



## Nutritional Irregularities Among Anganwadi Beneficiaries of Ambala District, Haryana, India - A Social Issue

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### Abstract

**Introduction:** Body requires many different vitamins and minerals that are crucial for physical and mental development of children and also helps in preventing various nutritional deficiency diseases in children.

**Method:** The study was conducted in anganwadi of ambala, barara and nariangarh tehsils of Haryana. A total of 1268 children visiting various anganwadis were analysed for nutritional status by using WHO anthro version 3.0.1.

**Results:** Underweight was observed in 68.2% out of which 37.5% were moderately and 26.9% were severely underweight. Stunting was observed in 62% of total subjects while wasting was seen in 65.2%. No BMI was observed in 63.5% subjects while risk of overweight and overweight was found in 13% and 4.9% respectively.

**Conclusion:** The results of this study propose that there is severe nutritional deficiency amongst anganwadi beneficiaries which needs to be addressed at the earliest. Conclusion: The results of this study propose that there is severe nutritional deficiency amongst anganwadi beneficiaries which needs to be addressed at the earliest.

**Keywords:** Nutritional Deficiencies; Anganwadi Beneficiaries; Basal Metabolic Rate; Underweight

### Introduction

The lives of the children and women are the truest indicators of the strength of the communities and nations. If the youngest and the most vulnerable are left to find their way alone, a country violates the rights of its people and sabotages its future as an equal partner in the global economy. Meeting the nutritional needs of the mother and the child is perhaps the most eloquent exigency for propelling humanity on a journey of a satisfactory physical and mental growth for ensuring social justice.

The mother and the child together constitute 2/3rd of the population in the developing countries. In India, women in the child bearing age (15-44+ years) constitute 21.7% and children less than 15 years of age 37.3% of the total population [1]. Thus, together they constitute nearly 60% of the total population. The children below 6 years of age constitute around 17% of the total population [1].

Nutritional problems cause oversized morbidity and mortality among children in India. Despite spectacular increase in food production and many other nutritional programmes in recent years, the problem of chronic malnutrition continues to exist extensively especially among children between 1 to 6 years of age. These children are caught in a relentless sequence of ignorance, poverty, inadequate food intake, disease and early death. The infant and under five mortality rate of Indian children is 67:1000 and 93:1000 respectively which are much higher than other developing country average [2,3]. One in four newborns is underweight and nearly one in two children under five suffer from moderate to severe malnutrition [2-4].

From early fifties, special attention has been given to the children health through various national programmes like Midday meal (1962-63), Balwadi- community child care centre (1970 - 71), and special nutrition programme (1970- 71) [5]. Alas, the expedient results are not achieved.

Early childhood is a crucial developmental period during which there is considerable scope to influence the growth of malnourished children – through growth-monitoring, which is supposed to be performed monthly, and through encouraging sound child-care and feeding practices. Having realized this utmost urgency of highest priority, the Government of India evolve a National Programme for the overall development of the children, most precious asset which symbolize country’s future. The denouement of this entanglement is the emergence of Integrated Child Development Services (ICDS) Scheme, a Multisectoral Programme in the year of 1975, the largest national programme for the welfare of Pregnant and Nursing Mothers and Children below 6 years through Anganwadi Worker (AWW) at a village centre called as “Anganwadi” [6-8]. In India, there are 13.56 lakhs anganwadis involving approx 158,700,000 children [9]. Around 7984 anganwadis are in Haryana, taking care of 3,297,724 children under the age 6 years and approximately 583 anganwadis are located in Ambala District [9].

However, even today, after six decades of independence and despite various initiatives both in the state as well as at national levels, the condition of overall health of children remains a cause of concern in the country. Hence, nutritional status of the anganwadi beneficiaries were assessed so as to plan a programme suitable measures to improve overall health of young children so as to expect healthy adult community in future.

Methodology

The study was conducted in the anganwadis of three tehsils of Ambala district (1568.85 sq. Km<sup>3</sup>) namely Ambala, Barara and Narayangarh. The population of the district forms 4.48% of the total population of the Haryana state and has relatively higher literacy rate (82.9percent) as compared to the state average literacy rate (76.64 percent) [10]. In the district, nearly 65 percent of the population is rural based and interestingly one-fourth of the population comprises of Scheduled Castes. Starting from lowest level of health facility in Ambala district, there were 100 SubCenters, 14 Primary Health Centres, 8 (24x7) PHCs, 3 Community Health Centers, 2 Sub District Hospitals, one District Hospital and 17 AYUSH dispensaries. There were no Mobile Medical units [11].

