

# Research in Pharmacy and Health Sciences

## Research Article

### Nutritional Status and Utilization of Anganwadi Services: An Epidemiological Comparative Study Medak District, Telangana, India

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#### ABSTRACT

**Background:** Malnutrition is the widely prevalent problem in India as well as other developing countries; India has one of the astonishing magnitudes according to the national family health survey. The Integrated Child Development Services (ICDS) programme is a globally recognized community based early child care programme, which addresses the basic interrelated needs of young children, expectant and nursing mothers and adolescent girls across the life cycle, in a holistic manner. ICDS in India is a response the challenge of breaking a vicious cycle of mal-nutrition, impaired development, morbidity and mortality in young children, working in convergence with other flagship programmes. **Material and methods:** It is an observational cross sectional study design sampling was obtained through the simple random sampling. The sample size consists of 100 anganwadi children. **Results:** The present study the findings have shown that Mean age of the children= 43.27 months Males 50% and Females 50% ,Average age of weaning=9.89=10 months, per cent of children attending anganwadi centre =97.6% ,Children attending anganwadi centres regularly=53% Children attending anganwadi centre irregular=29% Children attending anganwadi less than two days in a week=18%. **Conclusion:** The prevalence of malnutrition in males and females are comparatively higher as 48.8% and 49.4, despite many programs and efforts put down by the government the malnutrition rates are still prevail high in the country .the programs were beneficial to only certain class of people.

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#### INTRODUCTION:

The Integrated Child Development Services (ICDS) programme is a globally recognized community based early child care programme, which addresses the basic interrelated needs of young children, expectant and nursing mothers and adolescent girls across the life cycle, in a holistic manner. Malnutrition is the widely prevalent problem in India as well as other developing countries; India has one of the astonishing magnitudes according to the national family health survey. <sup>[1]</sup> ICDS in India is a response the challenge of breaking a vicious cycle of mal-nutrition, impaired development, morbidity and mortality in young children, working in convergence with other flagship programmes such as National Rural Health Mission, Sarva Shiksha Mission and others. <sup>[2]</sup> The integrated Child Development Services (ICDS) is the only programme that provides health

and nutrition for pregnant women, lactating mothers, infants and young children. <sup>[3]</sup> The scenario of children's health in India is characterised by high infant and high under five mortality rates. <sup>[4]</sup> In developing countries such as India, there are a number of factors that affect the people's health status. There, are demand side factors such as income, assets, social practices as a result of ethnicity and religion, lifestyle, and supply side factors such as the health care system.

Nutrition is a core pillar of human development and concrete large scale programming not only can reduce the burden of under nutrition and deprivation but also advances the progress of nations. Children between one and five years of age constitute 16.5% of the total population, whereas mortality in this age group constitutes 40% of the total deaths in the country. Malnutrition is a manmade disease which often starts in the womb and ends in the tomb. Health

and nutritional status are two different interlinked aspects of the human development; nutritional status is the condition of the health of the individual as influenced by the utilization of the nutrients and many other factors.<sup>[13] [17]</sup> The nutritional status of a community particularly of its vulnerable groups comprising of children, expectant mothers and lactating mothers has been recognised as an important indicator of nations development in turn depends on social development indices.<sup>[19] [20]</sup> During the last 50 years there have been significant changes in the nutritional status of India's population. The enormity of these changes is often not appreciated. The nutrition scene is influenced directly or indirectly by several interrelated factors which form part of the so-called developmental process. The scenario of children's health in India is characterised by high infant and high under five mortality rates.<sup>[5] [3]</sup> And it has been estimated that around 45-50 million children below 5 years (i.e., before they go to school) subsist on a diet inadequate particularly in terms of energy (UN Children's Fund,).<sup>[6]</sup> There are two broad categories of diseases, that of poverty and that of affluence. Poverty leads to malnutrition and resultant diseases, which are common in the developing countries. Lack of food security is another major problem that leads to mal-nutrition. Other factors related to malnutrition are production and availability of food grains, level of nutritional knowledge etc.<sup>[7]</sup> The ICDS programmes are reaching into very remote areas of the country today, bringing nutrition, basic health services and inoculations against the major killers of the young: measles, polio and tetanus, diphtheria and tuberculosis.<sup>[8] [9]</sup> Children of today are citizens of tomorrow; the young child under 5 years is most vulnerable to the vicious cycles of malnutrition, infection and disability all of which influence the present condition of a child and the future human resource development of the nation as a whole. Hence the assessment of the ground reality as reflected by the statistics on nutritional status of children becomes very significant in this context.<sup>[12]</sup>  
[8]

