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Nutritional Health of Tribal Women of Pendra Plateau

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Introduction

The tribal being the backward and downtrodden section of the society, there conditions with regards to food production, availability and consumption is far from satisfactory. Though, agriculture is the mainstay of the tribal due to primitive level of technology and conservatism, the yield from their land to meet the requirements of food round the year was not good. Hence their diets are supplemented with edible wild roots, tubers, leaves, fruits, nuts and occasionally small gain from the surrounding forest (Chakravarty, 1993).Tribal women's health and nutritional status is bound up with social, cultural and economic factors that influence all aspects of their lives, and it has consequences not only for women themselves but also for the well being of their children, the functioning of households and distribution of resources (World Bank, 1996.)

Objectives

The main objectives of the present Paper is to assess dietary intakes of women in terms of quantity and quality.

Methodology

This study was carried out in Pendra Tahsil of Bilaspur District, C.G. This is a cross-sectional study. 560 households of Kewachi, Karangara, Dhanoli, Khondri , Lalati, Amadob, Belpat , Kotmi khurd , Piperkhuti sample village were considered to assess the level of socio-economic development of tribal women as well as 146 women of the selected households was included for assessment of nutritional status. All the females belonging to the age group of 15-49 years were defined as eligible females Nutritional status has been assessed on the basis of dietary intake and anthropometric measurement. for each women .BMI was computed on the basis of anthropometric measurement i.e. Height and weight. Dietary intake aspect, the total energy intake along with various nutrients intake has been computed as per "Nutritive value of Indian foods". The average have been compared with corresponding RDAS recommended by ICMR to know the adequacy of different nutrients in different groups. Nutrition prominently played a major role to determine the health status. Level of Nutrition is imbalanced

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Pendra Tahsil- Study Area

Pendra Tahsil is situated in the northern part of the bilaspur district with a geographical extension between 22°35'to 23°07' north latitude and 81°45'to 82°15' east longitude .Administratively it is divided into three development blocks and 35 patwari halkas over an area of 1643.66sq.k.m.Granite of Archean period, lime stone of cuddapah series and coal and sandstone beads of carboniferous era along with recent alluvial soil is the geographical formation of tehsil. Son and Gugar river of ganga drainage system forms the water system in pendra region. Soil of the study area is red and yellow which are locally know as kanhar, dorsa, matasi, and bhata. Climate of the region is monsoon type with maximum temperature of 32.70.c.g. in summer and 17.10.c.g. in winter. Annual rainfall of the region 199.68c.m.. 44.6% of the total geographical area of the tehsil is covered with forest. Net sown area is 28.54% while fellowland is 2.38% of the total geographical area . Paddy, wheat, and gram are the main crops grown in the study region. Area under kharif crops is 44063 hec. Of which paddy consist 63.8% land while pulses and oilseeds are grown over an area of 93759hec. and 1304 hec. Respectively. Total population of the study region is 223065 of which female population is 110700 and male population is 112365.(2011 census)

Location and Accessibility of sample Villages

Sample villages in the study area are located within a radius of about 5 to 25 k.m. from their tehsil headquarter . Only one village Lalati of gaurella block lie within the radius of 5 kilometers. While maximum village karangara, dhanouli ,khodri, kewachi, amadob, belpat and piparkhunti lie within a radius of 10 to 20 kilometers .Only one village kotmikhurd of gaurella block within a radius 25 kilometers.

