

A study on clinical assessment of pre-school children of Khagaria district of Bihar

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ABSTRACT : One hundred pre-school children were selected at random from Pansalwa village of Beldaur block of Khagaria district of Bihar for their clinical examination. Sixty two children fell between 1 – 3 years of age while 38 children came under 4 - 6 years of age. It was evident from results that most prevalent form of nutritional deficiency was anemia (27%) followed by protein energy malnutrition (8%) and deficiency of vitamin C. Mottling of enamel, the sign of fluorosis was also observed among 2 per cent children. Prevalence of conjunctival xerosis (1%) has been observed among younger children, whereas, Bitot's spot (1%) was observed among their elder counterparts. Deficiency of vitamin D (3%) has also been observed among children.

KEY WORDS : Clinical assessment, Pre-school children, Protein energy malnutrition (PEM), Vitamins deficiency, Fluorosis, Anemia

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Clinical examination is an important indicator which reveals nutritional deficiency signs for assessment of nutritional status of communities. Assessment of nutritional status of community is one of the first steps in the formulation of any public health strategy to combat malnutrition.

Gupta and Bhandari (1972) found that in the order of occurrence, Vitamin A deficiency was recorded as first, Anemia second and vitamin B complex deficiency as third. Among the vitamin A deficiency signs, xerosis was more prevalent than Bitot's spots and phrynoderma while in case of vitamin B complex deficiency signs, Angular stomatitis was more common.

Kumar *et al.* (1983) studied clinical signs of nutritional deficiency diseases among children and reported Anemia as the most common followed by PEM, Avitaminosis and Vitamin B deficiency. They also reported that prevalence of malnutrition showed a significant increase with increase in the age of children, and was maximum in children between 3 – 4 years. Approximately 48.7 per cent children were identified as children at risk.

Prevalence of vitamin A deficiency as indicated by Bitot's spots ranges from 0.3 to 1.1 per cent according to a survey in 1989 – 90. Prevalence based on night blindness is twice of these figures (Ghai, 1996).

Keeping in view importance of assessment of nutritional status the present study was conducted with an objective to assess clinical status of preschool children of Khagaria district of Bihar.

RESEARCH METHODS

For the present study 100 pre-school children were selected at random from village Pansalwa of Beldaur block of Khagaria district of Bihar. Children were categorized under two age groups *viz.*, 1-3 years and 4-6 years. Table A reveals that 62 children fall between 1-3 years of age while 38 children came under 4-6 years of age. They were clinically assessed

Table A : Age group of pre-school children	
Age (Yrs)	Preschool children (n=100)
1 – 3	62
4 – 6	38

thereafter.

RESEARCH FINDINGS AND DISCUSSION

Clinical deficiencies and excesses were assessed among children of both age – groups separately (Table 1).

It was found that on the basis of their general appearance, 70 per cent children were normal and 30 per cent children observed thin.

Clinical signs	Pre-school children		
	1 – 3 yrs (n=62)	4 – 6 yrs (n=38)	Total (n=100)
General appearance			
Normal	43	27	70
Thin	19	11	30
Obese	0	0	0
PEM			
Absent	56	36	92
Present	6	2	8
Hair changes	3	1	4
Marasmus	1	1	2
Oedema	0	1	1
Moonface	1	0	1
Anemia			
Absent	47	26	73
Present	15	12	27
Pale Conjunctiva	9	8	17
Koilonychia	6	4	10
Vitamin A deficiency			
Absent	62	36	98
Present	0	2	2
Night blindness	0	0	0
Bitot spot	0	1	1
Conjunctival xerosis	0	1	1
Vitamin D deficiency			
Absent	61	36	97
Present	1	2	3
Knock knee and bow legs	0	0	0
Pigeon chest	0	1	1
Breeding of ribs	1	1	2
Vitamin C deficiency			
Absent	61	33	94
Present	1	5	6
Bleeding of gums	1	3	4
Spongy gums	0	2	2
Fluorosis			
Absent	62	36	98
Present	0	2	2
Mottled enamel	0	2	2

Hair changes related to PEM were more commonly observed among younger children (3 %) in comparison with their elder counter parts (1%).

The most common deficiencies among children were prevalence of anemia (27 %), protein energy malnutrition (8%) and vitamin C deficiency (6%). In addition deficiency of vitamin D (3%) and vitamin A (2%) too, were observed but to a lesser extent (Table 1).

Signs of fluorosis namely mottling of enamel was observed among 2 per cent of the elder children (4-6 years) only.

The commonly observed signs of anemia were pale conjunctiva (17 %) and Koilonychia (10 %).

Prevalence of conjunctival xerosis (1%) and Bitot’s spot (1%) was similar but conjunctival xerosis was observed among younger children and Bitot’s spot was observed among their elder counterparts.

Conclusively, it may be stated that incidence of clinical deficiencies indicated anemia (27%) as the most prevalent nutritional deficiency accompanied by PEM (8%), vitamin C (6%), vitamin D (3%), vitamin A deficiency (2%) and fluorosis (2%) among pre-school children.

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