

Original Research Article

Nutritional assessment of pregnant and lactating women in an urban slum of Siddipet district, Telangana, India

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ABSTRACT

Background: One of the vulnerable groups among the population is pregnant and lactating mothers. Among the women in pregnancy it effects the fetal growth and development. Aim of this study is to assess the dietary pattern of pregnant women and lactating mothers and factors related with adequacy of nutrient intake.

Methods: Community based cross-sectional study. Study setting was urban slum dwellers of Siddipet. Study period from September 2019 to November 2019. Study population were pregnant and lactating women up to 6 months registered in Anganwadi centre. Sample size was 91 pregnant and 58 lactating women. Sampling methods was simple random sampling method. Data analysis used was SPSS Version 21.

Results: Distribution of women according to intake of nutrients revealed that nearly 90% of the pregnant and 50% of the lactating women were not taking adequate calories and proteins respectively. Mean calorie intake in pregnant and lactating women was 1418 ± 192 and 1600 ± 218 respectively (recommended dietary allowance (RDA) for calories in pregnant and lactating women was 2580 kcal and 2830 kcal respectively). Mean protein intake in pregnant and lactating women was 47 ± 9 and 51 ± 8 respectively (RDA for protein in pregnant and lactating women was 78 gm and 74 gm respectively). Food taboos were prevalent in both pregnant (42%) and lactating women (55%).

Conclusions: Interventions for promoting health education in women need to be strengthened, in order to achieve proper nutrition to women and mothers.

Keywords: Anganwadi, Lactating, Nutrition, Pregnant

INTRODUCTION

Nutrition is an essential component which has a very important role in outcome of pregnancy. The health of women and mother are directly related to their status in the society.¹ The nutrient supply during pregnancy to the fetus is a vital process that can affect the birth weight and development of the infant. During this physiological stage of life a women needs best foods available within the family. If a mother is malnourished, the quantity of breast milk produced is very limited. So adequate nutrition is very much required for well-being of mother and child. In

India, about 1/3rd women in reproductive age are undernourished and more than 60% are anaemic.² Maternal nutrition is related with many biological and socio-cultural factors adapted in the living community that affect women's dietary pattern, habits and practices. Frequent pregnancies and lactation leads to increased maternal mortality.³ Aims and objectives of the study was to assess dietary intake and pattern of pregnant and lactating women through detailed dietary assessment. To know the socio-demographic profile of pregnant and lactating women. To find out impact of various socio-cultural factors on dietary pattern of pregnant women.

METHODS

This study was conducted from Department of Community Medicine, RVM institute of Medical Sciences and Research Centre, on pregnant females and lactating mothers attending anganwadi centre in an urban slum of Siddipet district, Telangana state during September to November 2019. The estimated sample size was 91 pregnant women and 58 mothers. A pretested semi structured questionnaire was used to interview women, who were chosen for the study using systematic random sampling technique.

Inclusion criteria

All the pregnant women and lactating mothers in the slum.

Exclusion criteria

Those who are not willing to participate in the study and who are not available in their houses on the day of survey.

Data collection

Out of total 182 slums in Siddipet district, 1 urban slum was selected by simple random sampling which is in the area of urban health training centre, RVM Institute of Medical Sciences and Research centre. There were total 9 anganwadi centers in the slum, out of which 120 pregnant, 80 lactating women were registered, 91 pregnant and 58 lactating women were available, and they had given consent to participate in the study. House to house survey using pretested semi-structured questionnaire which included of 72-hour dietary recall for data collection. Ethical permission obtained prior to the study.

Statistical analysis

Data is analysed by using excel and results are expressed in tables and figures as percentages, Statistical significance obtained by applying t-test and chi-square wherever required.

RESULTS

The study population was predominantly in the age group of 20 to 29 years. Many are illiterate among 38.5 % pregnant women and 39.6% mothers. Many women and mothers belong to class 4 socio-economic status (Table 1).

