Original Research Article

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A study on nutritional status of adolescent girls of Dongria Kondh tribe

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ABSTRACT

Background: Nutritional status of adolescent girls are different from the younger children and older adults. In the tribal population they are more neglected in comparison to boys because of limited resources and health care facilities. In the present study we have done assessment of nutritional status of adolescent girls in the Dongria Kondh tribe in Odisha.

Methods: Dongria Kondh' residing in Rayagada district of Odisha, having its maximum concentration was studied. Bissam Cuttack block was selected randomly as the study area. Moreover, coincidently majority of the study population resided in the block having villages like Kurli, Khambesi, Hundijali, Muthesi, Khajuri, Mundabali and Uppar Gandatallli which are situated as a distance of 5000 ft height above sea level. 89 adolescent girls were considered to assess the nutritional status of tribal adolescent girls of Dongria Kondh tribe to study the different factors associated with the nutritional status of the girls and to suggest remedial measures for integrated development of the adolescent girls.

Results: Most of the girls (81%) were from nuclear family. All girls belonged to low socio economic status. The energy intake was adequate only in 35% of study subjects. The protein intake was adequate in only 38% of study subjects. The common types of food consumed was rice, ragi and seasonal fruits and all were non vegetarian.

Conclusions: The widespread problem of poverty, illiteracy, malnutrition, absence of sanitary living condition, ignorance of cause of disease still are the contributing factors for the deplorable condition prevailing amongst the adolescent girls of the tribal group. As they are future mothers, improvement of nutritional status should be the primary objective.

Keywords: Adolescent, Dongria kondh, Nutritional

INTRODUCTION

The term adolescence meaning 'to emerge' or 'achieved identity' is a new concept. Adolescent girls comprise nearly 10.5% of the population. Odisha occupies 2nd place in terms of tribal population (10.84%) in India. The widespread poverty, illiteracy, malnutrition, ignorance, lack of health services or inability to seek & use them are contributing factors for the deplorable condition prevailing amongst tribal groups. Tribal girls

have high incidence of anemia and malnutrition as girl child received less than the desired nutritional requirement.² The problem of tribal females differ from a particular area to another and a study on the nutritional status of primitive adolescent girls can throw light on planning for their welfare which is more meaningful and effective. Objective of this study was to assess the nutritional status of tribal adolescent girls of Dongria Kondh Tribe, to study the different factors associated with the nutritional status of the girls and to suggest

remedial measures for integrated development of the adolescent girls.

METHODS

The total population of the Dongria Kondh tribe in the 3 blocks of Rayagada district, i.e. Bissam Cuttack, Muniguda and Kalyansinghpur is 8850. Out of the 3 blocks Bissamcuttack block was randomly selected as the study area. They reside in small villages Kurli, Khambasi, Hundijali, Huthesi, Khajuri, Mundabali and uppar gardtali. This study was done from January 2016 up to May 2016. All adolescent girls from the above tribe who are willing to participate in the study were included. The adolescent Dongria Kondh population is 10% of the total population i.e. 885 adolescent girls of which 10% were considered as study population (89 adolescent girls). However, 4 extra girls were selected because of their enthusiasm and interest was included. So final analysis was done with respect to 93 adolescent girls. Instruments

Used: 1. Schedule of general information of the family. 2. Schedule cum questionnaires for dietary assessment. With the help of NIN, developed dietary assessment chart, based 24 hours recall method, the dietary intake of individual adolescent girls was assessed. Standardized utensils were used for dietary assessment. Clinical examination of the study subjects was also done.

RESULTS

Out of all studied girls 92.47% were unmarried, 6.47% were married, 81.3% belong to nuclear family, 81.3% had nuclear family and 18.7% had joint family (Table 1).

SE Status of the studied households was classified as per social score methods adopted by WHO International Collaboration Patterns study on family formation 1976. All the subjects belonged to low socio economic status. (Table 2). 6.45% of subjects had severe anaemia. 75.27% had moderate and 18.28% had mild anemia (Table 3).

Table 1: General information of the study subjects.

