

Prevalence of Anaemia in Preschool Children of Pahariya Tribe of Rajmahal Hills

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INTRODUCTION

One of the nutritional problems affecting a large number of populations in many developing countries is iron deficiency anaemia. It is a common occurrence in preschool children in poor communities and studies indicate an increasing trend especially after 6 months of age (Cook et al., 1985; Raman et al., 1992). Recently WHO statistics indicates a world wide anaemia prevalence of about 30%, highest rates in developing countries. Young children and pregnant women are the most affected groups, with an estimated global prevalence of about 40% and 50% respectively (Muratee, 1990).

Pahariya, an underprivileged tribe, of Rajmahal hills, Bihar (India) has been living in proximity to forest, on hill slopes, and in remote and inaccessible areas with poor resource endowment, distinctive life style and culture. One of the major resources of their food, occupation and income, as in case of other tribes, is the forest produces which they labouriously collect from forest, process them in a traditional manner and market them, mostly through a middleman, for their meagre earning. With the advent of civilization the first casualty was the forest that started dwindling. The ecodegradation that followed greatly servered and almost cut the very life line of the *Pahariyas*: This adverse situation badly hampered not only the socio-economic condition but also the food resources and forest based kitchen. As such this tribe became a victim, of malnutrition and undernutrition (Moitra and Choudhary, 1991; Adhikary and Choudhary, 1995). It has been reported that socio-economic condition, diet and nutrition have profound effect on haemoglobin content of the population (Basu, 1987; Osmani, 1992; Khongsdier, 1995c). Very few reports on haemoglobin content are available in tribals of India. No such investigation was carried among the *Pahariya* tribe. With this aim an attempt was made to determine the prevalence of anaemia in preschool children of the *Pahariya* tribe

of Rajmahal hills, Bihar (India).

MATERIAL AND METHODS

The study was conducted in preschool children of three sects of the *Pahariyas*, viz., *Saurias*, *Mals* and *Kumarbhags*, residing in the hilly areas of the Rajmahal hills series of Sahibganj and Pakur districts of Bihar.

Blood samples were collected from 600 preschool children age between 1 to 5 years (200 from each of the three sub-tribes of the *Pahariyas*. The concentration of haemoglobin was estimated with the Sahil's haemometer immediately after the collection of blood samples following the standard techniques (WHO, 1980) and classification of severity of anaemia was based on WHO (1989).

RESULTS

The mean haemoglobin levels of preschool children of the three sects of the *Pahariyas* are presented in table 1. The results showed that the mean haemoglobin level was lowest in the *Saurias* (9.7g/100ml) followed by the *Mals* (10.2g/100ml) and the *Kumarbhags* (10.6g/100ml). These values were increasing with the increase of age. Almost all the children of the *Saurias* and the children of age 1 to 4 years of the *Mals* were found anaemic of different grades. Slightly better condition was observed in case of the *Kumarbhags* where the children of age group 1 to 3 years were anaemic.

Table 1: Mean Haemoglobin levels of Preschool children surveyed in three syb-tribes of Pahariyas of Rajmahal Hills, Bihar (n = 200x3 = 600)

Age (in years)	<i>Saurias</i>	<i>Mals</i>	<i>Kumarbhags</i>
1 to 2	8.6	9.2	9.4
2 to 3	9.3	9.6	10.6
3 to 4	10.2	10.8	11.1
4 to 5	10.5	11.2	11.1
1 to 5	9.7	10.2	10.6

The percent distribution of children according to different level of haemoglobin content is given in table 2. The children with severe anaemic condition was highest in the age group 1 to 3 years in the *Saurias* (8 to 10%) and differences being significant ($p > 0.05$) with remaining two sub-tribes (2 to 4%). The percentage of children with moderately anaemic condition were higher in lower age groups (1 to 3 years) in all three sub-tribes and ranged between 10 to 14%. A decreasing trend was observed with the increase of age of the children. The percentage of children with mild anaemia was observed highest in 1 to 2 years age group in all the three sub-tribes. Frequency of normal children of age group 1 to 2 years and 2 to 3 years was highest in the *Kumarbhags* (20 to 40%) in comparison to the *Mals* (20 to 36%) and the *Saurias* (14 to 34%).

