

# Nutritional Status of Tharu Tribal Children of Uttar Pradesh

## Abstract

It seems that tribal is most exploited, neglected and highly vulnerable to diseases with high degree of malnutrition, morbidity and mortality. In India health and Nutrition are the most important contributory factors for human resource development. Thus the need was felt to assess nutritional status of Tharu tribe children by anthropometric measurements. Total 435 children were selected from three district of Uttar Pradesh. It was observed that Mean height and weight of the children were significantly lower as compared to WHO standards. It was found that more than half of the children were suffering from varying degree of malnutrition. According to height Very low weight was found in the children that indicated high level of thinness (wasting) amongst the children.

**Keywords:** Nutrition, Scheduled Tribes, Wasting.

## Introduction

The one of most vulnerable groups in India are tribal. Their population constitutes about 8.6% of the total population in India. They are badly under nutrition, because of their geographical isolation, socio-economic disadvantage and inadequate health facilities. Children from scheduled tribes have the poorest nutritional status near about in every measure. India has the highest number of low birth weight babies per year at an estimated 7.4 million. The percentage of newly born babies are only 25 per cent who put to the breast within one hour of birth. According to the most recent estimates, child under nutrition contributes to more than one third of child deaths. Undernourished children who survive may enter the vicious cycle of recurring illness and faltering growth, with irreversible damage to their growth, cognitive development, school performance, and future productivity as adults. Malnutrition in children is not affected by food intake alone; it is also influenced by access to health services, quality of care for the child and pregnant mother as well as good hygiene practices.

## Objective of the Study

To assess the nutritional status of Tharu children of Uttar Pradesh.

## Review of Literature

Gopinath T. T. et al. (2018) Conducted a community based cross sectional study in a tribal area of Jawadhu hills Puthurnadu PHC sub-center. A total of 316 children participated in the study. The overall prevalence of under nutrition was 26.9% in which severely under nourished were 9.2%, the overall prevalence of stunting was 55.4% in which severely stunted were 23.4% and the overall prevalence of wasting was 10.4% in which severely wasted were 1.9% respectively. The overall prevalence of stunting was higher (55.4%) which is greater than the cut-off point stated by the World Health Organization to indicate that the severity of malnutrition.

K. Mallikharjuna Rao, et al. (2015) documented high prevalence of underweight, morbidity and mortality of Chenchus tribe children of Andhra Pradesh. A total of 1396 subjects of all age groups were covered for various investigations. The intakes of food and nutrients were lower than the recommended levels. The prevalence of underweight, stunting and wasting among children (under five years) were 42 per cent 53 and 13 per cent, respectively, while 41 per cent men and 42 per cent women had chronic energy deficiency (BMI<18.5 kg/m<sup>2</sup>). Sixty eight deaths were reported during the past one year in 42 Chenchugudem. The major causes of death were premature delivery, low birth weight, alcoholic cirrhosis of liver, accidents, snakebite and pulmonary tuberculosis.

Renuka M. et al. (2011) studied the Nutritional status of 220 preschool children of Jenukuruba tribe in Mysore district, Karnataka. Socio-demographic information and anthropometric measurement were



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obtained by using standard techniques. Prevalence of underweight was 38.6%, stunting 36.8% and wasting was 18.6% respectively which was statistically significant with respect to age: and not significant with respect to sex, literacy status of mother, family type and immunization.

Chakma T. *et al.* (2014) conducted a study in Madhya Pradesh and assessed the nutritional status of Baiga tribe. Analysis showed that the intake of micronutrients was lower than recommended dietary allowances. Vitamin 'A' deficiency was the major nutritional deficiency disorder in this tribe. The magnitude of wasting in pre-school children was significantly higher (42.3%) than rural children (23.8%) of Madhya Pradesh. The result showed that malnutrition was still a leading problem among Baiga tribe.

#### Material and Methods

The present study was a cross-sectional field study and samples were selected by cluster random sampling from the dominant inhabitant areas of Tharu tribe. The study was collected from 12 village and three block of three districts namely Lakhimpurkheri, Behraich, and Balrampur were selected on Indo-Nepal border of Uttar Pradesh. A sample of 435 Tharu children (235 boys 200 girls) aged 6 to 60 month were selected for the study. Anthropometric measurement such as weight, height/length, and mid upper arms circumference (MUAC) was taken for the nutritional assessment of children. Weight of children was recorded using child weighing and for infants pan balance was used. The children were weighed either nude or with one light underwear. Weights were recorded to the nearest 100 gm. Length was measured for children (6-23 months) who could not stand. The recumbent length was measured using Infant-ometer. Height was measured for children (24-60 months) who could stand. A vertical measuring rod (anthropometer) was used. Mid upper arm circumference was measured using a non-stretchable tape. Circumference was measured without compressing soft tissues and recorded to the nearest 0.1 cm. The Children were considered wasted if their

weight for height z-scores was below -2.0 Standard deviation (SD) of the WHO standards, and were considered severely wasted if the Z scores were below -3.0 Standard Deviation (SD) of the WHO standards.