Sl. No	Variable	(10-14) years	%	(15-19) years	%	No.	%
1	No. of Adolescent Girls	18	19.4	75	80.6	93	100
	Marital Status						
	Married	0	0	6	8	6	6.47
2.	Unmarried	18	100	68	90.7	86	92.47
	Widow	0	0	1	1.3	1	1.08
	Type of Family						
3.	Joint	1	5.6	13	17.3	14	18.7
	Nuclear	17	94.4	62	82.7	79	81.3
	Total Family Member						
	1-3	0	0	0	0	0	0
4.	4-6	2	11.11	11	11.83	13	13.98
	7-9	13	72.22	53	70.67	66	70.97
	<u>≥</u> 10	3	16.67	11	14.67	14	15.05

Table 2: Economic status of the study subjects.

SE Status	No	%
High	0	0
Middle	0	0
Low	93	100
Total	93	100

Table 3: Anaemia with BMI.

	BMI					Tatal		
Anemia	Normal		Low		Total	Total		
	No	%	No	%	No	%		
Mild	12	21.1	05	13.9	17	18.28		
Moderate	41	71.9	29	80.6	70	75.27		
Severe	04	7.0	02	5.5	06	6.45		
Total	57	61.30	36	38.7	93	100		

Table 4: Energy intake of study subjects.

Energy Intake	Adolescei	nt Groups	— Total	Total			
	10 – 14 years		15 – 19 y	15 – 19 years		Total	
	No	%	No	%	No	%	
Adequate	02	11.11	31	41.33	33	35.48	
Inadequate	16	88.89	44	58.67	60	64.52	
Total	18	19.40	75	80.60	93	100	

P<0.05- statistically significant.

Table 5: Protein intake of study subjects.

Duntain	Adolescent	Groups	Total	Total			
Protein Intake	10 – 14 year	rs	15 – 19 y	ears	Total	Total	
Шаке	No	%	No	%	No	%	
Adequate	11	61.11	24	32	35	37.64	
Inadequate	07	38.89	51	68	58	62.36	
Total	18	19.40	75	80.60	93	100	

P<0.05- statistically significant.

Table 6: Morbidities with age.

Diff. Nutritional Morbidities	Adolescen 10 – 14 ye		ars	Total		
	No	%	No	%	No	%
1. Anemia						
Mild	4	22.2	13	17.3	17	18.3
Moderate	14	77.8	56	74.7	70	75.3
Severe	0	0	06	8.0	0.6	6.4
2. Angular stomatitis	3	16.67	07	9.33	10	10.75
3.Cheilosis	6	33.33	05	6.67	11	11.83
4. Conj Xerosis	0	0	0	0	0	0

Table 7: Common types of food consumed.

	Adolese	cent Groups			Total	
Different Types of Food	10 – 14		15 – 19	15 – 19 years		
	No	%	No	%	No	%
Breakfast						
Ragi	03	16.7	04	5.30	07	7.53
Rice	01	5.6	10	13.3	11	11.83
Rice & Ragi both	13	72.2	30	40	43	46.24
Mangoes	0	0	24	32	24	25.81
Nothing	01	5.6	07	9.3	08	8.6
Total	18	19.40	75	80.60	93	100
Lunch						
Rice only	05	27.8	33	44	38	40.86
Ragi only	10	55.6	35	46.6	45	48.39
Rice + Ragi	0	0	02	2.7	02	2.15
Dry fish+ragi + rice + mangoes	03	16.7	05	6.7	08	8.60
Total	18	19.40	75	80.60	93	100
Dinner						
Ragi only	4	22.2	27	36.0	31	33.33
Rice only	5	27.8	18	24.0	23	24.73
Ragi+Rice	1	5.6	5	6.7	6	6.45
Ragi+Rice + Mangoes	2	11.1	4	5.3	6	6.45
Ragi+Rice + Dry Fish	6	33.3	20	26.7	26	27.96
Ragi+Rice + Dry Fish + Mangoes	0	0	1	1.3	1	1.08
Total	18	19.40	75	80.60	93	100

88.89% of girls of 10-14 year age group had inadequate energy intake whereas only 58.67% of girls of 15-19 year age group had inadequate energy intake. But protein intake was adequate in 61.11% of 10-14 year age and 32% of 15-19 years of age (Table 4 and 5).

Different nutritional morbidities are common in all girls. Most common was anemia followed by angular stomatitis and cheilosis (Table 6).

Ragi and rice were type of food consumed by the girls in breakfast, lunch and dinner. Few girls preferred mango and fish along with rice and ragi as shown by Table 7.