Study design

The cross sectional descriptive study was designed to collect the information on the nutritional status among 9 months to 71 months children visiting Anganwadi in Ambala district for the period of 14 months (i.e. March 2012 to May 2013).Estimated sample size was calculated based on children population (11.73 lakhs) below six years of age, who are registered in anganwadis of Haryana, by using Epi Info version 7 with expected value of 50% and confidence level of 99.9% which came up to 1268.

A stratified random cluster sampling method was adopted. Children present on the day of visit were randomly selected. Correct dates of birth of the subjects were obtained from anganwadi records.

A total number of 1268 children were examined covering 379 anganwadis and 93 numbers of villages in Ambala district as per the schedule.

The Permission to conduct the study was obtained from all the concerned authorities viz.

- Ethical committee of the institute
- District Health Officer (DHO)
- The Child Development Officers (all the three tehsils)
- The Anganwadi Supervisors and Anganwadi workers (AWWs).

Nutritional status [12]

Analysis of data for nutritional status was done by WHO Anthro version 3.0.1 (software for assessing WHO Child Growth Standards using weight-for-age, height-for-age, weight-for-height, BMI-for-age and windows of achievement for six gross motor milestones).

Results

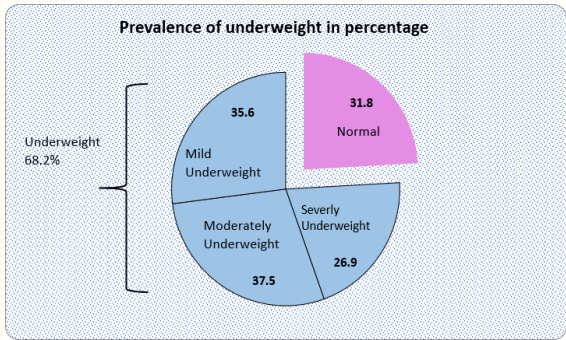
Data was loaded in excel sheet and was analyzed using SPSS version 13.Among 1268 subjects examined 64.2% (814) were males and 35.8% (454) were females. Among 1268 subjects, the mean age of the subjects were 38.83 months. The mean age of males and females were 38.47 and 39.46 months respectively. Among total subjects (1268), majority of the subjects 74.3% (942) belonged to backward class and SC and ST. Only 21% (266) were Hindus followed by 3.9% (50) Muslims whereas only 0.8% (10) belonged to other groups.

Malnourishment assessment

Underweight (weight for age)was observed in 68.2% (865) of the total subjects. Out of which, 37.5% were moderately and 26.9% were severely underweight (Table 1, Graph 1). Stunting (height for age) was observed in 62% (786) of the total subjects. Out of which, 41.2% were moderately and 29.6% were severely stunted (Table 2, Graph 2). Wasting (weight for height) Wasting was observed in 65.2% (827) of the total subjects. Out of which, 35.9% were moderately and 25.6% were severely wasted (Table 3, Graph 3). Low BMI was observed in 63.5% (804) of the total subjects. On the contrary, risk of overweight and overweight were found in 13% (165) and 4.9% (63) respectively, whereas, only 18.6% (236) were having normal BMI (Table 4, Graph 4).

Weight for age	N	%			
Underweight	865	68.2	Severity	N	%
			Severe	233	26.9
			Moderate	324	37.5
			Mild	308	35.6
			Total	865	100
Normal	403	31.8			
Total	1268	100			

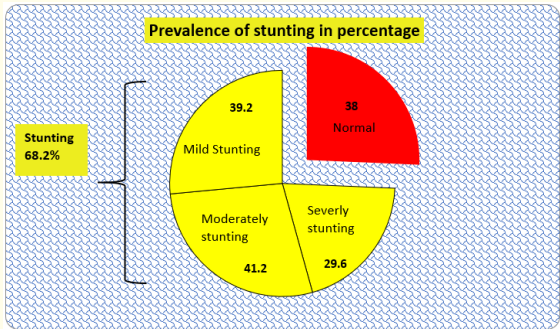
Table 1: Showing distribution of subjects according to weight for age (underweight).



Graph 1: Showing distribution of subjects according to weight for age (underweight).

Height	N	%			
Stunting	786	62.0	Severity	N	%
			Severe	233	29.6
			Moderate	324	41.2
			Mild	308	39.2
			Total	786	100
Normal	482	38.0			
Total	1268	100			

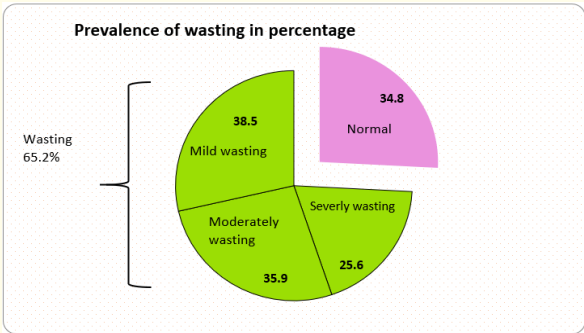
Table 2: Showing distribution of subjects according to height for age (Stunting).



