

Research Article

Socio-demographic and health profile of schedule tribes of Velugodu, Andhra Pradesh, India

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ABSTRACT

Background: Scheduled Tribes live in unique physical, socio-economic and cultural environment, isolated from general population. The tribal population is at a higher risk of under-nutrition, because of the socio-cultural, socio-economic and environmental factors influencing the food intake and health seeking behavior. Inadequate health care facilities, illiteracy and socio-economic disadvantage among tribal populations perpetuate the vicious cycle of under nutrition.

Methods: A pre-tested questionnaire containing information on household socio-economic and demographic particulars like type of family, religion, caste, age, gender, income, literacy, occupation was administered by paying house to house visits. A detailed clinical examination for assessment of nutritional status, history, signs and symptoms of current illness was carried.

Results: 92% of the families are nuclear followed by joint, 3 generation and extended families. The average size of the family is 3.64. 97% practice Hinduism. The sex ratio is 987 females for 1000 males. 72% of the populations are illiterate. 40% of the populations earn their livelihood by collecting NTFP. 59% of under-fives, 30% of school going and adolescents and 60% of adults are under nourished.

Conclusions: Socio demographic profile is similar to other Schedule Tribes and chenchu populations in India and other parts of Andhra Pradesh. Under nutrition is high among under-fives and adults. Scabies, anaemia and eruptive fevers are the common health problems after malnutrition.

Keywords: Chenchu, Malnutrition, Schedule tribes, Socio-demography

INTRODUCTION

Article 366 (25) of the Constitution of India refers to Scheduled Tribes (ST) as those communities, who are scheduled in accordance with Article 342 of the Constitution.¹ Tribals in Andhra Pradesh constitute 5.7% of total tribal population of India.² The S.T population of Kurnool District is 82,831 representing 2% of total District population and constitutes 2% of total ST population of the district.^{3,4} The Chenchu tribe was recognized as one of the primitive tribal groups in 1975 (GOI 1985-90).⁵ The tribal population is at a higher risk

of under-nutrition, because of the socio-cultural, socio-economic and environmental factors influencing the food intake and health seeking behaviour.^{6,7} Several studies documented that the nutritional status of tribal population is influenced by their habitat and socio-economic conditions.⁸⁻¹¹ Chenchus mainly inhabit Nallamala forest range in the districts of Mahaboobnagar, Nalgonda, Prakasam, Guntur, Kurnool, and Ranga Reddy.¹² Chenchus inhabiting Nallamala forest have been primarily hunters and gatherers. They were rehabilitated in new colonies facilitated with pucca houses, roads, supply drinking water, electricity, schools, Anganwadi centres and other health facilities.¹³

Velugodu is a remote revenue mandal deep in the nallamala forest of kurnool district of Andhra Pradesh. Tribals are living in three separate hamlets namely Abbarajugunta, Chenchugudem and Chenchu Colony in Velugodu. Current studies are aimed at studying the socio demographic profile and assess the nutritional and health status of the scheduled tribes of velugodu mandal in Kurnool district.

METHODS

Primarily contact was established with the NGO (Non-Governmental Organisation), teachers and group leaders working for the welfare of scheduled tribes in Velugodu. With their help, good rapport was established with the tribes and the importance of the study was explained and their co-operation was sought. A well informed oral consent was taken from all the subjects involved in the study. As the no. houses in each settlement are very few all the houses were included in the study. A pre-tested questionnaire containing information on household socio-economic and demographic particulars like type of family, religion, caste, age, gender, income, literacy, occupation was administered by paying house to house visits. A detailed clinical examination for assessment of nutritional status, history, signs and symptoms of current illness was carried. The data was brought back and analysed.

Anthropometric measurements were carried out on all persons present in the house at the time of study using standard methods.¹⁴ Nutritional status of less than 5 year children was measured using standard deviation Classification for weight-for-age and height for age.¹⁵ using WHO child growth standards.¹⁶ Children less than 2 SD from median are considered as undernourished. Nutritional status of school age children and adolescents was assessed by using age and gender specific body mass index (BMI) centiles as per WHO growth reference for school-aged children and adolescents.¹⁷ Chronic energy deficiency (CED) among adults was assessed according to BMI, using suggested cut-offs of international task force report for Asia-Pacific populations.¹⁸

RESULTS

A total of 130 houses were present and all were surveyed and 473 people were included in the study. Details about all the 473 people were collected. Of them 174 with a history or signs and symptoms of illness are examined physically for the presence of any disease. Majority (92%) of the families are nuclear followed by joint, 3 generation and extended families (Table 1). The average size of the family is 3.64. Major religion followed by this families is Hinduism (97%) and a very few families (4) follow Christianity. All those following Christianity were recently converted from Hinduism. Chenchus (85%) are the major caste group followed by sugali's (11%). Other caste groups like Besta, Boya, Jangam, Madiga and Tegula are in a very negligible proportion.

