



## Research Article

# SOCIO-ECONOMIC, CLINICAL AND NUTRITIONAL STATUS OF CHILDREN ATTENDING ICDS (INTEGRATED CHILD DEVELOPMENT SCHEME) AGANWADIS OF DEESA BLOCK OF BANASKANTHA DISTRICT

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Received: April 05, 2016; Revised: April 21, 2016; Accepted: April 22, 2016; Published: August 14, 2016

**Abstract-** The study was undertaken among of Deesa block. Total 240 respondents were selected randomly as subjects to the study nutritional status and dietary pattern also. Socio economic status was found low and it needs to be uplift. Due to low annual income, nutritional intake was also found to be low. Anthropometric measurements specially weight and height was found below normal level. Various clinical signs and symptoms were also observed among ICDS (Integrated Child Development Scheme) Aganwadis children. Dietary pattern indicated low consumption of foods and diet was also found poor in terms nutrition. Prevalence of malnutrition was Socio economic status needs to uplift and also nutritional interventions programmes are needed to control deficiency malnutrition.

**Keywords-** Socio economic, Anthropometric measurements, Clinical investigation

**Citation:** Joshi Sumit, et al., (2016) Socio-Economic, clinical and Nutritional Status of Children Attending ICDS (Integrated Child Development Scheme) Aganwadis of Deesa Block of Banaskantha District. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 8, Issue 28, pp.-1596-1599.

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**Academic Editor / Reviewer:** Prajapati Mayurkumar Manibhai, Rakeshkumar Naranbhai Patel, Anita Kumari

## Introduction

Nutrition is the keystone of socio-economic development of the people in any Country. The nutritional problems are multifactorial with roots in the sectors of education, demography, agriculture and development. During 1995, more than 28 per cent of the world's children under the age of 5 years were underweight for their age ranging from 2.9 per cent in the developed countries to 31 per cent in developing countries Huidrom (2011)[2]. This is due to the size of the population; almost half of the world's malnourished children are to be found in just 3 countries viz., India, Pakistan and Bangladesh. Integrated Child Development Scheme (ICDS) scheme is running for the last 30 years in all over India with the main aim of improving the nutritional status of the children below 6 years of age in the country.

An analysis of six longitudinal studies by World Health Organization (WHO) revealed a strong association between severity of weight for age deficits and mortality rates, 54.00 per cent death of fewer than five children in developing countries were accompanied by low weight for age. Attempts to reduce child mortality in developing countries through selective primary health care have focus primarily on the prevention and control of specific infectious diseases with less effort being directed to improving children's underlying nutritional status.

The convention on the rights of child drafted by the United Nations Commission on Human Rights and adopted by the General Assembly of the UN in 1989 is a set of international standards and measures to protect and promote the well-being of children in society. Our country ratified this convention in 1992.

## Objectives

1. To study the socio economic profile of children family.

2. To assess anthropometric measurements of children.
3. To examine clinical sings of nutritional deficiencies of children.

## Materials and Methods

Study was conducted in the areas of Deesa Taluka of Banaskantha district Gujarat state, which was selected by purposive sampling method. A separate list of the villages falling under the Deesa taluka was prepared. The detail information regarding the villages and types of children was collected from block development officer. Deesa taluka having 150 villages out of them 15 villages fall under population, out of 15 villages 240 respondent was selected randomly.

Respondents were selected on the basis of information provided by Primary Health Center of Deesa taluka.

Nutritional status was assessed by using the following methods.

- (I) Diet survey
- (II) Anthropometric measurements
  - (A) Height
  - (B) Weight
- (III) Clinical sings

## Results

The personal information of preschool children were collected and presented in [Table-1].

Age of the children was assessed by obtaining the date of birth records maintained by the anganwadis workers in the anganwadis centers. Age and sex wise distribution showed that 50 per cent of children belong to the age group 3-4 years and similar was turned in the age group 4-5 years 50.00 per cent. The sex

proportion was found to be 50.00 per cent girls and 50.00 per cent boys, respectively.

