Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

NUTRITIONAL STATUS OF ANGANWADI CHILDREN (AWC's) AND NON-ANGANWADI CHILDREN (NON-AWC's) AGED 6MONTHS-5 YEARS

[1]Surekha Vipparthi and [2]Shruti Kabra
[1]MSc Student in Nutrition and Dietetics and [2]Research Guide & Assistant Professor(C)
[1&2]Department of Food and Nutrition, Osmania University College for Women (OUCW)
Koti, Hyderabad, Telangana State, India

ABSTRACT

Background: The Nutritional Status Of under 5 years of age has become an important indicator of the development status of the country. Balamrutham is the weaning food introduced under ICDS, Anganwadi centers (AWC's) to provide improved supplementary nutrition to children between 6 months to 5 years.

Objective: The present study was conducted to assess the nutritional status and demographic factors associated with malnutrition among Anganwadi children (AWC's) and Non-Anganwadi children (Non-AWC's).

Methodology: A community based cross sectional study was adopted. About 100 subjects, 50 Anganwadi children and 50 Non-Anganwadi children along with their mothers in Hyderabad city, were selected through simple random sampling. The data was collected through a direct interview questionnaire. The data obtained was compiled on an excel sheet and subjected to statistical analysis using chi square analysis, frequency, percentages, mean and standard deviation.

Results: About 84% of Anganwadi children and 78% of Non-Anganwadi children were having normal Percentile (5-85th percentile), followed by 36% AWC's children and 18% Non-AWC's children were underweight. AWC's children had better mean, SD and t-values compared to Non-AWC's children. It was also indicated that there is statistical significance between mothers education and occupation with respect to the child's nutritional status.

Conclusion: The present study clearly indicated that there is the prevalence of underweight in AWC's children compared to Non-AWC's.Thus, there is a scope of enhanced supplementary nutrition in forms of high proteins and calories.

Keywords: Anganwadi centers, Balamrutham, ICDS, Stunting, Underweight, Wasting.

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

INTRODUCTION

Early Childhood,especially the first six years,constitute the most crucial period in life,when the foundations are laid for cognitive,social,language,physical and motor development **(1)**. The Nutritional Status Of Children has become an important indicator of the development status of the country. The nutrition status of children can be evaluated by their growth **(2)**. Children with undernutrition as a form of malnutrition,are being recognized as a vulnerable category for focused action. Under nutrition has been measured by anthropometric indicators in terms of stunting,wasting,and underweight **(3)**. To tackle the problem of malnutrition, the government of India has tried to combat the perseverance of malnutrition through several large-scale programmes and schemes which could not reach the level of expectations **(2)**.Integrated Child Development Services(ICDS)is one of the most inclusive programmes **(4)**. Balamrutham is the weaning food introduced under ICDS to provide improved supplementary nutrition to children between 6months to 6 years. The weaning food is a preparation of wheat, chana dal,milk powder, oil and sugar. It is fortified and thus provides 50% of iron,calcium,vitamins and other RDA that children require per day **(5)**.

METHODOLOGY

Selection of subjects

A total number of about 100 subjects, 50 Anganwadi children and 50 Non-Anganwadi children from various age groups between 6 months- 5 years along with their mothers were selected from Ramanthapur, Hyderabad city of Telangana state in India through simple random sampling method. A Community based cross-sectional research design was adopted to study their nutritional status along with the demographic profile. A pre designed questionnaire was prepared and the data was collected by direct interview method, the anthropometric measurements of the children were collected on spot. The BMI of the subjects was calculated through WHO standards for percentiles.

STATISTICAL ANALYSIS

The mean values with standard deviation along with t-values and z-scores were obtained on the height and weight of the children and the nutritional status and demographic profile among AWC's children and Non-AWC's children was finally analyzed using Chi Square analysis.