DISCUSSION

The mean height and weight of the early adolescent were 137.5±3.1 cm and 37.8±3.8 kg respectively. Whereas that of late adolescent were 153.4±5.68 cm and 44.1±4.2 kg respectively. Out of 57 adolescent girls with normal BMI, 12 (21.1%) were having mild anemia, 41 (71.9%) moderate anemia and 4 (7%) severe anemia. In a study in Tripura, significant relationship was found between BMI and anemia.3 From the diet survey energy intake was calculated & compared with standard requirement. Thus who were consuming 2060 kcal/day in the age of 13-19 years and those consuming 1970 Kcal/day in age group 10-12 years were considered adequate.⁴ Inadequate energy intake was found to be more in early adolescent period than in the late adolescent period which was similar to study by Maiti.⁵ In another study it was found that energy deficiency was high among Langia Sara (89.4%) and Kuttia Kondh (88.9%) in the primitive tribes of Rayagada district of Odisha.⁶ Out of 93 adolescent girls 35 (37.64%) had adequate protein intake whereas 58 (62.36%) had inadequate protein intake. Inadequate protein intake was found more in late adolescent period (80.60%) as compared to early adolescent period (68%).

All were non vegetarian. Dry fish & Buffaloes were the common non vegetarian food of them. In a study conducted in rural adolescent girls, it was found that 117(48.14%) were vegetarian. 109 (44.85%) were non vegetarian. In the earlier previous studies carried out, in tribal adolescent girls residing in the different parts of India, revealed similar rate of undernutrition. 7-9 In Paschim Medinipur district of West Bengal, the prevalence of malnutrition was 43.3% among the Kora-Mudi girls which was similar to ours. 10 In our study most of the girls (81%) were from nuclear family. All girls belonged to low socio economic status. The energy intake was adequate only in 35% of study subjects. The protein intake was adequate only in 38% of study subjects. The common types of food consumed was rice, ragi and seasonal fruits and all were non vegetarian leading to malnutrition. Government and society must take rapid initiative to correct it.

CONCLUSION

The widespread problem of poverty, illiteracy, malnutrition, absence of sanitary living condition, ignorance of cause of disease still are the contributing factors for the deplorable condition prevailing amongst the adolescent girls of the tribal group. They are the future mother of our country. Malnutrition a perennial problem, exists amongst them. Government must focus on, how to provide integrated efforts to provide nutrition education, good environment and to bring about overall improvement in health status.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- Mahapatra. Tribes of Orissa, SC & ST, R&TI BBSR. 2008;4:29-38.
- 2. World Health Organization. Growth reference data for 5-19 years. Available at: http://www.who.int/growthref/who2007/en/index.html. Accessed on 2 March 2017.
- Sil SK, Roy Sarkar S, Saha S, Roy S. Assessment of nutritional status of rural tribal children in Tripura. Indian Pediatr. 2011;48:488–9.
- Rao KM, Balakrishna N, Laxmaiah A, Venkaiah K, Brahmam GNV. Diet and nutritional status of adolescent tribal population in nine states of India. Asia Pac J Clin Nutr. 2006;15:64–71.
- 5. Maiti S, Ghosh D, Paul S. Prevalence of thinness among early adolescent in rural school girls of Paschim Medinipur, West Bengal, India. J Trop Pediatr. 2011;57:496–7.
- 6. Chakrabarty S, Bharati P. Physical growth and nutritional status of the Shabar tribal adolescents of Orissa, India: A Cross-sectional Study. Malaysian J Nutrition. 2008;14:101–12.
- 7. WHO, Women's Health; Improve our Health, Improve our World. Paper presented at 4th World Conference on women, Geneva. 1995;2:1-218.
- 8. Ganguly SK. A study of adolescents in rural area; Health and Population Perspective and Issue. 2001:24(4):18-25.
- Rao KM, Kumar RH, Venkaiah K, Brahmam GNV. Nutritional status of Saharia - A primitive tribe of Rajasthan. J Hum Ecol. 2006;19:117–23.
- 10. Bisai S, Mallick C. Prevalence of undernutrition among Kora-Mudi children aged 2-13 years in Paschim Medinipur District, West Bengal, India. World J Pediatr. 2011;7:31–6.

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