#### Statistical analysis

Data was entered in MS excel analyzed by Statistical Package for Social Sciences (SPSS) software version 17 and expressed as frequencies and percentages. Comparison of Anthropometric measurements were done using chi square analysis and p value of less than 0.05 was considered as statistically significant.

#### Result

**Table No. I**  
**Distribution of Children according to Gender**

Gender	No. of children (n=435)	Percentage of children (%)
Boys	235	54.0
Girls	200	46.0

Table No. I shows the distribution of children according to gender, the sample comprised of 235 (54%) boys and 200 (46%) girls. Boys to Girls ratio of children was 1.18:1.

**Table No. II**  
**Nutritional Status of children According to Weight-for- height criteria (Wasting)**

Nutritional status (Z score)	No. of children (n=435)	No. of children (%)
< -3 SD	131	30.1
-2 SD to -3 SD	112	25.7
-1 SD to -2 SD	94	21.6
Median to -1 SD	98	22.5

Table No. II shows the prevalence of severe wasting (< -3 SD) was 30.1%, moderate wasting (-2 SD to -3 SD) was 25.7%, mild wasting (-1 SD to -2 SD) was found to be in 21.6% and children with normal nutritional status (Median to -1 SD) were 22.5%.

**Table No. III**  
**Nutritional Status According To Weight- For- Height (Wasting) Criteria Among Boys And Girls**

Nutritional status (Z score)	No. of children (n)	Boys n=235 (%)	Girls n=200 (%)	$\chi^2$ value	p value
< -3 SD	131	55 (42.0)	76 (58.0)	29.26	<0.001
-2 SD to -3 SD	112	49 (43.8)	63 (56.3)		
-1 SD to -2 SD	94	68 (72.3)	26 (27.7)		
Median to -1 SD	98	63 (64.3)	35 (35.7)		

Table No. III shows the association of nutritional status (according to weight for height criteria) between the two genders of the study sample. It was observed that the frequency of severe wasting (< -3 SD) was higher among girls compared to boys. Similarly, the frequency of moderate wasting (-2 SD to -3 SD) was also higher among girls than boys. However, frequency of mild wasting (-1 SD to -2 SD) and subjects with normal nutritional status (Median to -1SD) was higher in boys compared to girls. Comparing the gender proportions (boys/girls) according to nutritional status,  $\chi^2$  test showed

significantly different gender proportions according to nutritional status (64.3% vs. 35.7%  $\chi^2=29.26$ ). On the basis of  $\chi^2$ , p value was found to be highly significant  $p<0.001$ .

**Table No. IV**  
**Nutritional Status of Children according to Z score of MUAC criteria**

Nutritional status (Z score)	No. of children (n=435)	No. of children (%)
< -3 SD	145	33.3
-2 SD to -3 SD	130	29.9
-1 SD to -2 SD	62	14.3
Median to -1 SD	98	22.5

Table No. IV shows the nutritional status of children according to MUAC criteria. The prevalence of SAM (< -3 SD) was found to be 33.3%. Frequency of MAM (-2 SD to -3 SD) was 29.9%, frequency of

mild malnutrition (-1 SD to -2 SD) was 14.3%, and children with normal nutritional status (Median to -1 SD) were 22.5%.

**Table No. V**  
**Nutritional Status according to Z score of MUAC Criteria among Boys and Girls**

Nutritional status (Z score)	No. of children (n)	Boys n=235 (%)	Girls n=200 (%)	$\chi^2$ value	p value
< -3 SD	145	64 (44.1)	81 (55.9)	34.28	<0.001
-2 SD to -3 SD	130	61 (46.9)	69 (53.1)		
-1 SD to -2 SD	62	32 (51.6)	30 (48.4)		
Median to -1 SD	98	78 (79.6)	20 (20.4)		

Table No. V shows that association of nutritional status (according to MUAC criteria) between the two genders of the study sample. The frequency of SAM (< -3 SD) and MAM (-2 SD to -3 SD) was higher in girls compared to boys. However, frequency of and mild malnourished (-1 SD to -2 SD) and subjects with normal nutritional status (Median to -1 SD) was higher in boys compared to girls. Comparing the nutritional status according to MUAC between the two genders,  $\chi^2$  test showed significantly different and lower percentage (59.2%) with normal nutritional status in girls as compared to boys (79.6% vs. 20.4%,  $\chi^2=34.28$ ). On the basis of  $\chi^2$  value, p value was found to be highly significant. (p<0.001).

#### Conclusion

Overall, the nutritional status of Tharu children was found to be poor. About 30.0% children belonged to SAM, which is a serious risk of mortality according to WHO. 25.0% of children were suffering from moderate malnutrition. Thus 55.0% of children population was under the grip of moderate to severe malnutrition. This malnutrition was higher in girls compared to boys. Though, no particular gender discrimination was observed between the two genders, the natural life style of Tharu tribe which placed female child under greater work load may be the cause of their poor nutritional status. In childhood the young girls are expected to look after the siblings and share house hold chores with mothers. In adolescent age they are burdened with field work, house hold work as well as they are pushed for early marriage and child bearing task. The malnourished girls grow up to adult females with poor nutritional status. Women with poor health and nutrition are more likely to give birth to unhealthy babies. With poor health they are also less likely to be able to provide food and adequate care to their children.

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