Table 1: Family type.

Family type	Frequency	Percentage
Nuclear	119	91.54
Extended	2	1.54
Joint	6	4.62
3 generation	3	2.3
total	130	100

Table 2: Age and sex distribution.

Age group	Sex		Total
	Female	Male	
Unknown	5	4	9
0-4	26	16	42
5-9	27	28	55
10-14	15	24	39
15-19	28	34	62
20-24	29	21	50
25-44	78	81	159
45-64	25	27	52
65-79	2	3	5
Total	235	238	473

Of the 473 people 235 were females and 238 were males. The mean age is 23.8 years with SD of 15.24 yrs. The 25-44 years demographic group is the largest consisting of 33.62% of the population. People above the age of 60 years are very minimal consisting of only 1.3% of the population. 9 persons could not correctly remember their age. The sex ratio is 987 females for 1000 males. The sex ratio in all the age groups is almost similar with not much significant difference between the sexes (Table 2).

In the state of Andhra Pradesh education level is classified as primary, secondary, higher secondary, graduation and further without separate classification for middle level of education. Majority (72%) of the population are illiterate. Of them 61.5% of the population are illiterate beyond 10 years of their age. 22.4% of the population had primary education. Among them 40.7% could not pursue secondary education. Secondary education was completed by 4.68% of the population. 56.2% of these did not pursue higher secondary education. Only 2 persons and one person had higher secondary and graduate education respectively (Table 3). There is no significant difference in the Literacy status among different sexes except in illiteracy status and secondary education (Table 4).

Majority (40%) of the population earn their livelihood by collecting forest products like honey, gum, etc. Other major occupational group is agricultural labour or coolie. Very few people are involved in other occupations like cattle rearing, fishery and other jobs (Table 5).

53% were married and 42% were never married while 5% were widowed. There is no significant gender difference

regarding their marital status. Less than 5% of the married are below 18 years of age and all except one is female. Less than 13% of the married men are below 21 years of age. Only 4% above the age of 21 years is

unmarried indicating the possibility of the 96% of unmarried people getting married after reaching their marriageable age (Table 6).

Table 3: Literacy level among various age groups.

Age group (years)	Literacy level					Total
	Illiterate	Primary	Secondary	Higher secondary	Graduate	
Unknown	7	0	2	0	0	
<10	50	63	1	0	0	114
11-15	11	22	7	0	0	40
16-20	59	12	7	1	1	80
>20	214	9	6	1	0	230
Total	341	106	23	2	1	473

Table 4: Gender difference in literacy level.

Literacy status	Sex		Total	Significance
	Female	Male		
Graduate	1	0	1	
Higher secondary	0	2	2	
Secondary	4	19	23	P<0.05
Primary	50	56	106	
Illiterate	180	161	341	P<0.05
Total	235	238	473	

Table 5: Occupation.

Occupation	Frequency	Percent
Agricultural labour	49	10.4
Cattle rearing	14	3.0
Collection of forest products	187	39.5
Coolie	54	11.4
Nil	148	31.3
Others	21	4.4
Total	473	100.0

Table 6: Marital status.

Age	Married		Un Married		Widowed		Total
	Female	Male	Female	Male	Female	Male	
Unknown	3	1	2	3	0	0	9
≤ 17	7	1	79	88	0	0	175
18-20	24	14	4	17	0	0	59
≥ 21	97	105	2	1	17	8	230
Total	131	121	87	109	17	8	473

Per-capita income of the family ranges from 100 to 2000 with mean 853.30 and SD 444.78. As per Tendulkar committees report poverty line for rural Andhra Pradesh is 860.11.¹⁹ More than 54% of the families are below poverty line as per Tendulkar committees report (Table 7).

Table 7: Family income status.

Income status	Frequency	Percent
Above Poverty Line	59	45.38
Below Poverty Line	71	54.62
Total	130	100.0

On examination of nutritional status of pre-school children (0-5yrs) showed that about 59% of them are under nourished. 60% of this under nourished are stunted (less height for age) and the other 40% are underweight (less weight for age). Gender difference in this group is insignificant (Table 8). Nutritional status of school going children and adolescents (6-17 yrs) as measured by BMI classification showed that 30% of these were thinness. The difference in nutritional status among different sexes in this group is not significant (Table 8).