Growth monitoring is an excellent tool for assessing the growth of a child and for detecting the earliest changes in growth and to initiate appropriate interventions.<sup>[10]</sup> Early childhood, that is the first six years constitutes the most crucial period in life, when the foundations are laid for cognitive, social and emotional language, physical/motor development and cumulative lifelong learning.<sup>[13]</sup> The Integrated Child Development Services Scheme (ICDS) is currently in operation in 2926 projects.<sup>[10] [11]</sup> Even those living in relatively developed states lag behind in providing adequate nutrition to children but mainly because those regions are chiefly inhabited by the most vulnerable sections of the population.<sup>[2] [16]</sup>

ICDS, a major programme to tackle the problem of malnutrition and the ill health of mothers and children, was initiated in 1975, following the adoption of a National Policy for Children.<sup>[15]</sup> This programme is now the single largest programme for the country's children with 4,348 operational ICDS Projects (GOI: 2001-02). Despite almost 30 years of its implementation, 47% or about 37 million children under three years of age are underweight in India (NFHS II: 1998-99).<sup>[10] [18]</sup> Growth monitoring is an excellent tool for assessing the growth of a child and for detecting the earliest changes in growth and to initiate appropriate interventions.<sup>[11]</sup>

#### **Objectives:**

1. To assess the nutritional status of children below 6 years of age who are attending anganwadi regularly, irregularly, and not attending anganwadi centres at selected anganwadi centres.
2. To identify and notify the prevalence of malnutrition in children below 6 years of age at selected anganwadi centres of patancheruvu.

#### **Materials and the methods:**

**Study design:** Since the primary objective of the study is to see the prevalence of children who are attending aganwadis regularly, irregularly, and not attending, at one single point of time the cross-sectional study design is chosen as an appropriate design for the study. The present study was conducted in rural areas of medak district in 2015. Hundred children were selected as study sample. Multistage sampling technique was adopted for sample selection, samples were randomly selected for the study.

**Study setting:** The study was conducted in ICDS anganwadi centres which are located in patancheruvu. Medak district of Telangana.

**Selection of sample:** The sample for the study was drawn from the anganwadi centres, of children aged below six years of age, those who are attending, not attending, and irregularly attending to the anganwadi, both males and females are taken equally, since sampling frame was made by applying inclusion and exclusion criteria. Multistage random sampling followed. The sample size consist of 100 children, from the selected anganwadis of patancheruvu madal of medak distric of Telangana.

**Exclusion and inclusion criterion:** Inclusion and exclusion criterion: All the children aged from two to five years of age who are attending the anganwadi centres, regularly, irregularly, and not attending children of same age were included in the study, and where as children aged above six years of age were excluded in the study and children of visitors also excluded from the study. and children with any specific diseases were excluded from the study.

**Data collection:** The data is collected from the Each and every participant through anthropometric measurements of height weight, mid arm circumference and socioeconomic and demographic details were collected from the anganwadi workers and mothers who are present during the study with written consent from mothers of children's. Measurements of Height and Weight are measured.

**Data analysis:** The data analysis was done using Statistical Package for Social sciences (SPSS) version 21 software. Frequency tables and basic statistics are done. The WHO ANTHRO software is

### Results:

The total size of the sample is 100 with children who are attending the aganwadis regularly and those who are not attending at all and, those who are attending irregularly.