**Table-1** Personal information of preschool children (n = 240)

Sr. No.	Particulars	Frequency	Percentage
1.	Age :		
	3-4 years	120	50.00
	4-5 years	120	50.00
2.	Sex :		
	Male	120	50.00
	Female	120	50.00
3.	Religion :		
	Hindu	237	98.70
	Muslim	03	01.30
	Others	00	00
4.	Caste :		
	General	42	17.50
	SC	53	22.10
	ST	11	4.60
	OBC	134	55.80

The present investigation revealed that 98.70 per cent children belong to Hindu religion and only 1.30 per cent belong to Muslim religion. It shows that majority of this area population were Hindus. This might be due to regional or social factor. Under social study in India caste play an important role to take advantages from government as well as other organization. Thus from the data collected and analyzed in [Table-1] indicates that 17.50 per cent preschool children belongs to general category, 55.80 per cent of OBC children, 22.20 per cent of SC and only few 4.60 per cent ST, therefore government shall include this criteria for future planning which will affect the social composition as well as religious compulsions for adopting various programmes.

#### General dietary pattern of subjects

**Table-3** Food consumption pattern of preschool children (n = 240)

Sr. No	Food products	Daily (%)	Twice a week (%)	Once a week (%)	Monthly (%)	Occasionally or season (%)	Never (%)
1.	Cereals	220(91.66)	20(8.33)	-	-	-	-
2.	Pulses	44(18.33)	69(28.75)	97(40.42)	30(12.50)	-	-
3.	Green Leafy Vegetables	39(16.25)	77(32.80)	33(13.75)	42(17.50)	49(20.42)	-
4.	Other vegetables	35(14.58)	63(26.25)	49(20.42)	-	93(38.75)	-
5.	Roots and tubers	67(27.22)	63(26.25)	39(16.25)	46(19.16)	25(10.42)	-
6.	Fruits	-	43(17.92)	39(16.25)	57(23.75)	101(42.08)	-
7.	Milk and Milk products	107(44.59)	44(18.33)	34(14.16)	-	55(22.92)	-
8.	Fats and Oils	187(77.92)	25(10.42)	28(11.66)	-	-	-
9.	Sugar and Confectionary	158(65.84)	23(9.58)	59(24.58)	-	-	-
10.	Preserved and Processed foods	19(7.92)	-	-	-	46(19.16)	175(72.92)
11.	Fast Foods	-	44(18.33)	54(22.50)	72(30.00)	34(14.17)	36(15.00)
12.	Meat and Meat products	-	-	-	4(1.66)	13(5.42)	223(92.92)

**Table-4** Daily diet and meal pattern of the subjects

Time	Meal pattern
Break fast	Chapattis/Rotla + Tea
Lunch	Chapattis/Other vegetables
Evening time	Tea + biscuits
Dinner	Chapattis/Rotla + Khichdi + Milk
Bed time	-----

The daily diet meal pattern of the preschool children revealed that Chapattis/Rotla with tea was the item included in the breakfast, Chapattis and other seasonal vegetables or sometimes kadhi were found to be the major food items included in the lunch. During evening time preschool children consumed tea with biscuits and sometimes khari. During dinner, Chapattis/Rotla along with Vegetable/Chutney and khichdi were consumed by the preschool children, also consumed milk along with dinner.

**Table-2** Distribution of preschool children according to their food habits (n = 240)

Sr. No.	Food habit	Frequency	Per cent
1.	Vegetarian	219	91.25
2.	Non-vegetarian	21	8.75
Total :-		240	100.00

The majorities 91.25 per cent of the preschool children studied were vegetarian and followed three large meals. None of the preschool children have reported to take any special food in their family.

The above findings lead to the conclusion that, it may be because of poverty and unavailability of different foods, lack of time and lack of knowledge regarding nutritious diet.