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

RESULTS AND DISCUSSION

Socio demographic characteristics were depicted in the Table-1, which revealed that mothers of children were between 25-35 years. More than half of the mothers were graduated followed by intermediate, 10th class and few were post graduates. It was found that most of them were homemakers and few were private employees and government employees. It was also observed that the majority were nuclear families and few were into joint family types.

Nutritional status of the subjects according to BMI(Percentiles) was depicted in Table-2, which revealed that the majority of Anganwadi children were normal with 5-85th percentile (84%) followed by underweight <5th percentile (10%), overweight >85-95th percentile (4%) and obese >95th percentile (2%) compared to Non-Anganwadi children with normal with 5-85th percentile (78%) followed by underweight <5th percentile (18%), overweight >85-95th percentile (2%) and obese >95th percentile (2%). Similar observation was reported that there is a positive relation between BMI among Anganwadi children receiving the supplement than Non-Anganwadi children who are not receiving the supplement **(6)**.

Nutritional status of the subjects when classified according to t-values Table-3, indicated that Anganwadi children had better mean,standard deviation and t-values compared to Non-Anganwadi children. The study findings were similar to a study which reported that there is no statistical significance with t-scores among Anganwadi children and Non-Anganwadi children **(7)**.

Association of z-scores among AWC's and Non-AWC's children, in the present study, there is statistical insignificance with the z-scores among AWC's children and non-AWC's children. (x^2= 4.2299, p=0.1206). Anganwadi children are more in terms of underweight (36%) compared to Non-Anganwadi children who are underweight (18%). Non-AWC's children are more in terms of wasting (40%) and stunting (20%) compared to AWC's children wasting (36%) and stunting (8%). (Table-4). The present study was similar to the other report wherein positive relation of nutritional status among AWC's children who are receiving the supplement compared to Non-AWC's children who are not receiving the supplement **(8)**.

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

Association of mothers education and occupation with nutritional status of the child Table-5 indicated that there is a significant association of mothers regarding nutrition for 6 months-5 years children with selected demographic variables like age, education and occupation. The study findings were similar to a study which reported that there is a significant association between the knowledge of mothers regarding nutrition for 6months-5 years children **(9)**.

CONCLUSION

It can be concluded that the prevalence of malnutrition based on WHO Percentiles was less among those who received supplementary nutrition as compared to ones who did not . The prevalence of underweight was seen in children who are attending AWC's centers compared with children who are not attending AWC's centers. Wasting and Stunting was seen in Non-AWC's children more than AWC's children. However more such studies are required to be undertaken on a larger number in comparison among different Anganwadi centers. This will help to provide better nutritional status among preschool children.

Table (1) Socio demographic characteristics (n=100)

S.No	Characteristics		AWC's mothers (n=50)	Non-AWC's mothers (n=50)
1	Age	25-35 years	100%	100%
2	Family type	Nuclear	82%	86%
		Joint	18%	14%
3	Education	10th class	8%	12%
		Intermediate	10%	10%
		Graduate	80%	66%
		Post graduation	2%	12%
4	Occupation	House wife	74%	66%
		Private employee	18%	22%
		Government employee	8%	12%

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

Table (2) Nutritional status of subjects according to BMI (Percentiles) (n=100)

Characteristics	AWC's (n=50)	Non-AWC's (n=50)	x^2	p-values
Underweight (<5th percentile)	10%	18%	1.5962	0.8094
Normal (5-85th percentile)	84%	78%		
Overweight (>85-95th percentile)	4%	2%		
Obese (>95th percentile)	2%	2%		

Table (3) Nutritional status of the subjects when classified according to t-values. (n=100)

S.No	Characteristics	AWC's (n=50)	Non-AWC's (n=50)	x^2	p-value
1	Height (Mean ± SD)	79.4 ± 6.33	60.99 ± 6.78	0.1278	0.7206
2	Weight (Mean ± SD)	9.92 ± 1.52	7.65 ± 1.51		
3	t-values				
	Height	30.11	22.58		
	Weight	49.43	31.80		

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

(p-value=0.05)