Mean age of the children in the study are 44.27 and range =36 months, minimum =24, and maximum =60 age of the children in the study, Males 51% and Females 49%. The present community based observational, cross sectional study was carried out in ten anganwadi centres, in patancheruvu mandala of medak district, by taking the sample of hundred children from the selected anganwadi centres, in the present study the findings have shown that Mean age of the children= 43.27 months Range=36 months (min=24 max=60)Males 50% and Females 50% ,Average age of weaning=9.89=10 months, per cent of children attending anganwadi centre =97.6% ,Children attending anganwadi centres regularly=53% Children attending anganwadi centre irregular=29% Children attending anganwadi less than two days in a week=18%, these are the major findings related to the percentage of children attending, not attending the anganwadi centre .for the estimation of malnutrition status the z scores or standard deviations were used .

This is the preferred expression for anthropometric indicators in surveys. It is the difference between the value for an individual and the median value of the reference population for the same age or height, divided by the standard deviation of the reference population. In other words, by using the Z-score, you will be able to describe how far a child's weight is from the median weight of a child at the same height in the reference value.

In this present community study (12-23) months aged children are 4% and (24-35) moths are 45% and (36-47) months are 35% and (48-60) months are 16%.

also used for analysis of the data for WHO Z scores technique and descriptive analysis. **Ethical Approval:** The Ethical approval for the study was obtained from the Institutional Review board (IRB) of School of Medical Sciences, University of Hyderabad. The permission for nutritional assessment was obtained from the principals of respective schools. The participants were explained about the study in the language which they were able to understand (Telugu) Informed consent was obtained from them prior to data collection.

### WHO Z SCORES:

The children below the <-3SD are 35 percent in the sample who are considered underweight for age according to the WHO standards, of z score technique, Stunting was reported to be 29 percent which is considered height for age indicator, and who are less than - 3 SD. The percentage of wasting in the children who are below <-3SD considered less weight for height are, 7.7 percent

### Discussion:

The Integrated Childhood Development scheme (ICDS) developed with the concept of providing a package of services is based primarily on the consideration that the overall impact will be much larger if the different services develop in an integrated manner as the efficacy of a particular service depends upon the support it receives from related services delivered through public health infrastructure mainly in the anganwadi centres, This is at present India's response to the challenge of breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality.

The current study was to compare the anganwadi children wo are regularly attending, not attending and irregularly attending, the sample of 100 children who belongs to the three groups were equally selected in the study by using the multi stage random sampling , The sample participants are recruited through the simple random sampling to avoid selection bias which creeps in the study. The height, weight and mid arm circumference were taken for the respective population and analysed with SPSS version 21 and WHO ANTHRO for Z scores for these respective children.

**Table 1: ATTENDING ANGANWADI CENTRE and MALNUTRITION**

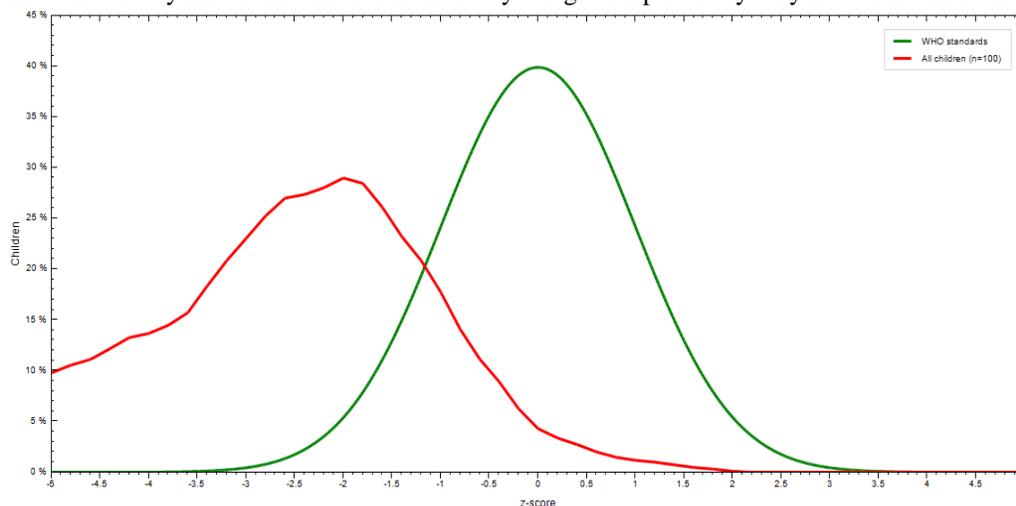
			STATUS of MALNUTRITION		Total
			normal	malnourished	
frequency of sending children to the anganwadi Centre	regular	N	18	30	48
		%	67.5%	32.5%	100.0%
	irregular	N	11	19	30
		%	35.7%	63.3%	100.0%
	not attending	N	7	15	22
		%	32.8%	68.2%	100.0%