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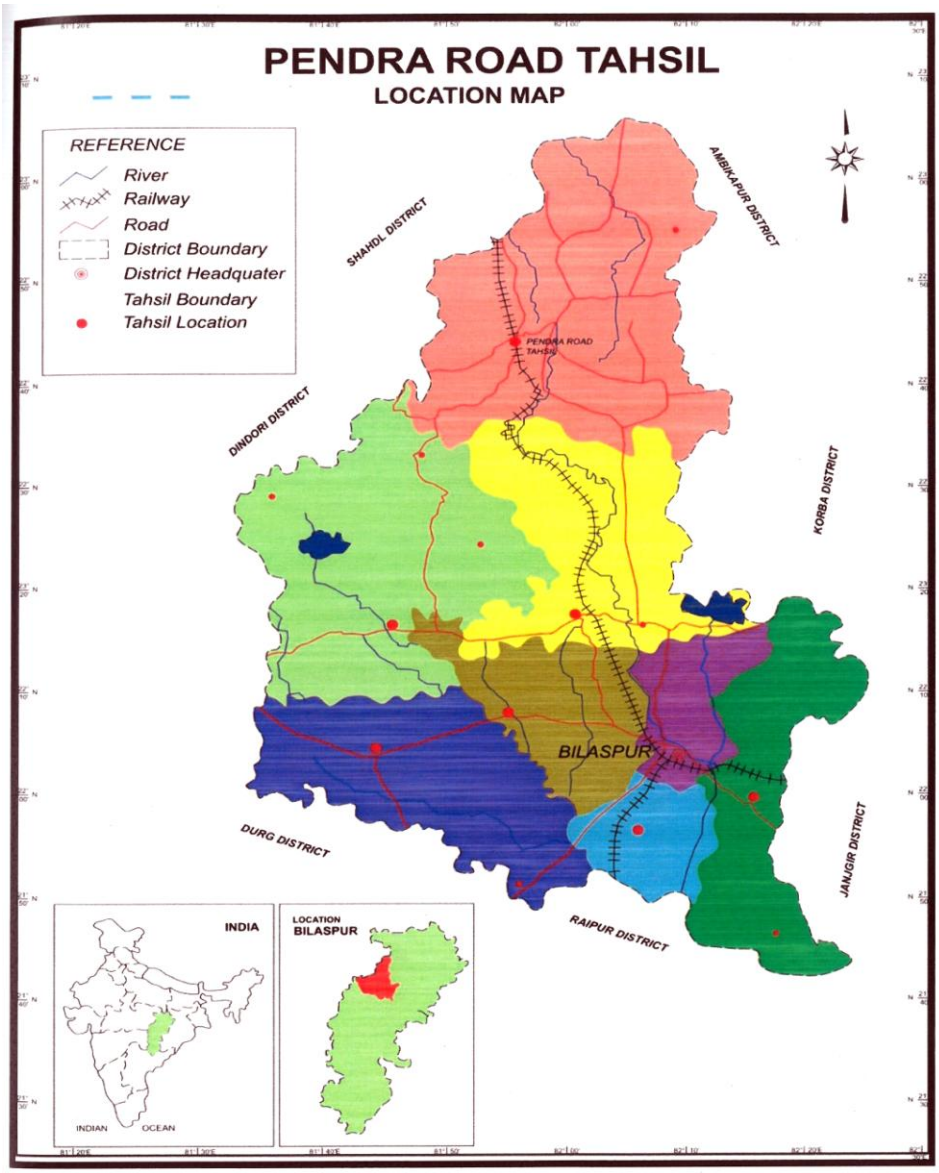

Figure 01

Socio-Economic Profile of Sample Respondents

In Pendra region , a general characteristics of the sample as follows:-

Table 1.0

Pendra Region : General characteristics of sample respondents

S.No.	General Characteristics	Selected House Holds
1	Total Number House Holds	560
2	Total Membrs	2918
3	Total Male Members	1459
4	Total Female Members	1459
5	Average Family Size	5.2