Adult (18-64 yrs) malnutrition is at 64%. Among them under nourishment as measured by Chronic Energy Deficiency (CED) is at 33% (BMI<18.5 kg/m²). Of these under nourished 59% are females and the rest 41% are

males. The gender difference in the under nourished group is significant ($p < 0.05$). 21% of adults are over nourished ($\text{BMI} \geq 23 \text{ kg/m}^2$) as per Asian standards. Among over nourished adults females are 46% and males

constitute 54%. The gender difference is not significant. 80% of the elderly (> 64 yrs) are under nourished (Table 8).

Table 8: Nutritional status.

Age group	Under weight		Stunning		Normal	
	Female	Male	Female	Male	Female	Male
Preschool	9	6	11	6	6	4
Children & adolescents	Thinness			Normal		
	Female	Male		Female	Male	
	20	20		40	53	
Adults	Undernourished		Normal		Overweight	
	Female	Male	Female	Male	Female	Male
	55	38	59	72	27	32
Elderly	Undernourished		Normal			
	Female	Male		Female	Male	
	2	2		0	1	

Physical examination of the households with a history or signs and symptoms of illness revealed that majority (56.32%) of them are suffering with scabies. Scabies was present exclusively in children and women handling them but not in men. Anaemia was seen in 55.17% affecting all the age groups and both genders. Eruptive fevers were present in 14.8% of children. Less than 4% of the adult population had a history of Sexually Transmitted Infection with no HIV positives. Two cases of sputum positive tuberculosis under treatment were present. One case of Infantile Hemiparesis was present. Other insignificant findings were present in negligible number of populations.

DISCUSSION

In this study Majority (92%) of the families are nuclear followed by joint families. The average size of the family is 3.64. In a study it was found that the basic unit of Chenchu society is the nuclear family, consisting of a man, his wife and their children.⁴ Another study found that about 82% of the families were nuclear, while about 8% were joint families and the average family size was 4.6.⁵ A study on Chenchus showed that about 83% of the HHs (House Holds) covered were nuclear families and the average family size was 4.5.¹⁰ Major religion followed by the HHs in this study is Hinduism (97%) and a very few families (4) were Christians. Other studies also found that majority of the households (98%) were Hindus.⁷ In another one Majority of the HHs (89%) were Hindus, while the remaining (11%) were Christians.¹⁰

In this study under-five children are 9% and above the age of 60 years is only 1.3%. 9 persons could not correctly remember their age. A study on Chenchus showed under-fives at 8.4%.¹⁰ Another study indicates

that children below five years constituted about 15 % and the aged (above 60 years) just one percent.⁴ This clearly shows that life expectancy is much lower than state average for tribal groups.

Males and females are almost equal at 50.3 and 49.7 percent respectively in this study with sex ratio at 987 females for 1000 males. The sex ratio in all the age groups did not differ significantly. The ST female and male populations are 50.8 and 49.2 percent respectively in Kurnool district.³ One study on tribes found that there were more males (52%) than females (48%) in the sample households.⁴ The sex ratio in respect of rural Scheduled Tribes is 991 and 996 in India and Andhra Pradesh respectively.^{2,3}

Majority (72%) of the population are illiterate. Of them 61.5% of the population are illiterate beyond 10 years of their age. According to the Census figures, the literacy rate for the Scheduled Tribes in India is 59% while in Andhra Pradesh it is 49.2%⁷ and in Kurnool district is 55%.^{2,7} Chenchus literacy rate was at 32%.¹⁰ There is no significant difference in the Literacy status among different sexes except in illiteracy status and secondary education in this study. Male and female literacy for STs in India is 68.5% and 49.4% in Kurnool it is 65.2% and 44.6%²² and in Chenchus it is 40% and 20% respectively.^{2,10} Studies on tribes revealed Low female literacy (14.5% against 47%), have been reported among tribal populations as compared to their rural counterparts.²²

In current study Majority (40%) of the population earned their livelihood by collecting forest products like honey, gum, etc. In a study household member from experimental group showed that NTFP (Non-timber

forest produce) collection is the single largest occupation in which 31.7 % of members were engaged, the percentage being higher in core villages.⁴ Other major occupational group is agricultural labour or coolie. The next important occupation is agriculture, which accounted for 11.0 % of the members, followed by non-agriculture labour (9%) and agriculture labour (4.7%).⁴

