A comparative study on physical growth of ICDS and non-ICDS children of Ganjam district

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ABSTRACT

Initially 10 Anganwadi centres were randomly selected from the rural and urban areas of Ganjam district for this study. This study was carried out in 8 villages. These ICDS centres were Berhampur, Aska, Kanishi, Rangeilunda, Purustampur, Jaganathpur, Bhanjanagar and Kukudakhandi. The Non-ICDS were also selected from same villages and nearby villages. The sample consisted of both boys and girls of ICDS centre and Non-ICDS children. The 300 children of the age group of 3-6 years from different anganwadi centres were selected including both beneficiaries and non-beneficiaries.

INTRODUCTION

Since independence the government of India and other agencies are trying their best to tackle the problem of malnutrition among children but still it has not been possible to combat it in totality. Good health is a vital part of the great experience of living. The truth of this has been known from early times. Every age has made new discoveries about health thereby providing man with new weapons to fight disease. Today, steady progress is being made in the fields of education, medicine and surgery as well as public health. Attempts are being made to give everyone a fair chance to lead a healthier and fuller life.

Education is a basic human right, vital to personal and societal development and well-being. Education enhances lives. It ends generation cycle of poverty and disease and provides the means for sustainable development. A quality basic education will better equip girls and boys with knowledge and skills needed to adopt healthy life style and to take an active role in social, economic and political decision-making as they transit to adolescence and adulthood.

Considering the importance of ICDS, the Government has given very high priority to the scheme. The ICDS scheme was launched in 2nd October 1975 in Subdega block of Sundergarh district with 85 AWCs. It is a centrally sponsored scheme with one of it's core aim is to improve the nutritional and health status of children below the age of six years and pregnant and lactating mothers. The programme has gradually increased from 33 projects to 7073 projects in 2009, catering to about

87.3 million beneficiaries through a network of about 1 million Anganwadi centres. It is the landmark in the history of nutrition in India.

Physical growth:

According to Hurlock (1957) "Growth refers to quantitative changes in size, shape and proportions of the body parts such as structure of internal organs. Physical growth is one of the more impressive indications of child development. During the preschool period, the child is growing at relatively slower and steadier rate. There is not a large difference between boys and girls during this period. Change in height follows the same rule. Anthropometry is concerned with the measurement of variations in the physical dimensions and gross composition of the human body at different age levels. It is one of the important parameters for health status of children. Measurement such as height, weight, head circumference and arm circumference reflects present status of child's growth and development. Body measurement are simple but reliable and objective indices of nutritional status. Nutritional anthropometry is one of the most important methods for assessment of growth and development in the growing children.

Physical growth in stature and weight occurs over the 15–20 years following birth, as the individual changes from the average weight of 3.5 kg and length of 50 cm at full term birth to full adult size. As stature and weight increase, the individual's proportions also change, from the relatively large head and small torso and limbs of the neonate, to the adult's relatively small head and long torso and limbs (Tanner, 1978).

"Physical growth usually refers to change in size or mass; so it is correct to say that a child grows in stature (height) and body weight". Even though most people usually think of growth at the level of the whole child, the cells and internal structures that make up the child also grow primarily by increasing in number of size.

Table 1 reflects that, out of the 150 respondents of ICDS, there are 65 respondents from rural areas and 85 respondents from urban areas of Ganjam district, respectively whose percentage are 21.7 and 28.3%. Likewise, data has been collected from 70 numbers of non ICDS respondents from rural areas and 80 numbers from urban areas, respectively. It is also observed that, the percentage distribution for Non ICDS rural and urban is 23.3 and 26.7%, respectively.