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6	Sex Ratio	974
7	Nuclear Family (no & per cent)	383(68.28)
8	Joint Family (no & per cent)	148(26.43)
9	Extended Family (no & per cent)	29 (5.1)
10	Households with any Literate Members (no & %)	156 (5.34)-
11	Households with Just-Literate Members no & %)	1234 (42.34)
12	Households with Highest Education Primary (no & %)	1022 (35.02)
13	Households with Highest Education Secondary (no & %)	182 (4.38)
14	Illiterate Male (no & %)	128(8.77)
15	Illiterate Female (no & %)	196(13.43)
16	Just-literate Male (no & %)	646 (44.47)
17	Just-literate Female (no & %)	590 (40.44)
18	Male with Primary Education (no & %)	559 (38.3)
19	Female with Primary Education (no & %)	463 (31.73)
21	Male with min Secondary Education (no & %)	117(8.01)
21	Female with min. Secondary Education (no & %)	164(11.2)

Source: field survey

Table shows that the number of selected households in the study region are 560 and the total surveyed population is 2918 of which male consists 1459 whereas female are 1459 in number, thus the sex ratio of the study area is 974/1000 male population. Average family size of sample household is 5.3 most of the families (68.39%) the region is nuclear type while 26.43 families were joint family that indicating the joint family system is not acceptable in this region. The reason is most of the workers are belongs to another place, came for the service purpose to colony area so single family is observed more in the region. In the study region (42.34%) households are just literate, 1022 (35.02%) households are educated up to primary level while 182 households (6.23%) are educated up to Higher Secondary and above the no. of illiterates is 128(%) and 196(13.43) only That indicate high level of literate family in the study area.In the region most of the male- female respondents are educated up to primary level .no. of male educated are 559 (38.3%) whereas 31.73% (463) female and educated up to primary level. Respondents with higher secondary level education are 8.01% (male) and 11.2% (female) respectively. In the study region total working population is 56.74

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percent while 43.26 percent population is parasite and still waiting for job which indicate the poor economic status of the respondents About 45.67 percent of the households belong to marginal farmers category owning only a piece of landless than 2 acres 28.78 percent household belongs to the small farmers category owning land of 2-4 acres. Similarly 19.55 percent land owners belong to the medium land size holding (4-10 acres). 3.88 percent households come under large land holding category possessing 10 acres and above of land while 12.88 percent of total respondents are do not own any land and they are land less works as agricultural labors .In Karangara and Kewachi villages in 16 percent (highest) and lowest landless 10 percent in Amadob and Kotmikhurd. The average per capita income of the study regions is 2874.24 Rs. (Most) of the workers got 5000 /-amount as salary by govt. servent per month Per capita in the region, 50.71 percent of households per capita income is 1000-3000 Rupees and approximately 25.71 percent had per capita income less than 1000 Rs.

Dietary Habits of Study Area

Most of the households (65.18%) used fresh food. While stale food (last night left over food) is used only 34.82 percent of the total sample respondent's households. Most of the respondents rarely used stale food accepts in summer season when they take "Basi-Bhat", which prevent them from heat. It is taken by more than 3/4 households daily .Groundnut oil is prefrebly used by the 74.46 percent of the household 25.54 percent used mustered oil. It is noted that Bihar-Bangal base workers used mustard oil while Chhattisgarhi based prefer groundnut oil and some time linseed oil.In the regions 100 percent households take rice daily while pulses intake of household accounts for 76.43 percent of the total households. Vegetable is an important food intake by all. 36.61% percent of household not taken milk every day. Oil, sugar & jaggry intake are also an integral part of daily food intake. Only 36.43 percent of household's consume meat daily .others are usually taken meat ,once & twice in a month.

Consumption pattern of food Intake in the study Region

The Principal source of nourishment for a human body is food. It is called nutrients, present in the food in different amount. Health and nutritious food and a balanced are interdependent. The duel of the study area primarily based on food grain because of its universal availability and the cost that is within the purchasing power of the people. The mine wise food intake pattern of the study region is given in Table below:

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Table 1.2
Study Area: Per Female per Day Intake of Food Item

