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RESEARCH ARTICLE

A STUDY ON NUTRITIONAL STATUS OF PREGNANT WOMEN OF RURAL AREA IN RAMANATHAPURAM DISTRICT, TAMIL NADU

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ABSTRACT

Pregnant women have been widely recognized as a vulnerable group from health point of view. They need more food than normal person for the proper nourishment of the growing fetus. A total of hundred pregnant women who were in their third trimester were selected for the study. The samples were selected from hospitals like Government Hospital, Kanagamani clinic, Fathima chinnathurai clinic, Abdulla clinic and Ravi Rajendran clinic which have facility for maternal and child care. Information regarding socioeconomic background, anthropometric measurements, clinical Assessment, food consumption pattern was collected. Among the selected samples only 18% were illiterates, rest were literates. All the 100 selected samples preferred allopathic type of medication for treating the discomforts the clinical examination revealed that eighty percent of the sample had healthy appearance and rest 20% had unhealthy appearance. Majority (60%) had normal eyes, 35% of the sample had slight discolourations in their eyes, and only 5% had severe discolouration. It might be due to the poor intake of diet deficient in Vitamine A, protein, fat and energy. The hemoglobin level in blood of majority of the samples was below normal. Based upon the analysis the study finally emphasizes that the pregnant women are poorly nourished and their nutritional status is also very poor.

INTRODUCTION

Women is regarded as the nerve centre of the family and society maternal nutrition and health is consider as the most important regulator of human fetal growth (Ventura 2008). A healthy mother can produce a healthy child. Pregnancy is the period of dynamic change for a mother requiring a lot of care. During this period the fetus is nourished directly by the mother through placenta. A woman's normal nutritional requirement increases during pregnancy in order to meet the needs of the growing fetus and of maternal tissues associated with pregnancy (Lisa, 2009). In pregnancy anaemia has a significant effect on the health of the fetus and the mother. According to Agarwal (1991) maternal anaemia resulted in 12 to 28% of fetal loss, 30% of prenatal and 7 to 10% of neonatal death. Anaemia in pregnancy is also associated with increased maternal morbidity and mortality. About two third of pregnant women in India are estimated to suffer from anaemia. The field of nutrition of pregnant women in rural area is sadly a much – neglected are of research.

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Ramanthapuram District is an economically, educationally backward area. Women of this area were not aware about the additional nutritional requirements during pregnancy. Hence the present study is a attempt to assess their health and nutrition status of pregnant women in Ramanthapuram District. The study has the following objectives.

a) To study the socio-economic status of the selected samples.
b) To know the food consumption patter of the selected samples
c) To assess the health and nutritional status of the selected samples.

MATERIALS AND METHODS

The present study was carrying out pregnant women in third trimester of pregnancy belonging to rural area of Ramanathapuram District of Tamil Nadu. Hundred pregnant women from various hospitals constitute the sample respondents. Purposive sampling method was adopted for surveying the sample. The list of pregnant women was

Table I: Distribution of responders on the basis of demographic characteristics

Respondents	No.of samples	Percentage
Age		
up to 20 years	20	20
21 – 25 years	53	53
26 – 30 years	24	24
Above 31 years	1	1
Family size		
1 – 3 members	43	43
4 -7 members	55	55
Above 7 members	2	2
Respondent's Education		
Illiterates	18	18
up to primary school	28	28
up to Higher school	47	47
up to Higher secondary school	5	5
up to graduates	2	2
Monthly Income		
2000 – 4500	70	70
4501 – 7800	18	18
Above 7801	12	12
Age of marriage		
up to 20 years	48	48
21 – 25 years	46	46
Above 25 years	6	6

Table: II – the health status bared on height and weight during pregnancy

Respondents	No. of samples	Percentage
Height (cm)		
Below 140	2	2
141 – 150	40	40
151 – 160	36	36
Above 160	22	22
Weight (kg)		
up to 50	17	17
51 – 60	33	33
61 – 70	40	40
Above 70	10	10
Weight gained last Trimester (kg)		
4 – 6	8	8
6 – 8	35	35
8 – 10	38	38
Above 10	19	19

Table III indicated that the food consumption pattern of the selected samples

S.No	Name of the food	Percentage of samples		
		Daily	Weekly	monthly
1	Cereals	100	-	-
2	Pulses	-	100	-
3	Leafy vegetables	90	10	-
4	Roots & Tubers	-	100	-
5	other vegetables	-	100	-
6	Fruits	-	85	15
7	Milk	100	-	-
8	Non- vegetarian	-	56	25