well as in infection prone environment. This tribe is impoverished and handicapped due to food deprivation and are economically backward. There is prolonged breast feeding in them. The quality and quantity of food consumed by the children are also below the recommended requirements (Moitra et al., 1988; Moitra and Choudhary 1991; Adhikary and Choudhary, 1995). The low level of haemoglobin content among the preschool children of the three sects of the *Pahariyas* most probably is due to the cumulative effects of the above factors. Reports available clearly showed that about 77% of the preschool children of poor rural communities (Narasimharao, 1981), 57% children from, different parts of India (ICMR, 1977), 55% children of scheduled cast of Faridkot (Sidhu, 1996) and 95% children of Ameritsar district of Pun-

Table 2: Per cent distribution of haemoglobin content in children of three sub-tribes of the *Pahariya* of Rajmahal Hills, Bihar

Hb level in Blood	1-2 Yrs			2-3 Yrs			3-4 Yrs			4-5 Yrs		
	S n=50	M n=50	K n=50	S n=50	M n=50	K n=50	S n=50	M n=50	K n=50	S n=50	M n=50	K n=50
Below 7	8.0	2.0	-	10.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0	-
7 < 10	12.0	14.0	12.0	12.0	12.0	10.0	6.0	8.0	4.0	4.0	6.0	8.0
10 < 11	66.0	64.0	48.0	44.0	48.0	48.0	44.0	42.0	46.0	40.0	42.0	42.0
Above 11	14.0	20.0	20.0	34.0	36.0	40.0	48.0	48.0	48.0	54.0	50.0	50.0

S = *Saurias*, M = *Mals* and K = *Kumarbhags*

DISCUSSION

The present study among the preschool children of the three sects of the *Pahariyas* described above suggests, i) the high prevalence of anaemia as evident from higher percentage of anaemic children (i.e., 64% children of the *Saurias*, 62% of the *Mals* and 54% of the *Kumarbhags*) and ii) the percentage of anaemic children decreased with the increase of the age of the children.

It has been reported that iron deficiency anaemia in pre-school children is mainly due to poor iron stores at birth, low iron intake during infancy due to prolonged breast feeding, inadequate food intake, repeated gastrointestinal and respiratory infections and poor quality of diet (Longer et al., 1972; Cook et al., 1985). The *Pahariyas*, the population studied, are living in disadvantages condition of diet and nutrition as

well as in infection prone environment. This tribe is impoverished and handicapped due to food deprivation and are economically backward. There is prolonged breast feeding in them. The quality and quantity of food consumed by the children are also below the recommended requirements (Moitra et al., 1988; Moitra and Choudhary 1991; Adhikary and Choudhary, 1995). The low level of haemoglobin content among the preschool children of the three sects of the *Pahariyas* most probably is due to the cumulative effects of the above factors. Reports available clearly showed that about 77% of the preschool children of poor rural communities (Narasimharao, 1981), 57% children from, different parts of India (ICMR, 1977), 55% children of scheduled cast of Faridkot (Sidhu, 1996) and 95% children of Ameritsar district of Pun-

KEY WORDS Haemoglobin. *Pahariya* Tribe. Rajmahal Hills. Preschool Children.

ABSTRACT The haemoglobin content in preschool children of the three sects of the *Pahariya* tribe of Rajmahal Hills, Bihar was studied and the results showed that the mean haemoglobin level was lowest in the *Saurias* (9.7 g/100 ml) followed by the *Mals* (10.2 g/100ml) and the

Kumabhiags (10.6 g/100 ml). These values increased with the increase of age.

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