This table shows the comparison between the regular, irregular and not attending children for anganwadis and malnutrition comparison among these children. The children who are not attending anganwadis are more prone to malnutrition in the rural areas of the selected study which is clearly visible from the table. (Table 2)

Malnutrition type	Indicator	COMBINED FOR BOTH MALES AND FEMALES					Mean	SD
		%<-3SD	%<-2SD	%<+1SD	%<+2SD	%<+3SD		
UNDER WEIGHT	Weight/age	35	61	0	0	0	-2.5	1.37
STUNTING	Height/age	29	58.1	0	0	0	-2.42	1.31
WASTING	Weight/height	7.7	28.6	8.8	4.4	4.4	-1.07	1.68

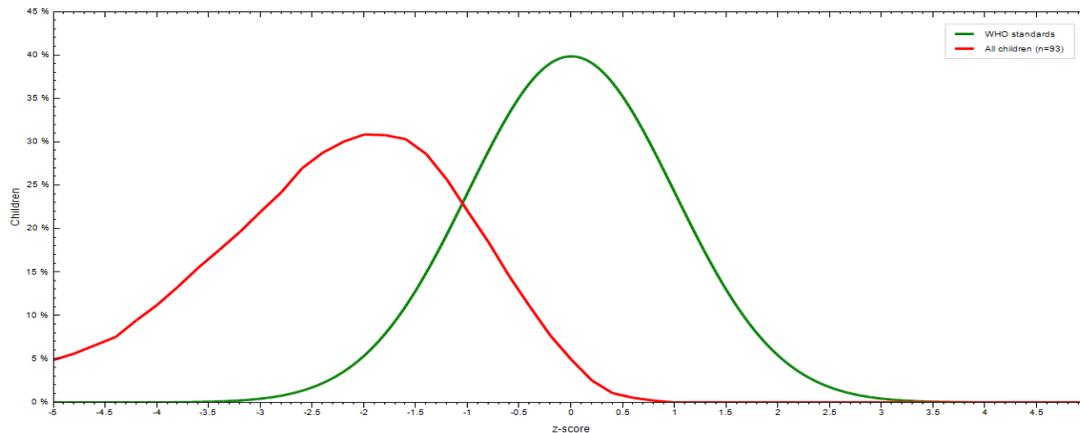
The table above shows the percent of underweight, stunting, and wasting, with the mean value of difference in each type, and standard deviation were given

ALL CHILDREN WEIGHT FOR LENGTH/HEIGHT: comparison between WHO STANDARD and study sample: The table clearly shows the children in the study design comparatively very low with who standards. (Table 3)

