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RESEARCH ARTICLE

SOCIO-ECONOMIC, DIETARY AND SOMATIC STATUS AMONG SOLIGA TRIBAL ADULTS IN CHAMARAJANAGAR DISTRICT OF KARNATAKA STATE

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ABSTRACT

The tribal population is identified as the aboriginal inhabitants of our country. According census of India 2011, Schedule tribes comprise 8.6% of the population. Nutritional status as reflected by anthropometric measurements are true indicators of a population's health status. The objective of the present study was to know the current socio-economic status, determine the nutritional status based on BMI and different components of adult soliga tribes. The Study was conducted in four taluks of Chamarajanagar District. A sample of 1000 soliga tribal adult in the age between 18-40 years were included for the study. Structured questionnaire used for data collection on socio economic status, dietary habit, habitual practice, illness, anthropometric indices and Composition of fat, water (%), lean weight worked out. Chi-square test employed to know the significant variation in the measured composition between genders. Higher numbers of respondents (42.8%) were in the age group of 34-40 years. 54.0% were males and married (85.9%). Majority of them were illiterate and working as coolie. (87.9%) of them belong to nuclear families and found to be a norm among Soligas and majority of them were also non-vegetarian. It was evident that 42.3% of the respondents were in the habits of smoking and consuming alcohol. Respiratory infection, diarrhea, Dysentery and Skin allergy were significantly more prevalent among males while fevers urinary tract infections were significantly high among females. The number of underweight subjects were more among females (40.9%) than males (37.6%). The normal BMI values were found among (51.5%) of males compared to only 47.4% of the females. Regarding waist hip ratio the findings reveals that Normal observed considerably more among males (50.6%) than females (31.5%) indicating the difference between males and females fond to be highly significant ($\chi2$ =32.94, $p<0.01$).The response on fat (%) and fat (kg) between males and females found to be highly significant ($\chi2$ = 45.50 and $\chi2$ = 18.43).The response on water (%) and water (liters') between males and females found to be significant ($\chi2$ = 56.09 and $\chi2$ = 33.33). The data reveals that the difference between males and females on lean (%), lean weight (kg) and total weight (kg) found to be highly significant ($p<0.01$).

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INTRODUCTION

The tribal population is identified as the aboriginal inhabitants of our country. There are approximately two hundred million tribal people in the entire globe, comprising of 4% of the global population. They are found in many regions of the world and majority of them are the poorest amongst poor. (Jayakumar *et al*., 2016). According to India's recent census in 2011 Schedule tribes comprise 8.6% of the population. The nutritional status of the population shows significant variation between states since it results from a varying combination of factors (FAO, 2010). Malnutrition is the condition arising due to the intake of inadequate (over/less) nutrients in diet. It includes both undernutrition (imbalanced diet and specific deficiencies) and overnutrition (Subal Das *et al*., 2012). The traditional income of bamboo basket weaving is loss to the Soligas because of the Government ban on the extraction of bamboo after indiscriminate harvesting by pulp industries in the last six decades (Final Report, 2005-2008). Most of the Soligas were shifting cultivators in 1965. A few families had taken to plough cultivation. The tribal land has been taken over by the Government (Bhat, 1997). Large-Sized Adivasi Multipurpose Cooperative Societies (LAMPS) play a very important role in meeting the socio-economic needs of the tribal people of Karnataka (Raja, 2012). Nutritional status as reflected by

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anthropometric measurements are true indicators of a population's health status. Anthropometric appraisal has always been an essential feature of nutritional evaluation for determining mal-nutrition, overweight, obese, muscular mass loss (Satwanti Kapoor *et al*., 2012). It has been observed that various tribal populations have chronic energy deficiency (CED) based on their body mass index (BMI) values. There is urgent need to evaluate the nutritional status of various tribes of India. In view of this, the objective of the present study was to report anthropometric characteristics and determine the nutritional status, based on BMI and different components of adult soliga tribes.The aims of the study are to know the current socio-economic, dietary, and somatic status of soliga trible adults in Chamarajangar district.

MATERIALS AND METHODS

The Study was undertaken in Chamarajanagar District of Karnataka state. From the above locale district four taluks namely Chamarajanagar, Yalandur, Kollegala and Gundalpet were selected for the study area. A total sample of 1000 soliga tribal adult men and women belonging to the age group of 18-40 years were included for the research study. The sampling criteria evolved being simple random sampling in selection of sample respondents. Shobha Udipi and Deeksha Kapur (2008) shows that a questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents with the aim of obtaining relevant data on the topic research. This could be self-administered or could be administered by an interviewer.
Structured questionnaire was the tool used data collection. The collection of data regarding socio economic status viz., age, gender, marital status, education, occupation and type of family. Dietary habit comprising of number of meals, skipping of meals and consumption of non-vegetarian.Further, habitual practice, illness, anthropometric indices and Composition of fat, water (%), lean weight worked out for the selected respondents. Primary information was gathered by selected respondents by personal interview method by the investigator.
The data was analyzed under both descriptive and inferential statistics. The obtained information on socio economic status further classified into number, frequency, mean and standard deviation. Chi-square test employed to know the significant variation in the measured composition between male and females.