Table IV: Average nutrition intake by pregnant women in comparison with RDA

Nutrients	RDA	Actual Intake Mean	%Excess/Deficit
Protein(g)	65	61.36	-5.6
Energy(kCal)	2525	2067.45	-18.1
Calcium(mg)	1000	705.78	-29.4
Iron(mg)	38	15.54	-59.1
Carotene(mg)	2400	601.96	-74.9
Thiamine(mg)	1.3	1.12	-13.8
Ruboflavin(mg)	1.5	1.20	-20.0
Niacin(mg)	16	14.59	-8.8
Vitamine C(mg)	40	57.73	+39.3
Folic acid(mg)	400	57.42	-85.6

Table V: Clinical picture of the respondents

Sl.No.	Criteria	Marks	Number of marks	Percentage
1.	General appearance	Good	30	30
		Fair	50	50
		Poor	15	15
		Very poor	5	5
2.	Eyes	Normal	60	60
		Slight discolouration	35	35
		Severe discoloration	5	5
3.	Tongue	Normal	56	56
		Pale but coated	30	30
		Red and raw	16	16
4.	Hair	Normal	75	75
		Loss of Luster	15	15
		Discoloured and dry	10	10
5.	Nail	Normal	73	73
		Upnormal	17	17

Table VI: Bio –chemical Assessment of the selected samples

S.No.	Heamoglobin level (g/dl)	No of the respondents	%
1	8 – 9	8	8
2	9 – 10	20	20
3	10 – 11	30	30
4	11 – 12	32	32
5	Above 12	10	10

collected from Government Hospital, kanagamani clinic, Fathima chinnadurai clinic, Abdulla clinic and Ravi Rajendran clinic. The collection of data includes socio-economic survey, food consumption pattern and arthropometric measurements. Information on hemoglobin level was collected from their doctor's prescriptions. The study followed the (WHO [1989]) standard of heamoglobin below 11 gm/dl during pregnancy is an indication of anaemia.

RESULTS AND DISCUSSIONS

Socio-economic status

It was observed that 53% of the samples belonged to the age group 21-25 years, 24% of them were under the age of 26-30 years, 21% of them belongs to the age group between 15-20 years and only 1% of the sample were in the age group above 30 years. Nearly 43 families had 1-3 members, 55 families have 4-7 members and only 2 families had above 7 members. Educational status determines the quality of life of an individual. Literate can be well differentiated from illiterate by their way of doing things. It is inferred that 18% of them were illiterates and 82% of them were literates. Among them 42% of them studied up to primary school level, 5% of them were studied up to higher secondary level and only 2% of them were studied up to college level. Respondents were divided in to three income groups according to monthly income. It was observed that 70% earned between Rs.2000-4500, whereas 18% earned between Rs.4501 – 7800 and 12% earned Rs.7801 and above per month. 48% respondents got married within 20 years of age 46% respondents got married between 21-25 years of age and only 6% respondents got married above 25 years of age.

Health status of the selected samples

Health of an individual can be easily identified by their height and weight ratio. Table (II) depicted that the health status based on the height and weight during pregnancy. Forty percent of the respondents were found to be in the height range between 141-150cm thirty six percent of the respondents were found to be in the height range between 151-160cm, twenty two percent of the respondents were found to be in the weight range above 160cm and two percentage of the respondents were found to be the height range below 140cm Table(II) also indicated that forty percent of the respondents were found to be in the weight range between 50-60kg, seventeen percent of the respondents were found to be in weight range below 50kg ten percent of the respondents were found to be in weight range above 70kg.

Table (II) also represented the weight gained last trimester during pregnancy of the respondents. Thirty eight percent of the respondents were found to gained weight range between 8-10kg, thirty five percent of the respondents were found to be gained weight range between 6-8kg above 10kg weight was gained during last trimester for nineteen percent of the samples remaining eight percent gained weight 4-6kg. The dietary pattern of the samples revealed that eighty one percent of them were non-vegetarians and nineteen percent of them consumed vegetarian foods.

Iron Tablet and Tonic consumption

Apart from these regular foods, iron tonics and tablets were consumed regularly by eighty four percent of the respondents to combat the iron need during pregnancy as prescribed by physicians, other sixteen percent of the samples were consumed occasionally.