Graph 2: Showing distribution of subjects according to height for age (Stunting).

Weight for height	N	%			
Wasting	827	65.2	Severity	N	%
			Severe	212	25.6
			Moderate	297	35.9
			Mild	318	38.5
			Total	827	100
Normal	441	34.8			
Total	1268	100			

Table 3: Showing distribution of subjects according to weight for height (Wasting).

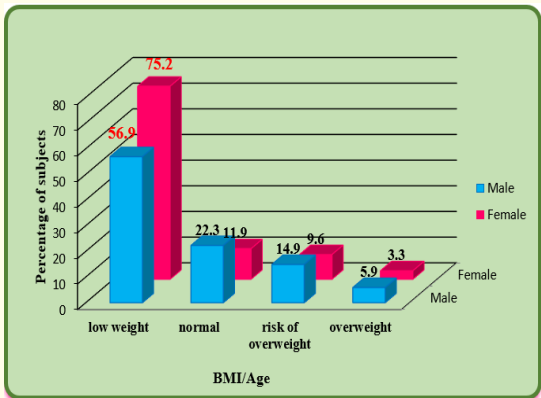


Graph 3: Showing distribution of subjects according to weight for height (Wasting).

BMI/Age	Male		Female		Total	
	N	%age	N	%age	N	%age
Low weight	463	56.9	341	75.2	804	63.5
Normal	182	22.3	54	11.9	236	18.6
Risk of Overweight	121	14.9	44	9.6	165	13.0
Overweight	48	5.9	15	3.3	63	4.9
Total	814	100.0	454	100.0	1268	100.0

Table 4: Showing gender wise distribution of subjects according to the percentile values and nutritional indicator (BMI for age).

\*From total 1268 subjects  
N: Number of subjects.



Graph 4: Showing gender wise distribution of subjects according to the percentile values and nutritional indicator (BMI for age).

## Discussion and Conclusion

A total of 379 anganwadi centres were visited in 93 villages, between March 2012 to May 2013 (14 months). As per census 2011, the state with alarming low child sex ratio is Haryana (1000:830) making it a first worst state in its child sex ratio [13]. However, It has been found in the present study that among total subjects examined, 814 were males and 454 were females which gives the males/females ratio to 1000:557. This gender gap could be due to the discrimination against girl child leading to instances of secret heinous crimes such as female foeticide and infanticide due to various social issues.

Greater percentage (74.3%) of subjects in majority of anganwadis are from backward class and schedule caste and tribes and are from lower half of the low socio economic spectrum. On the other hand, affluent families with high socio economic backgrounds prefer to send their children to other places such as crèches, kinder garden and play homes etc. for better education and development.

In the present study, 68.2% are found to be underweight. The measure of weight for age was a reflection of the effects of both acute and chronic malnutrition i.e. stunting and wasting. From the literature reviewed, malnutrition (underweight) affects an unacceptably large proportion of the children under five years in developing countries. Although prevalence varies greatly between areas and regions, approximately 57% of under fives are considered underweight Stephenson., *et al.* [13], Jood Sudeish., *et al.* [14], Sachdev AVSUM., *et al.* (1995) [15], Bhalani KD., *et al.* [16], Maheshwari Archana [17]. The reason for high prevalence in present study could be due to;

- Ambala District comes in Sub Himalayan Plateau, which is known iodine deficiency goitre belt.
- High fluoride belt area.

This lead to deficiency in ferroxidase hormone leading to stunted growth and formation of erythrocytes leading to anaemia respectively.

This could also be due to the unequal distribution of representative study sample from the community leading to infinitesimal population of malnourished children, but could also be due to the fact that the sample consisted of children who belonged to lower socio economic status and were residing in rural areas. However, it has been found that children between 09-12 months were more malnourished. This may be attributed for practice of early weaning period.

To conclude, this study thus gives a brief insight of nutritional deficiencies among anganwadi beneficiaries' which signifies the major social issue as on date. There is alarming evidence of nutritional deficiencies as well as poor utilization of government

services in almost all the age groups. 7 out of 10, subjects were having low BMI. On the contrary, 13% were under the risk of overweight with only 4.9% being overweight. Severity of underweight was 68.2% among subjects where more than half of the children were moderately and severely underweight. 8 out of 10 children were moderately and severely stunted whereas 6 out of 10 children had wasting. It is however prudent to carry out an in-depth epidemiological research on a larger population to draw definite conclusions about nutritional status of the children visiting anganwadis.

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