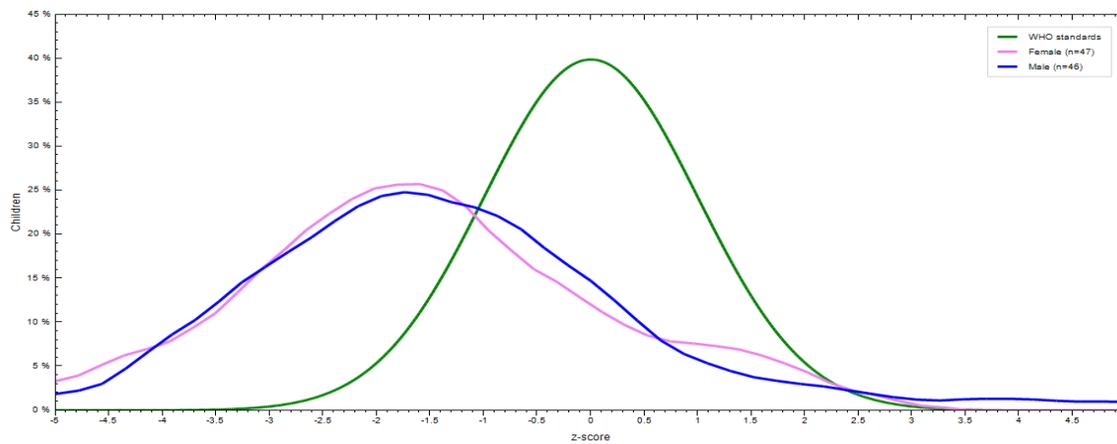


ALL CHILDREN WEIGHT FOR /AGE: The graph shows the difference in weights between WHO standard and all children in the study group, which are very low in study or WHO standards as compared Red line for WHO standard Green line for indicated study group

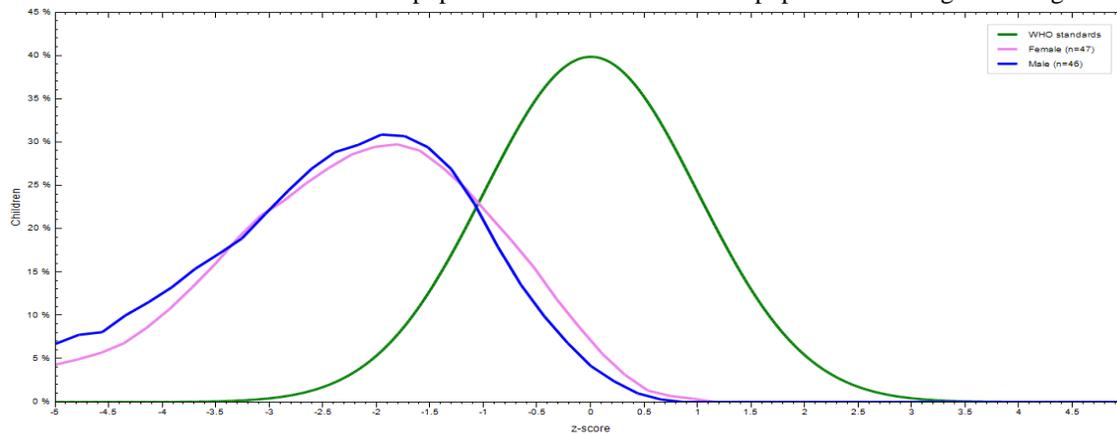
Table 4



**ALL CHILDREN HEIGHT FOR AGE:** This graph shows difference in heights for age between who standard and study design. The children in the study group are comparatively very low  
 Red line is WHO standard  
 Green line is indicated study group



**MALES AND FEMALES / WEIGHT FOR LENGTH/HEIGHT:** The males and females are compared, using the WHO as reference standard. The male population is lower than female population in weight for length/height.



**MALES AND FEMALES FOR HEIGHT FOR AGE:** height comparison with who standards, in case of height comparison boys are leading than girls but still less than normal standards of WHO Green line indicates: WHO standard, Pink line for females, Blue line for males

**Conclusion:**

The focus of the study was to identify the malnutrition prevalence and nutritional status of the Anganwadi children below five years of age and to notify the type of malnutrition, the Nutritional status of children between regularly irregularly and not attending children Has been noted and reported the prevalence rates of these children in the study, the indicators Used for the study was, weight for age, height for age, height for height, and mid arm Circumference standards were taken according the WHO standards taken as Reference for the study and the value are compared for this and identified the prevalence rates of underweight, stunting and wasting, and reported in the study design. In the present study, findings have shown that the prevalence of underweight, stunting and wasting was 35%,29%, and 7.7% respectively among anganwadi children of patancheruvu mandal of medak district,

The prevalence of malnutrition in males and females are comparatively higher as 48.8% and 49.4, despite many programs and efforts put down by the government the malnutrition rates are still prevail high in the country .the programs were beneficial to only certain class of people,

When attempting to improve the nutritional status of children, an appropriate reliable and consistent measurement tool is needed. Anthropometric indices are however, used indiscriminately when assessing under nutrition in children less than five years especially. The nutritional status of children needs to be improved and rates of malnutrition should be lowered to reduce the risk of disease severity.

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