester of pregnancy because according to these respondents consumption of 'hot' foods caused easy delivery. Six per cent of the respondant consumed 'cold' foods because they think that 'hot' foods cause abortion. Twenty one per cent from higher socio-economic group and seven per cent from lower socio-economic believed in these foods and fallacies. Some of the common 'hot' foods were ginger. garlic, drycoconut, egg, meat, fish, brinjal, aniseed, tamarind, jaggary, currants, cloves, cardamom, malathi, black mah dal, mango and sagg etc where as whole fruit juice, curd, watermelon, orange, water melon, orange, buttermilk, carrot were considered to be cold foods. Incidence of Pica and Food preferences among the subjects.

Table 1: Show the classification of subjects according to the prevalence of pica and food preferences.

Pica/food preference	Low socio-economic group	%age	High socio-economic group	%age
Pica				
Mud	171	34.2	62	12.4
Chalk	49	9.8	28	5.6
Clay	30	6.0	40	8.0
None	250	50	370	74
Food preferences				
Savory	160	32	100	20
Sour	170	34	90	18
Sweet	90	18	50	10
None	80	16	260	52

Table 1 show the classification of subjects according to the prevalence of pica and food preferences. The prevalence of pica was maximum among the subjects belonging to the lower socio-economic group. As many as 50 per cent of them had craving for mud, chalk or clay. This habit was least among higher income group subjects. About 26 percent of them had a craving for mud, chalk, clay etc. Over all, 74 per cent of the higher socio-economic group pregnant women had no craving for pica as compared to 50 percent of the subjects in the low socio-economic group. The maximum number of subjects in various groups had craving for mud a high whose educational level was below matric. None of the mothers with educational level above matric had the habit of pica.

Family income per month those families who per capita monthly income was upto Rs. 1000/- were considered as lower socio- economic & those families whose per capita monthly income was Rs. 3000 & above were considered as higher socio- economic group.

Among the expectant mother of lower socio-economic group of the city of Mysore (Karnataka). The habit of eating mud and clay was most common.

There was a large number of subject in low socio-economic group pregnant women who indicated preference for savory and other foods as compared to those of the higher socio-economic group food preference have been reported to be quite common.] Reported prevalence of food preference and belief among the well fed as well as poorly fed, pregnant women in Hyderabad.

Table 2: Educational level of the subjects

Education	Low socio economic group	High socio economic group	Percentage %
Illiterate	90	21	11
Below Matric	219	99	31.8
Matric	141	170	31
Up to Graduation	30	173	22.3
Post Graduate	--	37	3.7

Illiteracy to the extent of 18 per cent was recorded among the lower socio-economic group where as the illiteracy in the higher socio-economic group was only 4.2% only. 7.4 per cent of those belonging to the higher socio-economic group were post graduate. The study indicated that mother having three daughters were keen to have the fourth child in the hope to be getting a son in less educated women. It was also observed that the prevalence of pica and food fads were common in the low socio-economic group because they were less educated. Hira *et al.*, (1986) [14] observed the nutrient intake significantly increased with improvement in education and socio-economic status of pregnant women.

Result showed that the respondents that are 56 per cent did not believe in hot and cold food. Nutritious foods such as papaya, egg, mango, pineapple horse grain were considered hot foods & abortive and these foods were avoided monthly in

less educated group. Milk was considered as a special food and was believed to improve the body's complexion when taking during pregnancy.

The daily consumption of energy by the subject varied from about 1272 to 2818 kcal. The average daily intake of energy by the lower and higher socio-economic group in their sixth to seventh, seventh to eighth, eighth to ninth month was about 1659+18.1, 1704+12.8, 1791+14.2, and 2184+13.8, 2206+16.4 and 2301+118kcal, respectively. Intake of calories by the lower socio-economic group pregnant women was considerably below the recommended dietary allowances of 2170 kcal (ICMR 1989) [10]. However the caloric intake of the pregnant women belonging to higher socio-economic group is adequate.

The overall range of protein intake among the subjects was from 42.1 and 78.2 g. The average intake of protein of the lower socio-economic group pregnant women in their sixth to seventh, seventh to eight, eight to ninth month was 54.6+5.8, 57.3 + 4.3 and 58.1+7.4g per day as complete 65.4 + 5.2, 67.6 + 3.2 and 69.6 + 3.3 g/day of higher socio-economic group subjects. Higher socio-economic group exceed the RDA of 65g but the intake of protein by lower socio-economic group pregnant woman was below the RDA. (World Health Organization; 1985)

The intake of calcium by the lower and higher socio-economic groups in the sixth to seventh, seventh to eighth, eighth to ninth month of pregnancy was 527.7, 559.6, 577.5 and 951.7, 1056.7 and 1046 mg respectfully. The average iron intake of subject was generally adequate.

Conclusion

The investigation has revealed manifest quantative and qualitative deficiencies in the diets affecting the nutritional status of pregnant woman of lower and higher socio-economic group in their third trimester. The lower socio-economic group of pregnant women were sufferers for want of adequate diets. Institutional feeding programs and nutritional education are necessary component of any such programme to improve the nutritional status of pregnant women in the state.

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