Table 1. Classification of Respondents by Age group, Gender and Marital status

N=1000

Characteristics	Category	Respondents	
		Number	Percent
Age group (years)	18-25	322	32.2
	26-33	250	25.0
	34-40	428	42.8
Gender	Male	540	54.0
	Female	460	46.0
Marital status	Married	859	85.9
	Unmarried	141	14.1
Total		1000	100.0

Table-1 depicts the classification of respondents by age, gender and marital status. The result indicate that higher percent (42.8%) of respondents belongs to 34-40years of age as compared to 32.2 percent belongs to 18-25 years and remaining 25.0 percent noticed in 26-33 years of age. Regarding gender majority of the respondents (54.0%) were found to be males as compared to 46.0 percent belongs to females. Marital status reveals that majority (85.9%) of respondents found to be married as compared to 14.1 percent were unmarried.

Table 2. Classification of Respondents by Education, Occupation, Type of work and Type of family

N=1000

Characteristics	Category	Respondents	
		Number	Percent
Educational level	Illiterate	832	83.2
	Upper primary	124	12.4
	Higher secondary	44	4.4
Occupational status	Coolie	878	87.8
	Others	122	12.2
Type of work	Sedentary	517	51.7
	Moderate	483	48.3
Type of family	Nuclear	879	87.9
	Joint	121	12.1
Total		1000	100.0

Table - 2 indicate the respondents by educational level, occupational status and type of work. The findings reveals that majority (83.2%) of respondents were noticed with illiterate followed by 12.4 percent were up to primary education (12.4%) and higher secondary (4.4%). Regarding occupation higher respondents (87.8%) engaged as coolie and meager involved in other occupation (12.2 %). Type of work reveals that majority (51.7%) of the respondents noticed as sedentary workers as compared to 48.3 percent were engaged as moderate workers. Regarding type of family majority (87.9%) of the respondents emerged from nuclear family as compared to remaining 12.1 percent noticed from joint family.

Table 3. Distribution of Respondents by Type of family, Size of family and Use of non-vegetarian

N=1000

Characteristics	Category	Respondents	
		Number	Percent
Number of meals/day	Two	687	68.7
	Three	313	31.3
Skipping of meals	Yes	697	69.7
	No	303	30.3
Frequency use of non-vegetarian	Weekly	539	53.9
	Fortnightly	390	39.0
	Monthly	91	9.1
Total		1000	100.0

Table 4. Response on Habitual practice of Family members

N=1000

No.	Practice	Respondents			
		Yes		No	
		Number	Percent	Number	Percent
1	Tobacco	82	8.2	918	91.8
2	Smoking	423	42.3	577	57.7
3	Alcohol	407	40.7	593	59.3

Table – 3 reveals the Distribution of Respondents by type of family, size of family and use of non-vegetarian. It is clear from the table that higher respondents (68.7%) consume two meals per day as compared to 31.3 percent consume three meals a day. With respect to skipping of meals majority of respondents (69.7%) do skip meals as compared to 30.3 percent do not skip meals. It is interesting to note that all the respondents do consume non-vegetarian food.

Table 5. Gender wise History of Medical illness

No.	Illness	Respondents						$\chi 2$ Test
		Males (n=540)		Female (n=460)		Combined (n=1000)		
		N	%	N	%	N	%	
1	Fever	461	85.4	455	98.9	916	91.6	59.21**
2	Respiratory infection	45	8.3	3	0.7	48	4.8	32.07**
3	Diarrhea	137	43.9	108	23.5	345	34.5	45.79**
4	Dysentery	18	33.3	75	16.3	93	9.3	49.55**
5	Urinary infection	150	27.8	237	51.5	387	38.7	59.03**
6	Cough	505	93.5	457	99.3	962	96.2	23.09**
7	Skin allergy	9	1.7	0	0.0	9	0.9	7.74**

** Significant at 1% level, $\chi 2$ (0.01,1df) = 6.63

Table 6. Body mass index and Waist hip ratio by Male and Female respondents

Aspects	Category	Males		Females		Combined		$\chi 2$ Test
		N	%	N	%	N	%	
Body mass index	Under weight	203	37.6	188	40.9	391	39.1	1.67 ^{NS}
	Normal	278	51.5	218	47.4	496	49.6	
	Over weight	59	10.9	54	11.7	113	11.3	
Waist hip ratio	Normal	267	49.4	145	31.5	412	41.2	32.94**
	Over weight	273	50.6	315	68.5	588	58.8	
Total		540	100.0	460	100.0	1000	100.0	

