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Health and nutritional status of ICDS and Non-ICDS children in agro based families of north Bihar

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Abstract

India, however, considered its population as a major potential resource for national development, and recognized the importance of optimal nutrition and health for human resource development. Therefore, Article 47 of the Constitution of India stated “the State shall regard raising the level of nutrition and standard of living of its people and improvement in public health among its primary duties”. India’s first Prime Minister Jawaharlal Nehru believed that “It is only through research, science and technology that India can find solutions to the numerous massive problems that the country is facing”, and therefore prompted investment in research and development.

It has long been recognized that preschool children and pregnant and lactating women are the most nutritionally vulnerable segments of the family. Data from the NNMB surveys have shown that there are large gaps between DRA and actual dietary intake in these segments. The Government of India initiated two major food supplementation programs like ICDS to address the energy gap in children to promote psycho-social development of children through early nutritional status.

This research paper will explore the answer to about the main function of ICDS. Is ICDS became a vehicle for rapid improvement in nutritional status and health status of agro based children in North Bihar.

Keywords: Diet Related Disorders, Health Challenges, NHFS, RDA, Take Home Rations.

1. Introduction

India with 2.5% of the global land mass is home to 17% of the global population. When India became independent in 1947, the country faced major nutrition and health challenges. More than half of the households were poor and had no food security. An under-nutrition and micronutrient deficiency, especially in children was very high. Poor environmental hygiene and lack of access to safe drinking water resulted in a high prevalence of infections. Lowered immunity due to under nutrition led to higher infection rates, resulting in further under nutrition. This vicious cycle could often not be interrupted, because proper care facilities were almost absent in some urban areas.

ICDS now operates through 14 lakhs anagwadis across India and is the largest food supplementation program for pregnant women and preschool children in the World. But the number of persons receiving adequate supplements on a continuous basis is low. Also, the food supplements often acts as a substitute to home food (hot cooked meal in the anganwadi) or are shared with other members of the family (take home rations). Even though monthly weighing of children to identify growth faltering and under nutrition is an important component of ICDS, very few children in the critical 0-23 month age group are weighed. As children as not regularly weighed, under – weight children are not identified and given double rations. Nutrition education, which is a critical component of ICDS, has not got the attention that it deserves.

In 2007, India adopted the WHO MGRS growth standards. Applying MGRS standards to the NHFS 3 data brings out the fact that though nearly half the children are underweight and stunted, only about 17% are wasted (i.e. have low weight for age and height). This is a very important finding in the Indian context. Whereas interventions to correct underweight and stunting will take longer to show results, a 50% reduction in wasting rates can be achieved within 3 – 6 months. This will assure the AWWs and the mothers that interventions do work. Rapid reversal of wasting will enable the child to grow along the normal trajectory and prevent further stunting.

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The present study was conducted with a view to assessing the impact of health and nutrition services on the status of the Anganwadi children and non ICDS children.

2. Objective:

1. The objective of this study was categorized under the following:
 - To study of dietary pattern of the target group
 - To assess the nutritional status and pre health status of ICDS and Non ICDS children of agro based families.

3. Methodology

A multistage sample was selected. The sample consisted of two sub- groups. One was from the ICDS and other from a non-ICDS panchayat of Muzaffarpur district.

This study was conducted in the Kanti block of Muzaffarpur district. Total number of Anganwadi center in Muzaffarpur district is 3287 and in Kanti block there the 223 Anganwadi. In the ICDS panchayat two were selected whereas in the Non-ICDS panchayat four villages were purposively selected. The criterion for purposive selection was to obtain two villages that were comparable to the 4 selected Anganwadies on the basis of selected indices such as population, area of the village, marketing facilities, major occupation, dominant caste etc.

From each of the four selected ICDS villages, an Anganwadi was selected. From each of the four randomly selected Anganwadies, 20 children in the age group of 4 – 5 years were selected.

From the four selected Non-ICDS villages an equal number of children (40) were purposively selected, matched by ICDS children for sex caste and age. This sample was selected on the basis of door to door visits. The total sample thus comprised 80 children.

In relation to the objectives two variables were measured, namely nutrition and health status. The assessment of health status of children was made on the basis of physical examination by a doctor. The basis for the examination were the items given in the ‘Child Card’ (supplied by ICDS programme) such as condition of eyes, ears, nose, throat, skin, speech etc.

For the assessment of nutritional status ‘Weight for Age’ criterion was used as it was the only and most common measure in the Anganwadies for the assessment of nutritional

status.

Two procedures were used for the analysis. Since Non-ICDS children were matched by ICDS children for age, sex, and caste, a comparison was made between ICDS children for nutrition and health status.

4. Statistical Analysis

(%) = $n/N \times 100$ Where: % = Percentage
 n = Sum of Respondents
 N = Total number of respondents

5. Result and Discussion

The result of the present study has been presented under various sections. These sections provide an overview of distribution of respondents according to age group, mother’s education level, holding size of lands of their parents or family, family size, nutritional status and health status. This parameters were categorized, tabulated and interpreted as per objective of the study.

Table 1

S. No.	Age group	ICDS	Non - ICDS	Total	%
1	2 – 3 Years	25	35	60	37.50
2	3 – 4 Years	30	20	50	31.25
3	4 – 5 Years	25	25	50	31.25
Total		80	80	160	

Distribution of respondents according to age group.