Nutrient intake of the respondents:

Table IV indicated that the average intake of different nutrients in compassion to the recommended dietary allowance (RDA) RDA is the intake of nutrients derived from the diet that keeps nearly all people in food health. It takes in to account the individual variation in nutrient needs and also availability of nutrients, which may vary from diet to diet (Gopalan *et al.,* 2002). As per RDA the energy consumption should have been 2525 kcal/day. The average energy consumption of pregnant women was considerably low in II day and III day as compared to RDA. During pregnancy, Protein rich diet promotes optimum fetal growth RDA for protein for pregnant women is 65gm / day. In this study the mean protein intake was only 5.6% as compared with RDA.

RDA for iron is 38 mg/day. In this study the mean daily intake was 59.1% deficit than RDA. The recommended calcium intake during pregnancy is 1000 mg/day. But the mean calcium intake of the mother was lesser by 29.4% than RDA. The percentage of iron deficit was high (59.1%) when compared to calcium deficit (29.4%). The average daily intake of carotene was also deficit by 74.9%. The low intake of calcium, iron and carotene noted among pregnant woman might have been due to the inadequate intake of green leafy vegetables and vegetables. The average intake of thiamine was 13.8% less than RDA. But the mean intake of riboflavin was 20% less than the RDA. This might be due to the occasional inclusion of animal protein like egg, mutton, chicken, etc., in their diet. The mean intake of vitamin C was excess by 39.3% than RDA. Excess intake of vitamin was the reflection of adequate intake of fruits like ripe tomato, orange, lemon, etc. RDA for folic acid for pregnant woman was 400mg/day. The mean intake of folic acid was deficit by 85.6% than RDA. This might be due to the inclusion of inadequate amounts of green leafy vegetables and dairy foods. Similar observations have also been reported in other studies for protein and iron diet (Mohapatra *et al.,* 1990 and Mridula *et al.,* 2003)

Bio –chemical Assessment of the selected samples

According to chandicharan chatter jee haemoglobin is essential for oxygen carriage. It plays an important role in carbon di oxide transport and constitutes one of the important buffer of blood and helps to maintain its acid – base balance. Table VI indicated the heamoglobin level of the respondents Thirty two percent of the sample had the heamoglobin level 11-12 g/dl thirty percent of the sample has the heamoglobin level 10-11g/dl, where as twenty percent of the respondents had the heamoglobin level 9-10g/dl ten percent of respondents has above 12g/dl, remaining eight percent of the respondents had 8-9 g/dl of heamoglobin level.

Conclusion

It was found that the nutrient intake of the respondent was significantly less as compared to RDA.

The malnutrition problems among pregnant women are very complex. A judicious combination of various food groups required to ensure that nutrient demands of individuals are fully met. It was also found that the mean daily dietary intake of iron and folic acid of the anaemic pregnant women was significantly lower than those of the non-anaemic pregnant women. In spite of better education and highly monthly income, nutrition intake was lower than RDA. This might have been due to poor knowledge on nutrition and ignorance about healthy by these women. The agriculture extension and home science extension officials should encourage the rural women to cultivate low fact nutrients fruits, vegetables etc, and popularize the same for consumption in the rural families.

REFERENCES

Agarwal K.N. 1991. Function consequences of nutritional anaemua. *Proc. Nutri. Soc. India*, 37, 127-132.

Gopalan C., Ramasastru B.V. and Balasubramani S.C. 2002. Nutritive Value of Indian foods. *ICMR*, Hydrabad.

Lisa B. Mirel, Lester R. Curtin, Jaime Gahche and Vicki Burt, 2009. Characteristics of Pregnant Women from the 2001-06 National Health and Nutrition Examination Survey, *Section on Government Statistics – JSM*, 2592 -2602.

Mohapatra, P. and Mahapatra, S.C. 1990. Nutritional status of antenatal women in rural areas of Varanasi, Uttar Pradesh, *Man in India*, 70: 85-91.

Mridula, D, Mishra C.P. and Chakravorty, A. 2003. Dietary Int ake of Expectant Mother, *Indian Journal of Nutrition and Dietetics*, 40(1), 24-30.

Ventura SJ, Abma JC, Mosher WD, and Henshaw SK. 2008, Estimated pregnancy rates by outcome for the United States, 1990-2004. *National Vital Statistics Reports*, 56(15). Hyattsville, MD: National Center for Health Statistics.

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