** Significant at 1% level, $\chi 2$ (0.01,2df) = 9.210

Table 7. Comparison of Fat and Water component among Male and Female respondents

Aspects	Category	Males (n=540)		Females (n=460)		Combined (n=1000)		$\chi 2$ Test
		N	%	N	%	N	%	
Fat (%)	Low	52	9.6	25	5.4	77	7.7	
	Normal	220	40.7	110	23.9	330	33.0	45.50**
	High	268	49.6	325	70.7	593	59.3	
Fat (kg)	Low	97	18.0	79	17.1	176	17.6	
	Normal	237	43.9	147	32.0	384	38.4	18.43**
	High	206	38.1	234	50.9	440	44.0	
Water (%)	Low	8	1.5	29	6.3	37	3.7	56.09**
	Normal	149	27.6	206	44.8	355	35.5	
	High	383	70.9	225	48.9	608	60.8	
Water (lts)	Low	12	2.2	29	6.3	41	4.1	33.33**
	Normal	143	26.5	180	39.1	223	22.3	
	High	385	71.3	251	54.6	636	63.6	

** Significant at 1% level, $\chi 2$ (0.01,2df) = 9.210

Table 8. Comparison of Weight component among Male and Female respondents

Aspects	Category	Males (n=540)		Females (n=460)		Combined (n=1000)		$\chi 2$ Test
		N	%	N	%	N	%	
Lean (%)	Low	273	50.6	329	71.5	602	60.2	
	Normal	211	39.0	104	22.6	315	31.5	45.58**
	High	56	10.4	27	5.9	83	8.3	
Lean weight (kg)	Low	395	73.1	396	86.1	791	79.1	
	Normal	145	26.9	64	13.9	209	20.9	26.16**
	High	0	0.0	0	0.0	0	0.0	
Total weight (kg)	Low	346	64.1	279	60.7	625	62.5	
	Normal	150	27.8	117	25.4	267	26.7	8.62*
	High	44	8.1	64	13.9	108	10.8	

** Significant at 1% level, * Significant at 5% level, $\chi 2$ (0.05, 2df) = 9.210

However, 53.9 percent of respondents use non vegetarian food weekly once as against 39.0 percent use fortnightly and only 9.1 percent consume monthly once. Response on Habitual practice of Family members depicted in Table-4. It is evident from the result that 42.3 percent of the respondents possess the habit of smoking as compared to 40.7 percent with alcoholic habit. Further, very meager respondents (8.2%) noticed with the habit of tobacco consumption. Gender wise History of Medical illness among the study sample established in Table-5. The results indicate that the response on illness among males found higher compared to females on respiratory infection (8.3% and 0.7%), diarrhea (43.9% and 23.5%), Dysentery (33.3% and 16.3%) and Skin allergy (1.7% and 0.0%). However, female respondents noticed higher than males with respect to fever (98.9% and 85.4%), Urinary infection (51.5% and 27.8%) and cough (99.35 and 93.5%). The difference in the incidence of illness among male and female found to be statistically significant ($p<0.01$). Table – 6 reveals the Body mass index and Waist hip ratio by Male and Female respondents. The results indicate that 40.9 percent of female respondents found under weight as compared to slightly less among males (37.6%). Normal BMI observed more among males (51.5%) than females (47.4%). The variation in the BMI classification between males and females fond to be non-significant ($p>0.05$). Regarding waist hip ratio the findings reveals that Normal ratio observed considerably more among

males (50.6 %) than females (31.5 %). However, the difference in the waist hip classification between males and females fond to be highly significant ($\chi 2$ =32.94*, $p<0.01$). Comparison of Fat and Water component among male and female respondents indicated in Table – 7. The result reveals that higher percent of female respondents (70.7%) found under high fat (%) as compared to males (49.6%).The response on fat (%) between males and females found to be significant at 1 % level ($\chi 2$ = 45.50**, $p<0.01$). The findings reveals that higher percent of male respondents found under low (18.0%) and normal (43.9%) fat (kg) as compared to females respondents (17.1 and 32.0%). The response on fat (kg) between males and females found to be highly significant ($\chi 2$ = 18.43**, $p<0.01$). Comparison of Water component among male and female respondents shown in Table – 7. The data reveals that higher percent of female respondents (70.9%) found under high water (%) as compared to males (48.9%).The response on water (%) between males and females found to be significant at 1 % level ($\chi 2$ = 56.09**, $p<0.01$). The findings reveal that higher percent of female respondents found under low (6.3%) and normal (39.1%) water (lts) as compared to males respondents (2.2 and 26.5%). The response on water (lts) between males and females found to be highly significant ($\chi 2$ = 33.33**, $p<0.01$).

Table – 8 establish the Comparison of lean component among male and female respondents. The result reveals that higher percent of female respondents (71.5%) found under low lean (%) as compared to males (50.6%).The response on lean (%) between males and females found to be significant at 1 % level ($\chi 2$ = 45.58**, $p<0.01$). The data reveals that higher percent of male respondents found under normal (26.9%) and low (73.1%) low weight (kg) as compared to females respondents (13.9 and 86.1 %). The response on lean weight (kg) between males and females found to be highly significant ($\chi 2$ = 26.16**, $p<0.01$). The findings show that higher percent of male respondents (64.1%) found higher total weight as against females respondents (60.7 %). However, 13.9 percent of female respondents noticed with higher total weight than males (8.1%). The response on lean weight (kg) between males and females found to be highly significant ($\chi 2$ = 8.62**, $p<0.01$).

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