Table (4) Association of z-scores among AWC's and Non-AWC's children. (n=100)

z-scores (-2SD cutoff)	AWC's children (n=50)	Non-AWC's children (n=50)	x^2	p-value
Weight-Age				
-3SD	8%	18%		
-2SD	36%	18%		
-1SD	26%	38%		
±1SD	30%	26%		
Height-Age				
3SD	14%	22%	4.2299	0.1206
-2SD	8%	20%		
-1SD	8%	44%		
±1SD	70%	14%		
Weight-Height				
3SD	2%	4%		
-2SD	36%	40%		
-1SD	38%	38%		
±1SD	20%	14%		
+2SD	2%	2%		
+3SD	2%	2%		

(p-value=0.05)

Table (5) Association of mothers education and occupation on nutritional status of the child. (n=100)

Characteristics(n=100)	Normal (n=29)	Underweight (n=25)	Wasting (n=38)	Stunting (n=8)	x^2	p-value

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

Education	10th class	1%	1%	6%	2%	13.5848	<0.00001
	Intermediate	4%	2%	3%	1%		
	Graduate	25%	20%	26%	2%		
	Post graduate	3%	2%	3%	3%		
Occupation	Housewife	9%	33%	12%	16%	28.5901	<0.00001
	private employee	3%	6%	5%	6%		
	Government employee	3%	3%	2%	2%		

(p-value=0.05)

REFERENCES

1) Brajesh Raj, Merta., (2011), Impact Assessment of ICDS Intervention on Severe underweight children at urban Hubli-Dharwad, Karnataka.http://dspace.sctimst.ac.in/jspui/handle/123456789/2168.

2) Ajay Sood, Alok Sood., (2017), A Comparative Study of the Nutritional Status among Children Attending to ICDS and Non ICDS Schools. International Journal of Research and Review 2017; 4(7):9-14.

3) Chetan S Patali., (2018), A Descriptive Study to Assess the Knowledge of Mothers Regarding the Nutrition for Under Five Children in Selected Areas of Bagalkot with a View to Develop a Self Instructional Module.

DOI: 10.19080/JOJNHC.2018.07.555713

4) Ministry of Women & Child Development, India., (2012) http://icds-wcd.nic.in/#

5) Department of Women development & Child Welfare, Government of Telangana., (2014) https://wdcw.tg.nic.in/Balamrutham.html.

6) Poonam Kumari, Raj Pathania., (2014), A Comparative study on anthropometric measurements of ICDS and Non-ICDS children in selected blocks of Kangra district of Himachal Pradesh. Himachal

Cover Page

DOI: http://ijmer.in.doi./2022/11.08.60

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881; IMPACT FACTOR :7.816(2022); IC VALUE:5.16; ISI VALUE:2.286
Peer Reviewed and Refereed Journal: VOLUME:11, ISSUE:8(3), August: 2022
Online Copy of Article Publication Available (2022 Issues): www.ijmer.in
Digital Certificate of Publication: http://ijmer.in/pdf/e-Certificate%20of%20Publication-IJMER.pdf
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: 2nd August 2022
Publication Date:10th September 2022
Publisher: Sucharitha Publication, India

Journal of Agricultural Research 40(2): 150-155 (2014)

7) Priyanka Dixit, Amrita Gupta, Laxmi Kant Dwivedi, and Dyuti Coomar., (2018), Impact Evaluation of Integrated Child Development Services in Rural India: Propensity Score Matching Analysis.https://doi.org/10.1177/ 215824401878571

8) Sambhu Viswanath, P. M. Thressiamma, M. B. Sunil., (2021), A Study to Assess the Effect of Supplementary Nutrition on Nutritional Status of Preschool Children in Selected Anganwadis, Bengaluru South.DOI: 10.4103/cjhr.cjhr_55_19

9) Vanita G Pinto Silva , Savita G Pinto Silva., (2015), Nutritional Status of Anganwadi Children under the Integrated Child Development Services Scheme in a Rural Area in Goa. Int J Sci Stud 2015;3(7):217-221.