Based on intake of nutrients distribution of women revealed that nearly 90% of the pregnant and 50% of the lactating women were not taking adequate calories and proteins respectively. Mean calorie intake in pregnant and lactating women was 1418 ± 192 and 1600 ± 218 respectively (recommended dietary allowance (RDA) for calories in pregnant and lactating women was 2580 kcal and 2830 kcal respectively). Mean protein intake in pregnant and lactating

women was 47 ± 9 and 51 ± 8 respectively (RDA for protein in pregnant and lactating women was 78 gm and 74 gm respectively) (Table 2).

Table 1: Socio-demographic profile of the study population.

	Pregnant (%)	Lactating (%)
Age (years)		
≤19	8 (8.8)	3 (5.2)
20-24	59 (64.8)	32 (55.2)
25-29	19 (20.9)	20 (34.4)
≥30	5 (5.5)	3 (5.2)
Total	91 (100)	58 (100)
Literacy status		
Illiterate	35 (38.5)	23 (39.6)
Primary	14 (15.4)	8 (13.8)
secondary	20 (22.0)	15 (25.9)
Upper secondary	13 (14.3)	5 (8.6)
≥ raduate	9 (9.9)	7 (12.1)
Total	91 (100)	58 (100)
Socio-economic status		
Class I	0 (0)	0 (0)
Class II	6 (7)	0 (0)
Class III	23 (25)	15 (25.9)
Class IV	62 (68)	43 (74.1)
Class V	0 (0)	0 (0)
Total	91 (100)	58 (100)

Table 2: Calorie and protein intake of pregnant and lactating women as percentage of RDA.

	Pregnant (%)	Lactating (%)
Calorie intake (% RDA)		
≥70	9 (9.9)	5 (8.6)
50-70	60 (65.9)	41 (70.7)
≤50	22 (24.2)	12 (20.7)
Total	91 (100)	58 (100)
Protein intake (% RDA)		
≥70	21 (23.1)	28 (48.3)
50-70	52 (57.1)	28 (48.3)
≤50%	18 (19.8)	2 (3.4)
Total	91 (100)	58 (100)

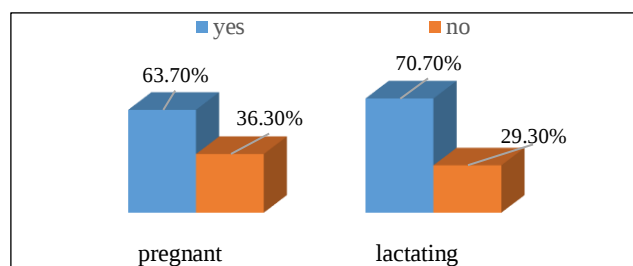


Figure 1: Distribution of pregnant and lactating women according to usage of iodized salt.

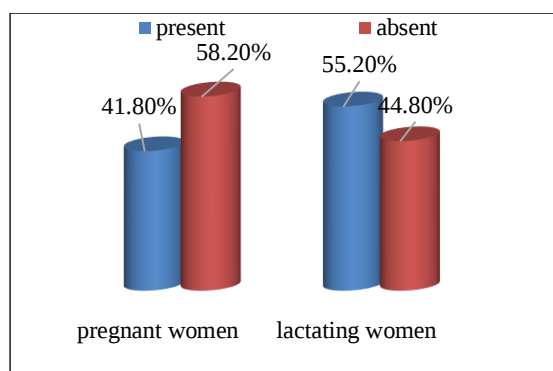


Figure 2: Comparison of food taboos among pregnant and lactating women.

Mean dietary intake of calorie in both pregnant and lactating women in the study population was low with deficit of 1162 kcal and 1230 kcal respectively.

Mean dietary intake of proteins in both pregnant and lactating women in the study population was low with deficit of 23 gm and 23 gm respectively. Economic status and education were significantly associated with intake of iodized salt in both pregnant and lactating women (Table 4).

