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Dietary habits of tribal people of Kandhamal, Odisha

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Abstract

The study was conducted among the tribal people of Kandhamal, Odisha. By random sampling method total 80 tribal households of Desia Kandha (Desia Khonds) tribe were selected from two different villages (Brenguda and Penala) of Kandhamal. Each 40 households were selected from both the villages of Kandhamal district to assess their dietary habits which are the major reasons of poor nutrient intake. The average age of the women were 43.7 ± 13.43 years, the average height of the women were 148.5 ± 6.2 cm and the average weight of the women were 45.8 ± 7.20 kg. The study imparted that there were 53.75% women were consuming meals three times a day and 46.25% consuming meals two times a day. Most of them i.e 51.25% women skipped their meals in a day and 95% women made changes in their food preparation practices which were the cause of poor nutrient intake. Therefore, for a viable health and a good nutritional status of the women and their families have to increased food consumption and follow appropriate dietary practices.

Keywords: Dietary habits, food preparation, nutrient

Introduction

Odisha is a tribal populated state having a tribal population of 9.59 million, constituting 22.86% of the total population, according to Census, 2011. In Odisha, Kandhamal is one of those districts where the intensity of nutritional problems are very high. More than 50% of the population constitutes ST community and most of them belongs to the Kandha (Khonds) tribe. In Kandhamal poor dietary habits of women were the cause of poor nutrient intake.

Wright. L *et al.* (2017) analysed the dietary patterns and nutritional health of the Mishmi tribes people; and evaluated the cultural beliefs surrounding food and their potential impact on nutritional health. The study revealed that the tribal people were consuming a two-meal pattern diet with high carbohydrate, low fat content, poor in vitamin A, thiamin, riboflavin, niacin, B12, vitamin C, calcium, and iron.

Materials and Methods

The study was conducted in Kandhamal district of Odisha. Kandhamal district was selected by purposive sampling method. By random sampling method total 80 tribal households of Desia Kandha (Desia Khonds) tribe were selected from two different villages (Brenguda and Penala) of Kandhamal. Each 40 households were selected from both the villages of Kandhamal district. Pre-tested questionnaire was prepared for the accumulation of data from the selected households of Kandhamal.

Personal interview method was used to collect the general information of the respondents through structured questionnaire. The food intake was analysed by 24 hour recall method using a set of pre standardized vessels. Data regarding the type of preparation, actual ingredients used and amount of food consumed by each respondent were recorded on the scheduled designed for the purpose. Individual consumption of each food stuff was assessed showing appropriate weights of different food stuffs in various vessel sizes. Frequency and percentage were computed to explain the demographic profile of the individuals. Mean and standard deviation were calculated for dietary intake of the individuals.

Results

General information of respondents

By random sampling method total 80 households were selected for the study. Each 40 households were taken from 2 villages. Data were collected from background characteristics of respondents and data has been showed in table 1.

It was revealed that 53.75% and 46.25% of women were

belonged to 23-44 years and 44-73 years respectively. There were 57.5% illiterate, 10% were in between class 1 to 5th and 27.5% were in between 6th to 10thand 5.10% were in between 11th–graduation. Majority of women i.e 80 percent of women were agricultural worker whereas 20% were non-agricultural worker. Families are divided into 2 groups *viz*., nuclear and joint. The analysis indicated that 62.5% were lived in nuclear family and 37.5% were lived in joint family. It shows that 52.5% families belonged to small family (i.e 1 to 4 members in the family) and 47.5% families belonged to large family (i.e 5 to 9 members in the family).