Sample villages	Rice	Dal	Veg.	Meat/fish	Sugar	Milk
Karangara	232.6	24.20	63.45	6.23	4.25	15.40
Dhanouli	402.48	26.27	135.6	5.25	8.75	18.48
Khodri	375.40	55.4	230	19.38	18.36	126.70
Lalati	356.5	53.6	103	6.58	4.59	22.23
Kewachi	412.37	57.5	185	12.42	10.02	29.69
Amadob	392.2	56.7	127.8	11.92	9.93	25.31
Belpat	372.7	54.6	145.2	9.76	8.92	22.75
Kotmikhurd	410.7	49.9	138.7	11.17	10.73	19.97
Piparkhunti	252.8	28.7	72.9	8.31	5.24	17.65
Total	3207.75	406.87	1201.65	91.02	80.79	298.18
Average	356.41	45.20	133.51	10.11	8.97	33.13

Source – Field survey

.In the surveyed study areas the consumption of cereals specially rice is varied lowest in karangara village (232.6 gram) to highest in kewachi village (412.37 gram)In the study area per day female unit of pulses consumption is found only 54 gram which is 67.5 percent of the standard requirement (80 gram) average per day per adult unit consumption of vegetable is 133.5 grams which is more than 50% of the RDA (125 grams) In almost all study area the consumption of green leafy vegetable is extremely higher than RDA it ranges 185 gram in Kewachi to 230 gram Khodri which is highest in the region.The mean intake of fat & oil in the study region is 50 gram which is more than recommended norms by ICMR (40)grams per adult unit per day

Per day /capita Availability of Nutrients

caloric availability in the study area is 2125.33 kcal per day per adult unit. The availability of calories ranges 1772.4 K. Cal. in Karangara (lowest) to 2417.5Kcal in Kotmikhurd village. The whole region is deficits by 275 KCal. as regards the standards value of calories recommended by ICMR(2400)Kcal Average intake of protein in the study region is 45.72 gram which is 16.6 percent less than recommended value 60grams intensity of deferent study area the table above shows that all the study area, protein

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intake is less than 60 gram per day (60.4 gram estimated mean RDA) while in remaining study area are a protein intake among study area is percent less than recommended value , mean fat consumption was formed 18 gram per female per day which is about 15% more of the estimated mean RDA. Study area are intake of fat is 90% less than standard norms (20 gram). In rest of the areas the intake of fat is 6 to 17 gram more than recommended value area**.**The average intake of Iron Per adult unit per day in the study area is 19.97 gram which is 8.03 gram less than standard requirements (28 grams). In 22.22 percent of study area per adult unit per day iron intake is little more than recommended norms

Table 1.3
Per female per day nutrients intake in sample villages

Villages	Calorie	Protein	fat	Carbohydrate	iron	Thymine	riboflavin	vitamin
Karangara	1772.4	43.46	10.4	262.79	20.17	0.32	0.74	18.23
Dhanouli	2296.7	54.08	18.7	349.1	11.35	0.34	0.14	31.66
Khodri	2065.3	39.66	15.2	336.8	23.84	0.59	0.93	35.49
Lalati	2125.9	52.01	17.6	301.66	11.32	0.34	0.75	27.92
Kewachi	2305.7	57.05	19.2	351.3	25.61	0.49	0.78	38.65
Amadob	2167.7	43.23	14.2	292.5	18.73	0.33	0.68	32.73
Belpat	1863.0	41.05	13.7	312.13	26.76	0.45	0.72	37.34
Kotmikhurd	2417.5	42.18	16.2	325.74	22.32	0.52	0.67	28.92
Piparkhunti	2113.7	38.73	18.7	317.6	19.62	0.31	0.72	30.82
Total	19127.9	411.45	143.8	2849.6	179.72	3.69	6.13	281.76
Average	2125.3	45.72	15.97	316.62	19.97	0.41	0.68	31.31

Source –Field survey

The average per capita per day intake of carotene in the area is 31.31mg which is less than standard requirement (40g).The mean per adult unit per day intake of Riboflavin in study area is 0.68 mg which is 10 Percent less then Recommended value.In the study region average thiamine intake is 0.41 mg. per adult unit per day and is about 90percent less than standard requirement. In all the area of the region the consumption was found

