Nutritional Status of Tribal Pregnant Women

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ABSTRACT: *Diet and nutrition are important factors in the promotion and maintenance of good health throughout the life cycle. The health and nutrition problems of the vast tribal population of India were as varied as the tribal groups themselves who presented a bewildering diversity and variety in their socio-economic, socio-cultural and ecological settings. A cross-sectional descriptive and community based research was done in Alipurduar district of West Bengal and Dhanbad district of Jharkhand to assess and compare the nutritional status of tribal pregnant women. A total of 340 respondents, 170 respondents from Alipurduar district and 170 respondents from Dhanbad district were selected randomly. The data were collected by the researcher herself with the help of pre structure interview schedule. The collected data were arranged, analyzed and interpreted to draw the conclusion. The study inferred that majority of the respondents (76.47% in Alipurduar and 83.53% in Dhanbad) were under age group 21-30 year, they belong to Hindu religion. More than one-third (33.53%) of the respondents in Alipurduar and half (50%) of the respondents in Dhanbad are lying below optimum level of BMI. Energy, protein, calcium and iron were deficient than RDA in respondent's diet in both the study area. Improving the infrastructures, improve the health care facilities and in-flow of technical man power will help to solve the health problem of the tribal community.*
Keywords *Diet and Nutrition, Tribal pregnant women, RDA and BMI*

I.   INTRODUCTION

The nutritional status of pregnant women directly influenced their reproductive performance and the birth which is crucial to an infant's chances of survival and to its subsequent growth and development. Income, prices, individual preferences and beliefs, cultural traditions, as well as geo-environmental, social and economic factors all interact in a complex manner to shape dietary consumption patterns and affect the morbidity and clinical status of tribal men in general and tribal women in particular. The situation was particularly serious in view of the fact that both rural and tribal women had a heavy work load and anaemia had a profound effect on their psychological and physical health. Maternal malnutrition which was quite common among the tribal women was also a serious health problem, especially for those having many pregnancies too closely spaced, and reflected the complex socio-economic factors.

II.   METHODOLOGY

Community-based, cross sectional descriptive study was conducted in Alipurduar district of West Bengal state and Dhanbad district of Jharkhand state which was selected purposively to assess the nutritional status of tribal pregnant women. A total of 340 respondents, (170 respondents from Alipurduar district and 170 respondents from Dhanbad district) were selected randomly. The data were collected by the researcher herself with the help of pre structure interview schedule. The collected data were arranged, analyzed and interpreted to draw the conclusion.

III. RESULTS AND DISCUSSION

Tables I: General profile of the respondents

Sl. No.	Particulars		Alipurduar		Dhanbad	
1.	Age (in year)	Group/Class / Category	Frequency (N=170)	Percentage	Frequency (N=170)	Percentage
		Up to 20	23	13.53	23	13.53
		21-30	130	76.47	142	83.53
		31-40	17	10.00	05	02.94
2.	Education	Illiterate	27	15.88	54	31.76
		Can read and write	17	10.00	46	27.06
		Primary	81	47.65	55	32.35
		Secondary	34	20.00	14	08.24
		Higher secondary	10	05.88	0	00.00
		Graduate	01	00.59	01	00.59
3.	Religion	Hindu	112	65.88	164	96.47
		Muslim	0	00.00	0	00.00
		Christian	50	29.41	06	03.53
		Others	08	04.71	0	00.00
4.	Occupation	House wife	54	31.76	131	77.06
		Agricultural labour	19	11.18	36	21.18
		Tea Garden labour	91	53.53	0	00.00
		Service	0	00.00	0	00.00
		Business	0	00.00	0	00.00
		Other work	06	03.53	03	01.76
5.	Income of the family (Annual)	Up to 25000	11	06.47	71	41.76
		25001-50000	114	67.06	96	56.47
		50001-75000	21	12.35	02	01.18
		75001-100000	14	08.24	01	00.59
		Above 100000	10	05.88	0	00.00

The majority of the respondents (76.47% in Alipurduar and 83.53% in Dhanbad) were under age group 21-30 year. 31.76 per cent respondents were illiterate in Dhanbad the primary education in Alipurduar was much higher (47.65%) than that in Dhanbad (32.35%). About the knowledge of 'reading' and 'writing' the respondents from Dhanbad was higher (27.06%). Education level is an important factor for the livelihood and nutritional status of women (**Sanghvi, Ross, & Heymann, 2007).** The study indicates that 96.47 and 65.88 per cent respondents are Hindu in Dhanbad and Alipurduar respectively. Other important religious category is Christian; it is 29.41 per cent in Alipurduar

In regard to occupation of the 'subjects', like 'House wife', who are not involved any mentionable income generating outside work, is higher (77.06%) in Dhanbad than in Alipurduar where it is 31.76 per cent and the respondents, used to work in agriculture, in tea garden and in other laborious job, is cumulatively higher (68.24%) than in Dhanbad (22.94%). 67.06 per cent respondents from Alipurduar and 56.47 per cent respondents from Dhanbad have annual income between rupees 25001-50000.