#### Food consumption pattern

The food consumption pattern for different food groups of preschool children are presented in [Table-3]. The results obtained for the food consumption pattern of the preschool are discussed in the different heads as under. It was found that among the cereals, which were consumed daily by the preschool children were bajra and wheat. The consumption of legumes and pulses were very less and consumed occasionally. The pattern of consumption of vegetables shown that only 16.25 per cent of subject were consumed daily. The vegetables used by the subjects mainly depend upon its seasonal availability during various seasons, especially winter. The consumption of roots and tubers daily 27.22 per cent. Onion and potato was consumed daily or twice a week and was used to prepare vegetables. Again, it was observed that fruits such as mango and banana were reported by the most of the children largely consumed depend upon the season. Milk and milk products consumed daily by 44.59 per cent in the form of butter milk, tea and whole milk, while 22.92 per cent consumed occasionally through milk products. Groundnut oil was used for cooking, while ghee was also consumed daily. Sugar and confectionary 64.67 per cent were consumed daily by the children. Few of them takes preserved and processed foods, while some were consumed fast foods. Only 1.66 per cent consumed meat and meat products monthly and 5.42 per cent consumed it occasionally.

#### Anthropometric measurements

Anthropometric measurement for height and weight was assessed in terms of anthropometric parameters like height and weight using weight for age, height for age and weight for height. Under nutrition (low weight for age), stunting (low height for age) and wasting (low weight for height) were detected as per Indian Academy of Paediatrics (IAP) classification and Water low's classification. The classifications are given below in [Table-5] and [Table-6].

Weights for age were compared with Indian Academy of Paediatrics (IAP) classification [Table-5]. There were 43.33 per cent preschool children with normal weight for age followed by grade I 27.50 per cent, grade II 21.66 per cent, grade III 7.50 per cent and no grade IV under nutrition or underweight. The girls were more undernourished than boys. The total percentage of under nutrition as per IAP was 56.66 per cent.

Distribution of wasting vs. stunting according to Water low's shown in [Table-6]. It

**Table-5 Weight for Age per IAP Classification (n = 240)**

	Range	Boys		Girls		Total	
		Frequency	%	Frequency	%	Frequency	%
Normal	>80%	54	45.0	50	41.66	104	43.33
Grade-I under nutrition	70-80%	27	22.5	39	32.5	66	27.50
Grade-II under nutrition	60-70%	31	25.84	21	17.5	52	21.66
Grade-III under nutrition	50-60%	8	6.66	10	8.33	18	7.50
Grade-IV under nutrition	<50%	-	-	-	-	-	-
<b>Total :-</b>		<b>120</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>240</b>	<b>100</b>

**Table-6 Wasting Vs Stunting per Water low's classification (n = 240)**

Weight for height (wasting)	Height for age		
	> = 90 %	< 90 %	Total
> = 80 %	Normal N = 141 (58.75 %)	Stunted N = 54 (22.50 %)	195 (81.25 %)
< 80 %	Wasted N = 34 (14.17 %)	Wasted and stunted N = 11 (4.58 %)	45 (18.75 %)