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above the standard requirement. Area where per adult unit per day thiamine intake is highest in Khodri (0.59 mg) while it is lowest in Piparkhunti (0.31 mg)

Body Mass Index

Body mass Index is the most widely accepted and used index assessing nutritional status of adult population It is used as an Index to assess the chronic energy deficiency (CED) in adults. Mahapatra etal (2001) described chronic energy deficiency (CED) as a good index to assess the current forms of malnutrition of adults in a community based on body weight in relation to height expressed in terms of Body mass Index. For the calculation of chronic energy deficiency classification, ICMR formula (B.Shrilakshmi, 2008) is used. The results are shown in table

Table 1.4

Distribution of Body Mass Index of womens based on chromic energy Deficiency (CED) Classification

Presumptive Diagnosis	BMI No.	%
CED III (Severe)	<16.0	13.0%
CED II (Moderate)	16.0 - 17.0	18.4%
CED I (Mild)	17.0-18.0	12.3%
Normal	18.0 - 25.0	52.7%
Obese grade I	25.0 - 30.0	3.42 %
Observe grade II	>30	1.3%

The mean body mass Index of study region is 19.45 that indicate the normal nutritional status. 30% percent of the total women are suffering from chronic energy deficiency (BMI < 18.5) furthermore, about 3.42% of the total women are overweight with BMI >25.In present study among the chronic deficient women percentage (12.3%) belongs to grade-I CED (Mild malnutrition) followed by grade III CED with13.0 % only indicate that in the study region the nutritional status of the women is not up to satisfactory level while 4.72 % women of the study area suffers from obese. This situation of nutrition is the matter of needs of serious efforts immediately. Needy segments of women should be provided nutrient supplementation, vitamins, and minerals regularly. Although the state govt provide nutrients supplements to women

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time to time through anganbadi and Mitanin. Increase the production of food grain using innovative agriculture technology, encouragement of kitchen garden, mashroom cultivation are some of the measure to make the availability of food stuff easier. A proper action should be taken to reduce malnutrition through nutritional counseling and networking with ICDS. Programme regarding preparation of food items, knowledge of nutrients, community education and awareness programme especially for women should be organized by nutrition experts in all villages.

Energy Expenditure

1.36% of the women have energy expenditure less than 2800 kcal or more. The energy expenditure 2800-3200kcal per day found in 59.5% of women and the mean energy expenditure is observed to3125.4 KCal per day. .The results indicate that most of the women in the study area were heavily worked and their dietary intake was not inadequate to combat the energy spent by them.

Conclusion

On the basis of analysis and discussion of the study following conclusion may be drown :

- Nutrition prominently played a major role to determine the health status. Level of Nutrition is imbalanced.
- In spite of all efforts, miners of the study area in general belongs to lower or lower middle income groups uneducated, backward and lead to hard life.
- Nutritional anemia & BMI index below 17 is dangerous in point of work efficiency.
- The diet pattern of the study area predominantly contains cereals and vegetables.
- At family level with exception of fat, thymine iron, calcium the intake of calorie, protein, calcium Riboflavin is less than the regional and standard nutritive value.
- 11.4% of women's are having high prevalence of chronic energy deficiency.
- In the study area average energy balance of the women is 3145kcal and average energy balance calculated is 994kcal this indicate that the nutrition status of the women I the study area is very poor.
- Malaria and cough cold is the most common disease observed in study area as per ranking of the disease ranked first.
- The overall awareness of various health's aspects, nutrition and community development programmer are not satisfactory.
- Very few women are regular to utilize the facility by Govt.
- Women's generally utilized the medical facility in second stage of their disease.
- Mean daily energy intake is less than mean daily energy expenditure.
- Women's with negative energy balance are under nourished.

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