Table – 1 reveals that out of total 180 children, maximum number i.e. 60 were among the age group of 2 – 3 years while the children of age group 3 – 4 and 4 – 5 years were equal in numbers i.e. 50 children in each group.

Table 2

Group	Education	Uneducated
ICDS	44	36
Non - ICDS	18	62

Distribution according to mother education status.

Table – 2 shows that 23 percent of mother were uneducated and rest were educated from ICDS group. From Non ICDS children group 89 percent were uneducated and only 11 percent of mother’s were able to read and write properly.

Table 3

Group	Land Less labour	Marginal Farmer	Small Farmer	Other occupation related to Agriculture	Total
ICDS	29	21	14	16	80
Non ICDS	25	20	20	15	80
Total	54	41	34	31	160

Distribution of respondents according to land holdings of their parents.

Table shows that more than 50 percent children came from land less labor and marginal farmer’s family. 20 percent children belongs to other occupation and 21 percent were belongs to small farming families.

On the basis of above table it may be said that half of the family members were very poor and most of them dependent on the daily wages earnings.

Table 4

Family Size	ICDS	Non - ICDS	Total
Joint	24	56	80
Nuclear	52	28	80

Distribution of respondents according to their family size.

The table presented above shows that maximum percentage of respondents were belongs to nuclear family of both group of children. Size of the family largely affects the dietary behavior of the family. A small size of family is likely to be more conscious for his income. The income level of the family may have a direct bearing on nutritional status and dietary behaviors.

Dietary analysis is an integral part in most of nutritional surveys. The main objective of any dietary assessment is to discover what the person under investigation in the habit of eating over the long range and in the short run. Dietary data on individuals are usually collected either to obtain information concerning average food intake or to know food

habits of a particular individual to correlate with clinical sing obtained on that individual.

In the present investigation, a 24 hours recall method carried out of to determine the food intake of respondents in the project area on the basis of information obtained from representative sample. The food intake was obtained for 180 children (from both groups). Data of food intake of children in presented in Table – 5

Table 5

Food Group	2-5 children ICDS		Non ICDS
	Main Intake	RDA (gm)	Mean Intake
Cereals	210.66	175.00	190.02
Pulses	14.08	45.00	11.11
Green leafy vegetable	3.28	62.22	3.30
Other Vegetables	47.54	40.00	54
Roots & Tuber	182.79	40.22	180
Fruits	-	50.00	-
Oil & Fat	4.92	22.50	18.63
Milk & Milk Products	23.36	200 ml	
Sugar & Sweets	3.23	35	3.01

From above table it may be observed that the intake of cereals, other vegetables and roots and tubers were more for both the categories of children than their respective RDA (recommended dietary allowances). The intake of pulses, green leafy vegetables, oil and fats, milk and jaggery were comparatively low for both groups of children that their respective RDA.

Table 6

S. No	Age Group (In Years)	Number	Normal BMI	Low BMI	Over Wt.
ICDS	2 – 3	25	10	15	-
	3 – 4	30	13	17	-
	4 – 5	25	10	14	1
	Total	80	33	46	
Non-ICDS	2 – 3	35	14	21	-
	3 – 4	20	09	17	-
	4 – 5	25	13	12	-
	Total	80	36	50	

Body mass Index (BMI) is good index to assess the current forms of malnutrition in a community. Different level of B.M.I. given in Table no – 6 from stunting and under wt. very considerably by mothers education and land holding status of households. Children of mothers with no schooling 61% are under wt. compared with 29% of children whose mothers have secondary education out of total number of under wt. children 52% of children of mothers with no schooling are under wt. compared to 25% of children of mother having educated up to secondary level in both the groups of respondents ICDS and Non ICDS children belongs to agro based families. Taking the B.M.I. in consideration the children from non ICDS were more chronic energy deficient than other group. The reason of more prevalence of energy deficiency was probably due to the lack of supplementary food and other essential food.

6. Summary and conclusions

The main focus of the study was investigate Health and nutritional status of ICDS and Non-ICDS children in agro based families of north Bihar. The comparative analysis shows no significant differences in health status of ICDS and Non-ICDS children from agro base family. The level of

stunting and underweight are higher in children residing in lowest wealth quintile households in project area. Underweight and micronutrients deficiencies especially in preschool children were high due to poor environmental hygiene and lack of access to and to safe drinking water resulted in a high prevalence of infections lowered immunity due to under nutrition led to higher infection rates, resulting in further under nutrition. One of its major example is Encephalitis which occur in every year during summer (mid of April to July), among children in rural areas of Muzaffarpur District. Many Children die due to this disease since last three years. Around 1600 children were affected by this lethal disease. While analyzing their pathological report, two main points come into highlight firstly, they were severely malnourished and secondly their sugar level was very low. On this basis we can say that the malnutrition is one of the major cause of AES (acute encephalitis), as all the affected children belong to lower income group.

The most rational sustainable and long-term solution for this problem is ensuring available, accessibility and consumption of adequate amount of foods for both groups. Nutrition knowledge and nutritional awareness help to achieve the objective of proving optional nutrition to the population.

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