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NUTRITIONAL STATUS OF *ANDH* TRIBAL SCHOOL GOING CHILDREN OF NANDED DISTRICT OF MAHARASHTRA

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Abstract

Nutritional assessment is the best way to define the health and nutritional status of children because disturbances in health and nutrition. A cross sectional study was conducted among the Andh tribe of Nanded District of Maharashtra. The community is mainly of marginal farmers surviving on the traditional occupation of agriculture. The study aims to assess the nutritional status of school going children (6+ to 10+ years). The data were collected using Anthropometry (Height, Weight) by following standard methods. Weight for Age, Height for Age and BMI were used to assess the Nutritional Status.

Key Words: *Andh Tribe, BMI, Nutritional Status, Anthropometry.*

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Introduction:

Nutrition is defined as a "Combination of processes by which the living organism receives and utilizes the maintenance of its fictions and for the growth and renewal of its components."(Tanner 1959)

Prevalence of thinness or underweight in a population is explained in grades as possessing under nutrition, malnutrition or over nutrition. Several studies have explored health and nutritional status of children in India (NNMB, 1978; IIPS and Macro International, 2007). Many studies were held in the tribal populations of India to showing a state of under nutrition focus on school children and their nutritional.In the present study the emphasis is laid mainly on anthropometric parameters. Anthropometry has been increasing used for diagnosing individuals and assessing populations. Nutritional anthropometry is recognised widely as an effective means of assessing nutritional status especially at the level of population.

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The aim of the present study is to assess the nutritional status of *Andh* tribal children in Nanded district of Maharashtra in India. The objectives is to measure individual children with respect to the two anthropometric parameters i.e. Weight and height to compare with the WHO standards (2005) from age group 6+ to 10+ years of boys and girls; and to calculate body mass index for all respondents.

Methods:

This is a cross-sectional study which is carried out in tribal schools of Nanded district, Maharashtra deals with *Andh* children. Sample size of the study is 367 tribal school going healthy children (178 boys and 189 girls) in the age group of 6+ to10+ years. This sample is selected by simple random sampling technique. Student were interviewed and examined with help of teacher in the classroom of school. Information of respondent is taken from his school registered records. There are three Nutritional parameters used to assess the nutritional status in children through underweight (Weight for Age), stunting (Height for Age) and thinness (BMI for age) (WHO 2005)

Anthropometric measurements and physical examination:

Body weight and height were measured using standardized procedures. Weights of children were recorded using a weighing scale to the nearest 0.1 kilograms (kg). Height was measured to using Anthropometric Rod.

World Health Organization (WHO) criteria for classification of nutritional status was used.4 Students with Z-score value of <2SD (standard deviation) and <3SD for height for age were classified as stunted and severely stunted respectively. Similarly children with Z-score value of <2SD and <3SD for weight for age were classified as underweight and severely underweight respectively. Children with Z-score value of <2SD and <3SD for weight for height were classified as thin and severely thin respectively or low BMI for age. Nutritional status was also assessed by calculating Body Mass Index (BMI) (CDC 2014).

Data entry and analysis:

Data were calculated in Microsoft Excel 2007 and calculated Anthropometric measurements.

Results and discussion:

Studying sample size is 367 tribal school children examined (178 boys and 189 girls) in the age group of 6+ to10+ years. Data on anthropometric measurements were collected following the standard techniques of Weiner and Lourie (1969).

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Height for Age **and** ***Weight for Age:*** Stunting is an indicator of chronic deficiency, wasting is an indicator of acute under-nutrition and underweight is a composite measure of both chronic and acute under nutrition [Gillespie and McNeill 1992]. In the study, weight for age (WAZ) below in Table 1. And height for age (HAZ) see in the Table 2.were used as they measure the child growth relative to its potential (Kynch and Maguire, 1998). The values recorded for Height and Weight were computed against the WHO standards for Height and Weight (WHO, 2005). It showed that in all age groups, stunting and underweight was present in varying degrees.

Table 1: Weight for Age

Weight for Age

Age (Years)	Boys			Age (Years)	Girls		
	N	Mean (Kg)	z-score		N	Mean (Kg)	z-score
6+	32	21.98	0.39	6+	39	14.46	-2.38
7+	36	22.1	-0.33	7+	33	16.08	-2.78
8+	31	20.14	-1.87	8+	42	21.22	-1.26
9+	41	25.9	-0.66	9+	45	25.56	-0.76
10+	38	25.46	-1.49	10+	30	25.25	-1.55

Table 2: ***Height for Age***

Height for Age

Age (Years)	Boys			Age (Years)	Girls		
	N	Mean (Kg)	z-score		N	Mean (Kg)	z-score
6+	32	102.64	-2.56	6+	39	102.23	-2.65
7+	36	110.88	-2.08	7+	33	106.48	-2.99
8+	31	120.4	-1.36	8+	42	117.42	-1.85
9+	41	129.26	-0.73	9+	45	128.52	-0.75
10+	38	131.53	-1.12	10+	30	131.6	-1

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For an overall average of all the age groups, 67% children were found to be stunted, of which 36% were boys and 31% were girls. As much as 74.8% children were found to be underweight of which 41% were boys and 33.8% were girls.

Body Mass Index: The data on height and weight was used to calculate the BMI for all the age groups in boys and girls. The standard value range of 18.5- <23.0 was taken as the normal range as prescribed by WHO. By computing against this range, 59.6% children were found to be malnourished. The malnutrition was more severe in case of the boys as compared to the girls of the same age group. 30.3% boys and 29.3% girls were found to be below the value of 18.5 and thus were malnourished. The data on the BMI value for different age groups is presented in table 3 below.

Table 3 :*Body Mass Index*

Body Mass Index

Age (Years)	Boys			Age (Years)	Girls		
	N	BMI	z-score		N	BMI	z-score
6+	32	20.36	2.34	6+	39	13.84	1.19
7+	36	17.98	1.26	7+	33	14.18	-0.93
8+	31	13.89	-1.54	8+	42	15.39	-0.25
9+	41	15.5	-0.4	9+	45	15.47	-0.44
10+	38	14.72	-1.22	10+	30	14.58	-1.25

Conclusion:

It was found that of the total sample size, 67% were stunted, 74.8% were underweight and 48% were malnourished. The findings proved that the *Andh* tribal children of the Nanded district of Maharashtra had lower nutritional and health standards.Under-nutrition is a prevalent condition among *Andh* tribal school children.

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