Educational status was significantly associated with intake of calorie and protein in both pregnant and lactating women (Table 5). Food taboos were prevalent in both pregnant (42%) and lactating women (55%) (Figure 2).

Table 3: Daily food group intake in pregnant and lactating women.

Food group (g)	Pregnant women (n=91)	Lactating women (n=58)
Cereals	362±38	371±48
Pulses	44±5	37±5
Green leafy vegetables	38±4	29±4
Other vegetables	41±4	33±4
Roots and tubers	25±3	17±2
Fruits	30±3	48±6
Milk	69±7	56±20
Fats	38±4	26±3
Sugars	20±2	19±3
Meat	43±5	36±5
Eggs	13±1	6±1

DISCUSSION

Maternal education was significantly associated with intake of iodized salt in both pregnant and lactating women and educational status was significantly associated with intake of calorie and protein in both pregnant and lactating women which is similar with study conducted by chatterjee 1990.⁴

Table 4: Socio-economic status and education vs intake of iodized salt among pregnant and lactating women.

	Iodized salt		Total (%)		
	Yes (%)	No (%)			
Socio-economic status					
APL	35 (79.55)	9 (20.45)	44 (100)	$\chi^2=4.8076$	P=0.028 significant
BPL	64 (60.95)	41 (39.05)	105 (100)		
Total	99 (66.44)	50 (33.56)	149 (100)		
Education					
Illiterate and primary	31 (47.69)	34 (52.31)	65 (100)	$\chi^2=18.8$	P=0.00 significant
Secondary and above	68 (80.95)	16 (19.05)	84 (100)		
Total	99 (66.44)	50 (33.56)	149 (100)		

Table 5: Calorie and protein intake in pregnant and lactating women according to their education status.

Education	Calorie intake (%RDA)			Total (%)		
	≥70 (%)	50-70 (%)	≤50 (%)			
Illiterate and primary	8 (12.30)	35 (53.85)	22 (33.85)	65 (100)	$\chi^2=10.489$	p=0.005 significant
Secondary and above	6 (7.14)	66 (78.57)	12 (14.29)	84 (100)		
Total	14 (9.40)	101 (67.78)	34 (22.82)	149 (100)		
Education	Protein intake (%RDA)			Total		
	≥70 (%)	50-70 (%)	≤50 (%)			
Illiterate and primary	20 (31.75)	28 (44.44)	15 (23.81)	63 (100)	$\chi^2=10.544$	p=0.005 significant
Secondary and above	29 (33.72)	52 (60.47)	5 (5.81)	86 (100)		
Total	49 (32.89)	80 (53.69)	20 (13.42)	149 (100)		

Mean dietary intake of calorie in both pregnant and lactating women in the study population was low with deficit of 1162 kcal and 1230 kcal respectively, which is similar with study conducted by Jood et al.⁵ Rao et al in their study found that the average intake of calories in pregnant females were 1654 kcal/day in rural area and 1773 kcal/day in tribal area. Mean dietary intake of proteins in both pregnant and lactating women in the study population was low with deficit of 23 gm and 23 gm respectively. Similar findings are reported by Saxena et al 29.5% and 24.5% women were taking inadequate calorie and protein intake respectively.⁶ Rao et al in their study found average protein intake was 45 gm/day in rural and 43 gm/day in tribal area.⁷ In this study only 66% women take pulses in their diet. 35% women take fruits, 70% take milk and 25% women eat non-vegetarian food like meat at least once a week. In other study conducted by Kanade et al in Pune reported that 75% women had pulses, 77% women had fruits at least once a day and 36% were taking non-vegetarian more than once in a week.⁸

Limitations of the study was these differences in finding of various studies may be due to variation in dietary preferences regionally and culturally.

CONCLUSION

Maternal education had a very significant impact on the poor nutritional status of pregnant women and lactating mothers. Hence, strategies to encourage girl's education to be adapted by all the developing countries.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee of RVMIMS and RC

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