Less than 5% of the married are below 18 years of age and all except one is female. Less than 13% of the married men are below 21 years of age. Four percent of the adolescent girls were married at the time of the survey. A study revealed that, about 1.6% of boys and 4.1% girls were married before the age of 18 years, which is relatively lower as compared to their rural-counterparts (23%).⁷ Only 4% above the age of 21 years are unmarried indicating the possibility of the 96% of unmarried people getting married after reaching their marriageable age. Among ST women the median age at first marriage is 16.5yrs and almost all ST men marry before attaining the minimum age at marriage for men (21 years) in another study.²

Average Monthly Per-capita income of the family is 853.30. The average monthly per capita income (PCI) of HHs in a study was 1,333. More than 54% of the families are below poverty line as per Tendulkar committees report. As per the Planning Commission estimates, ST people living below the poverty line in 2011-12 were 45.3% in the rural areas.²

The mean intake of all the foodstuffs, especially the income elastic foods such as Pulses, Milk & Milk products, Oils & fats and Sugar & Jaggery were lower than the recommended levels of ICMR. At household level, the average daily consumption of dietary constituents (g/CU/day) was lower than the recommended dietary intakes (RDI).⁷ On examination of nutritional status of pre-school children (0-5yrs) showed that about 59% of them are under nourished. 60% of this under nourished are stunted (less weight for age) and the other 40% are underweight (less weight for age). The overall prevalence of underweight (weight-for-age <median-2SD) among under five children was 42 per cent (95% CI: 37.9-46.1).⁷ The prevalence was comparatively lower (42%) among under five children of Chenchus than the figures reported for other tribes of Andhra Pradesh (46.9%).²³ The overall prevalence of stunting (height/length-for-age, <median-2SD) among under five children was 53 per cent.⁷ The prevalence of stunting was higher (53%) as compared to their tribal counterparts of Andhra Pradesh (48%).²³

Nutritional status of school going children and adolescents (6-17 yrs) as measured by BMI classification showed that 30% of these were thinness. The difference in nutritional status among different sexes in this group is not significant. The overall prevalence of thinness was 31 per cent, which was marginally higher among boys (32%) than girls (29.6%).⁷ It was also observed that the

prevalence of thinness was lower (31%) than the other tribes of AP (41%).²³

Adult (18-64 yrs) malnutrition is at 64%. Among them under nourishment as measured by Chronic Energy Deficiency (CED) is at 33% (BMI<18.5 kg/m²). Of these under nourished in current study 59% are females and the rest 41% are males. The gender difference in the under nourished group is significant (p<0.05). It was observed that about 41 per cent (CI: 37.8-47.2) of adult men had chronic energy deficiency (CED) (BMI<18.5 kg/m²).⁷ The prevalence of CED was marginally higher among Chenchu men (41%) than other tribes (38.4%).²³ About 42 per cent (CI: 34.4-47.8) of adult women had chronic energy deficiency (BMI <18.5 kg/m²). The prevalence of CED was comparatively lower among Chenchu women (42%) than women of other tribes (49%).²³ 21% of adults are over nourished (BMI≥23kg/m²) as per Asian standards. Among over nourished adults females are 46% and males constitute 54%. The gender difference is not significant. In a study 13 per cent of men were overweight/ obese as per Asian cut-off levels suggested by WHO (BMI ≥23 kg/m²) and 11 per cent women were overweight/obese.⁷

CONCLUSION

Majority of the families are nuclear with average size of the family at 3.64 which is typical of Chenchus as found in other studies. Major religion followed by the HHs is Hinduism similar to other chenchu tribes. Majority of the population is in 24-44 age groups with very few above the age of 64 years. This clearly shows that life expectancy is much lower than state average for tribal groups. Majority of the population are illiterate. Main occupation of the population is NTFP, collecting forest products like honey, gum, etc. child marriages are relatively lower as compared to their rural-counterparts. Average Monthly Per-capita income of the family is 853.30 with majority of the HHs below poverty line. More than 50 % of the pre-school children are under nourished with higher levels of stunting than underweight indicating chronic malnutrition. 30% of the school going children and adolescents were thinness with no significant gender difference. Adult malnutrition is at 64% with 33% affected with CED and the rest with overweight. The gender difference in CED is significant. Scabies and anaemia are most common findings among children and adults. Apart from this children are also affected with eruptive fevers. The incidence of STIs and other infectious diseases is very less compared to other tribal populations.

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