Table II: Distribution of the respondents by BMI status

Particulars		Alipurduar		Dhanbad	
BMI	Ranges	Frequency (N=170)	Percentage	Frequency (N=170)	Percentage
Under-weight	<18.5	57	33.53	85	50.00
Normal-weight	18.5-20	49	28.82	42	24.71
Over-weight	20.1-25	52	30.59	38	22.35
Obesity	>25	12	07.06	05	02.94
Total		170	100.00	170	100.00

χ^2 Cal.value=11.105, χ^2 Tab value=7.185, at 5% level

Source: Mallikarjuna, et al., 2010

The table 2 shows that body mass index (BMI) of pregnant women of Alipurduar 33.53 per cent and 50 per cent in Dhanbad are lying below optimum level of BMI. Only 28.82 per cent respondents in Alipurduar and 24.71 per cent in Dhanbad were remain in optimum category of BMI level whereas, 30.59 per cent of Alipurduar and 22.35 per cent of Dhanbad are lying in overweight category, and 07.06 per cent of respondents in Alipurduar and 2.94 per cent in Dhanbad were found obesity.

The calculated value of chi-square is higher than the table value, therefore it is concluded there is significant difference between BMI and different weight of the respondents both district.

Table III: Mean nutrient-intake (MNI) in comparison with to Recommended Dietary Allowances (RDA) of the respondents.

	Alipurduar			Dhanbad			t-cal value	t- tab value (at 5% level)
Nutrient Intake	Mean Nutrient Intake	RDA	Deficient (-) or Surplus(+) with %	Mean Nutrient Intake	RDA	Deficient (-) or Surplus(+) with %		
Energy (kcal/day)	2050.24	2580	-529.76	1739.48	2580	-840.52	3.077*	2.306
Protein (g/day)	50.67	78	-27.33	44.19	78	-33.81	2.204 (NS)	2.306
Fat (g/day)	22.43	30	-7.57	30.18	30	+0.18	-5.632 (NS)	2.306
Carbohydrate (g/day)	397.96	175	+222.96	319.43	175	+144.43	3.336*	2.306
Calcium (mg/day)	319.87	1200	-880.16	278.85	1200	-921.15	2.046 (NS)	2.306
Iron (mg/day)	11.86	35	-23.14	8.25	35	-26.75	2.279 (NS)	2.306

*Significant, NS = Not Significant

Protein, fat, calcium and iron intake were deficient than RDA both the study area. In case of fat intake it is little higher than RDA in Dhanbad and deficient in Alipurduar and in case of carbohydrate intake it is much higher than RDA in both the area.

Since the calculated value of 't' in case of protein (2.204), fat (-5.632), calcium (2.046) and iron (2.279) are smaller than the table value of 't' on 4 degree of freedom and at 5% level of significance so the null hypothesis is accepted. Therefore it can be concluded from the above data that there is no significant difference between two districts as regards to the mean intake of above four nutrients.

The calculated value of 't' in case of energy (3.077) and carbohydrate (3.336) are greater than the table value of 't' on 4 degree of freedom and at 5% level of significance so the null hypothesis is rejected hence it is concluded that there is a significant difference between two districts as regards to the mean intake of above two nutrients.

IV.   CONCLUSION

It is concluded that more than one third of the respondents from Alipurduar and half of the respondents from Dhanbad were under 'under-weight' category. Protein, fat, calcium and iron intake were deficient than RDA in both the study areas. In case of 'fat-intake' it is little higher than RDA in Dhanbad and in case of 'carbohydrate-intake' it is much higher than RDA in both the areas. There is a significant difference between Alipurduar and Dhanbad as regards there respondents' BMI. The study also shows that there is no significant difference of nutrient intake between both the districts as regards to protein, fat, calcium and iron. In case of energy and carbohydrate intake there is significant difference between both the study areas. Govt. should take proper steps to provide quality health service in a location specific manner in the tribal prone area to improve the health and nutritional status of the tribal pregnant women.

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