Table 1: General information of respondents

Particulars	Category	Frequency	%
Age (Years)	**Female**		
	23-44	43	53.75
	44-73	37	46.25
	Total	80	100
	Average (Mean ± SD)	43.7 ± 13.43	
Education	**Female**		
	Illiterate	46	57.5
	1st- 5th	8	10
	6th-10th	22	27.5
	11th-graduate	4	5
	Total	80	100
Occupation	Agricultural worker	64	80
	Govt. job	3	3.75
	Non-agricultural worker	13	16.25
	Total	80	100
Type of family	Nuclear	50	62.5
	Joint	30	37.5
	Total	80	100
Family size	1-5	42	52.5
	5-9	38	47.5
	Total	80	100
	Average (Mean ± SD)	4.7 ± 1.77	
% = Percentage			

Average consumption per month of HHs from different food groups

The average intake of cereals and millets was 30.5 ± 16.25 kgs, pulses and legumes was 4.4 ± 1.95 kgs, vegetables was 16.5 ± 8.12, fruits was 0.81 ± 1.44, meat, fish and poultry was 4.48 ± 2.77, nuts and oil seeds was 0.78 ± 0.34 kgs, milk was 1.50 ± 6.13lts, fats and oils was 2.2 ± 0.63 kgs and sugar was 1.5 ± 0.52 kgs.

Table 2: Average consumption per month of HHs from different food groups

Food groups	Mean ± SD
Cereals and millets (kg)	**30.5 ± 16.25**
Pulses and legumes (kg)	4.4 ± 1.95
Vegetables (kg)	16.5 ± 8.12
Fruits (kg)	0.81 ± 1.44
Meat, fish and poultry (kg)	4.48 ± 2.77
Nuts and oilseeds (kg)	0.78 ± 0.34
Milk (lt)	1.50 ± 6.13
Fats and oils (kg)	2.2 ± 0.63
Sugar (kg)	1.5 ± 0.52

Dietary Habits

Dietary habit of 3.75% respondents were vegetarian and 96.25% non-vegetarian. Most of the respondents i.e 53.75% consumes meals three times in a day and 46.25% consumed meals two times in a day. It was observed that 51.25% of respondents skipped their meals in a day and 48.75% respondents did not skipped their meals. Changes in food preparation was followed by 95% of respondents and do not followed by 5% of respondents.

Only 3.75% of respondents were consumed tea with milk and 96.25% were not consumed whereas 96.25% of respondents were consumed tea without milk/black tea and 3.75% were not consumed. Only 5% of respondents were consumed milk and 95% were not consumed. The average water consumption of respondents were 3243.8 ± 346.71 ml/day. The average consumption of tea without milk was 155.6 ± 84.19 ml/day.

Table 3: Food consumption habits of respondents

Dietary habits	Category	Frequency	%
Food preference	Veg	3	3.75
	Non-veg	77	96.25
	Total	80	100
Meals consumption	3 times a day	43	53.75
	4 times a day	37	46.25
	Total	80	100
Skipping of meals	Yes	41	51.25
	No	39	48.75
	Total	80	100
Changes in food preparation	Yes	76	95
	No	4	5
	Total	80	100
Fluid consumption			
Tea with milk	Yes	3	3.75
	No	77	96.25
	Total	80	100
Tea without milk	Yes	77	96.25
	No	3	3.75
	Total	80	100
Milk	Yes	4	5
	No	76	95
	Total	80	100
Water (ml) Mean ± SD	3243.8 ± 346.71		
Tea without milk (ml) Mean ± SD	155.6 ± 84.19		

% = Percentage

Food consumption practices

Total 8 groups of food items were given to the subjects and they were expected to answer their frequency of consumption in terms of thrice a day, twice a day, once in three days, occasionally, weekly, only during sickness and rarely.

Among cereals majority of subjects (75%) consumed parboiled rice twice a day, raw rice was consumed occasionally by 92.5% of subjects. There were 63.75% subjects consumed wheat flour only during sickness, 80% of subjects consumed rice flakes weekly. Puffed rice was consumed once in three days by 65% of subjects. About 56.25%, 55%, 92.5% of subjects consumed greengram, bengalgram, blackgram occasionally and 48.75% consumed pigeon pea once in a day. Among nuts and oil seeds a total of 83.75%, 98.75% of subjects consumed ground nut, sesame occasionally respectively, 38.75% of subjects consumed mustard oil occasionally and 41.25% consumed palm oil twice a day.