**Table-7 Percentage of the children according to the signs and symptoms noticed (n = 240)**

Sr. No.	Signs and Symptoms		Frequency	Per cent
1.	<b>Appearance :</b>			
	i)	Good	134	55.83
	ii)	Fair	74	30.84
	iii)	Poor	32	13.33
2.	<b>Hair :</b>			
	i)	Lack of luster	35	14.58
	ii)	Thinness and sparseness	11	4.58
	iii)	Flag sign	128	53.34
	iv)	Easy pluckability	06	2.50
	v)	Normal	60	25.00
3.	<b>Face :</b>			
	i)	Diffuse depigmentation	0.00	0.00
	ii)	Naso-labial dyssebacea	0.00	0.00
	iii)	Moon face	23	9.58
	iv)	Normal	217	90.41
4.	<b>Eye :</b>			
	i)	Night blindness	0.00	0.00
	ii)	Pale conjunctiva	14	5.83
	iii)	Xerosis	0.00	0.00
	iv)	Xerophthalmia	0.00	0.00
	v)	Bitot's spot	06	2.50
	vi)	Normal	220	91.66
5.	<b>Lips :</b>			
	i)	Angular stomatitis	08	3.33
	ii)	Angular scars	0.00	0.00
	iii)	Cheilosis	0.00	0.00
	iv)	Normal	232	96.33
6.	<b>Tongue :</b>			
	i)	Oedema	0.00	0.00
	ii)	Scarlets and raw tongue	0.00	0.00
	iii)	Magenta tongue	0.00	0.00
	iv)	Glossitis	0.00	0.00
	v)	Normal	240	10.00
7.	<b>Teeth :</b>			
	i)	Molted enamel	36	15.00
	ii)	Caries	0.00	0.00
	iii)	Normal	204	85.00
8.	<b>Gums :</b>			
	i)	Spongy bleeding gums	8	3.33
	ii)	Normal	232	96.66
9.	<b>Nails :</b>			
	i)	Brittle nails	0.00	0.00
	ii)	Ridged nails	8	3.33
	iii)	Normal	232	96.66
10.	<b>Skin :</b>			
	i)	Xerosis	8	3.33
	ii)	Normal	232	96.66

shows that the nutritional status (Wasting vs. Stunting), among the examined subjects, 141 were normal (58.75 per cent) followed by 54 (22.50 per cent) stunted, 34 (14.17 per cent) wasted and 11 (4.58 per cent) wasted as well as stunted, respectively

### Correlation between the socio-economic status and nutritional status of preschool children

**Table-8** Co-efficient correlation between the socio-economic status and nutritional status of preschool children

Sr. No.	Name of variables	Co-efficient correlation 'r' value
1.	Age	0.793**
2.	Sex	-0.355**
3.	Caste	-0.035 <sup>NS</sup>
4.	Religion	-0.045 <sup>NS</sup>

\*\* (0.001) level of significance; NS = Non significance.

The result of co-efficient correlation between the socio-economic status and nutritional status shown in [Table-8]. The result indicated that correlation co-efficient between castes, religion, mother's occupation and annual income were non-significant with nutritional status of preschool children.

However, correlation coefficient between age, sex, and family type, mother's education and number of siblings were found to be highly significant ( $> 0.001$ ) with nutritional status of preschool children.

### Conclusion

The present study was under taken to observe the nutritional status and socio economic profile of preschool children in Deesa taluka of Banaskantha District, North Gujarat. Two hundred forty preschool children between the age group 3 to 5 years were included in the present investigation. Most of the families were vegetarian and consumed very simple diet. However, none of the family consumed any special diet. The food consumption pattern of the preschool children showed that the consumption of various foods except cereal was irregular and infrequent. That correlation co-efficient between age, caste, religion, were non-significant with nutritional status of preschool children.

Clinical deficiencies sign and symptoms such as flag sign 53.34 per cent, lack of lustre 14.58 per cent of hair, moon face 9.58 per cent, pale conjunctiva 5.83 per cent, Bitot spot 2.50 per cent, angular stomatis 3.33 per cent, moulted enamel 15.00 per cent, and ridged nails, spongy bleeding gums and xerosis of skin 3.33 per cent were observed in the subjects

However, correlation coefficient between age, sex, and family type, mother's education and number of siblings were found to be highly significant ( $> 0.001$ ) with nutritional status of preschool children.

The results of the present finding suggest that preschool children of Deesa taluka are still living under the poor nutritional status. Therefore, such preschool children mothers should be made aware about the maternal nutrition, child care through nutrition education and its importance. Also they should be taught about family planning to improve their as well as child health and nutritional status will be done.

**Conflict of Interest:** None declared

### References

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