Table 2 suggested that data collected from the

Table 1 : Frequency distribution of the respondents

	Category			
		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	ICDS-Rural	65	21.7	21.7	21.7
	ICDS-Urban	85	28.3	28.3	50.0
	N-ICDS- Rural	70	23.3	23.3	73.3
	N-ICDS- Urban	80	26.7	26.7	100.0
	Total	300	100.0	100.0	

Table 2 : Descriptive statistics

ANOVA table						
		Sum of squares	Df	Mean square	F	Sig.
Age of the worker	Between groups	315.976	3	105.325	9.894	.000
	Within groups	3150.941	296	10.645		
	Total	3466.917	299			
Strength of the centre	Between groups	93213.796	3	31071.265	439.692	.000
	Within groups	20917.120	296	70.666		
	Total	114130.917	299			
3-6 year child	Between groups	31592.555	3	10530.852	286.656	.000
	Within groups	10874.111	296	36.737		
	Total	42466.667	299			
Student age	Between groups	13.722	3	4.574	11.019	.000
	Within groups	122.875	296	.415		
	Total	136.597	299			

Table 3 : ANOVA test of body measurement

| | | ANOVA | | | | |
		Sum of squares	Df	Mean square	F	Sig.
Height	Between groups	3561.798	3	1187.266	30.308	.000
	Within groups	11595.232	296	39.173		
	Total	15157.030	299			
Wight	Between groups	1356.389	3	452.130	59.974	.000
	Within groups	2231.467	296	7.539		
	Total	3587.856	299			
Arm	Between groups	4499.892	3	1499.964	314.234	.000
	Within groups	1412.928	296	4.773		
	Total	5912.820	299			
Head	Between groups	246.104	3	82.035	29.981	.000
	Within groups	809.933	296	2.736		
	Total	1056.037	299			

respondents pertaining to age of the worker, strength of the centre, 3-6 years child and student's age were subjected to statistical analysis by using ANOVA test which has been presented in Table 2. It is evident from the table that, the difference in means of all the above described parameters and statistically significant (P<0.01) indicating that the above parameters have significant contribution to the study.

Table 3 highlights the mean height of the students of four categories was found to be 95.18cm, 98.01 cm, 103.86 cm and 102.91 cm, respectively for ICDS rural, ICDS urban, Non ICDS rural and Non ICDS urban students and the difference in mean was found to statistically significant (P<0.01) and presented in Table 3.

The mean weight of the students of four categories was found to be 13.14kg, 13.90kg, 15.47 kg and 18.62 g, respectively for ICDS rural, ICDS urban, Non ICDS rural and Non ICDS urban students and the difference in mean was found to statistically significant (P<0.01).

The mean arm length of the students of four categories was found to be 14.40cm,14.67cm, 19.62 cm and 23.63cm, respectively for ICDS rural, ICDS urban, Non ICDS rural and Non ICDS urban students and the difference in mean was found to statistically significant (P<0.01).

The mean head circumference of the students of four categories was found to be 46.77cm, 48.05cm, 48.87 cm and 49.21cm, respectively for ICDS rural, ICDS urban, Non ICDS rural and Non ICDS urban students and the difference in mean was found to statistically significant (P<0.01).

Tool and techniques:

The utilization of ICDS scheme varies from place to place and depends on involvement of the community in the programme. In this study the researcher has used both interview and questionnaire method for collecting relevant data. In interview method the investigation gathers data directly from others in face to face contact. In questionnaire method the investigation gathers data by using a form which the respondent fill by themselves. But basically the researcher used interview method because interview can give more relevant data will collected data. The data were collected on the basis of the general information like age, education, occupation, income, religion and family types etc and Nutritional status like food habits, service received from anganwadi centres etc. Nearly two out of three preschool children in India are malnourished. Deficiency of vitamin A and PEM are high among this age group. Similar work related to the present investigation was also carried out by Agarwal *et al* (2000); Kumar and Prasad (2013); Sinha *et al.* (2013) and Trivedi *et al.* (1995).

Conclusion:

Children are the most assets of a country because they will be tomorrow's youth and provide the human potential required for countries development. Malnutrition is the most widespread condition affecting the health of children. Nutrition in the formative years of life plays an important role in physical, mental and emotional development of child. The present study indicated that all the ICDS centres were providing supplementary nutrition to children, pregnant and nursing

women enrolled in Anganwadi centres. This study found that all the parents especially mothers had knowledge regarding supplementary nutrition provided to their children at ICDS centres. To ensure the balance diet and improve the quality and quantity of supplementary nutrition of ICDS, the supervision must be strict, regular and it should be checked. The present study was designed to evaluate the effects of interventions providing by the Government of India in the ICDS on pre-school children, pregnanat and lactating women.

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