From fleshy foods, meat and fish consumed occasionally by

78.75% and 76.25% of subjects respectively, chicken and eggs consumed weekly by 60% and 55% respectively. Ghee consumed occasionally by 98.75% of subjects, sugar consumed once in a day by 61.25% and RTE foods consumed occasionally by 76.25% subjects.

Table 4: Food consumption Practices of respondents

Particulars	Category	Frequency	%
Cereals			
Parboiled rice	Thrice a day	20	25
	Twice a day	60	75
Raw rice	Occasionally	74	92.5
	Rarely	6	7.5
Wheat flour	Weekly	29	36.25
	Only during sickness	51	63.75
Rice flakes	Weekly	64	80
	Monthly	15	18.75
Puffed rice	Once in three days	52	65
	Weekly	28	35
Others (Semolina, Vermicelli etc.)	Monthly	41	51.25
	Occasionally	38	47.5
Pulses			
Redgram	Rarely	24	30
Greengram	Monthly	26	32.5
	Occasionally	45	56.25
Bengalgram	Monthly	28	35
	Occasionally	44	55
Horsegram	Weekly	19	23.75
	Occasionally	19	23.75
Blackgram	Monthly	6	7.5
	Occasionally	74	92.5
Pigeon pea	Once in a day	39	48.75
	Rarely	26	32.5
Nuts & oil seeds			
Ground nut	Monthly	19	23.75
	Occasionally	67	83.75
Sesame	Occasionally	79	98.75
Oil			
Mustard oil	Twice a day	15	18.75
	Occasionally	31	38.75
Refined oil	Twice a day	13	16.25
	Occasionally	15	18.75
Palm oil	Twice a day	33	41.25
	Rarely	4	5
Fleshy Foods			
Meat	Occasionally	63	78.75
Fish	Occasionally	61	76.25
Chicken	Weekly	48	60
Eggs	Weekly	44	55
Milk & milk products			
Milk	Rarely	5	6.25
Curd	Rarely	25	31.25
Ghee	Occasionally	79	98.75
Sugar	Once in a day	49	61.25
	Twice in a day	19	23.75
RTE foods (Biscuits, Mixtures)	Occasionally	61	76.25

% = Percentage

Cooking practices of respondents

Among the subjects the cooking practices were different such as 53.75% of subjects followed cutting of vegetables before washing and 46.25% followed cutting of vegetables after washing. There were 48.75%, 51.25% subjects cut the vegetables into medium pieces, small pieces respectively. Only 32.5% of subjects washed the rice once before cooking and 50%, 17.5% of subjects washed the rice twice, thrice before cooking respectively. All the subjects (100%) washed the dal before cooking, 58.75% and 41.25% of subjects washed the dal for once and twice before cooking respectively. About 97.5% of subjects did not add soda during cooking. Peeling of vegetables before cooking was followed by 52.5% subjects and not followed by 47.5% subjects.

Table 5: Cooking practices of respondents

Particulars	Category	Frequency	%
Cutting of vegetables	Before washing	43	53.75
	After washing	37	46.25
	Total	80	100
Cutting of vegetables into different sizes	Medium pieces	39	48.75
	Small pieces	41	51.25
	Total	80	100
Number of times-washing of rice before cooking	Once	26	32.5
	Twice	40	50
	Thrice	14	17.5
	Total	80	100
Washing of dal before cooking	Yes	80	100
Number of times-washing of dal before cooking	Once	47	58.75
	Twice	33	41.25
	Total	80	100
Addition of soda in dal	Yes	2	2.5
	No	78	97.5
	Total	80	100
Peeling of vegetables before cooking	Yes	42	52.5
	No	38	47.5
	Total	80	100

% = Percentage

Conclusion

It was found that major percentage of Respondents i.e 53.75% were consumed 3 meals per day and 46.25% were taking 4 meals per day. Most of the Respondents i.e 51.25% were reported to skip meals in a day. It was also revealed that more than half of the respondents were not following the proper cooking practices which causes nutrient loss and leads to poor health conditions. Therefore, for a viable health there is a need of increased food intake and appropriate dietary practices.

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