

Prevalence of Anaemia among the Scheduled Caste School Children of Manipur

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Abstract

The present study attempts to investigate the prevalence of anaemia among the scheduled caste children of Manipur. A total sample of 540 (boys=271 and girls=269) belonging at the age range of 6 - 12 years were randomly chosen for the present study. Each child was examined for haemoglobin status. Analysis of haemoglobin status reveals that among boys, the various grades of anaemia are 9.59 per cent (severe), 16.97 per cent (moderate) and 37.64 per cent (mild) as against 5.58 per cent (severe) 14.87 per cent (moderate) and 34.57 per cent (mild) of girls. Thus, the prevalence of anaemia is lower among girls as compared with boys. Furthermore, the per-capita income of each family was also assessed from 121 households. Out of the total 121 households, maximum households (46.28 per cent) are under low income group, while comparatively more or less same numbers of households (27.22 per cent and 26.44 per cent) fall under middle and high income group.

Keywords: Scheduled Caste Children, Anaemia, Prevalence.

1. Introduction

Haemoglobin is an important respiratory pigment of blood and it performs an important function as oxygen carrier and it also takes part in carbon dioxide transport. There are various causes of anaemia, however, iron deficiency in the diet is the most common cause of nutritional anaemia in the world and is more common in the rural children of poor socio – economic status (Ghai et al., 2008).

Nutritional anaemia was defined in 1968 by WHO technical report as “a condition in which the haemoglobin content of the blood is lower than the normal level as a result of a deficiency of one or more essential nutrients, regardless of the cause of such deficiency.” Iron deficiency in infants and adolescents causes mental retardation and damages the immune system, predisposing the children to a wide range of disorder (WHO, 2001). Haemoglobin is produced

in red bone marrow and the normal synthesis of haemoglobin requires an adequate supply of iron. It is able to function only when it is contained in erythrocytes (red blood corpuscles). Some substance such as phytates present in cereals and oxalates present in green leafy vegetables inhibit the absorption of iron in the body (Gopalal et al., 2004). Iron from animal meat is better absorbed than plant foods (Srilakshmi, 2004).

The school child refers to 6-12 years (Gai, 2008). This stage is also known as middle childhood stage. The global anaemia prevalence based on WHO global database reports that the most affected groups were pregnant women and 5-12 years children. A large number of children live in poor places which lack of proper housing, health care, nutrition and education facilities. As a result, they suffer from under nutrition and a number of diseases.

Many scientists (De Maeyer, 1989; Kumar, 1999; Choudhary and Prasad, 2000; Kapur et al., 2002; Vyas and Choudhry, 2005 and Sinha et al., 2012) conducted many research works relating to anaemia in various parts of the world. However, only a few studies have been done among the school age children.

Therefore, the present study has been conducted among the scheduled caste 6-12 years school children of Manipur. According to 2001 census report, the total population of Manipur was 22,93,896, while the scheduled caste population was 60,037. Out of this, 29,934 were males and 30,103 were females (Directorate of Economics & Statistics 2001). Thus, the scheduled caste people represent 2.62 per cent of the total population of Manipur. The Lois and Yaithibis are the indigenous scheduled caste people of Manipur. The Loi villages are Pheyeng, Awang sekmai, Koutruk, Leimaram, Leimaram khunou, Andro, Khurkhul and Kwatha (Devi 2002). Thoubal Khunou village is inhabited by the Yaithibis.

2. Objective

The objective of the present study is to examine the prevalence of anaemia among the scheduled caste school children of Manipur.

3. Materials and Method

A total sample of 540 (boys= 271 and girls =269) belonging at the age range of 6 – 12 years who enrolled in both Government and private schools were randomly chosen from the scheduled caste villages of Thoubal khunou (Thoubal district), Andro (Imphal east district), Khurkhul and Pheyeng (Imphal west district) and Leimaram (Bishnupur district) of Manipur. Thereafter, haemoglobin level was examined for each child following the method of Sahli (Georgieva, 1989). Moreover, haemoglobin levels were classified according to Mohammed and Malekafzali (1999). The mean haemoglobin level of all children was also computed using SPSS/PC. The per-capita monthly income was assessed from 121 households. From the per-capita monthly income of each family, three economic groups such as high, middle and low income were classified according to the formula given by Khongsdier (2002).

4. Results and Discussion

Table 1 depicts the various grades of anaemia of the scheduled caste boys and girls aged 6-12 years. The prevalence of anaemia is 64.20 per cent for boys as against 55.02 per cent of girls. Among boys, the prevalence of anaemia for mild grade is 37.79 per cent, for moderate is 16.97 per cent, while for severe grade is 9.59 per cent only. As of girls, the mild grade represents 34.57 per cent; moderate and severe have 14.87 per cent and 5.58 per cent respectively. It is apparent from the table that majority of boys (37.64 per cent) and girls (34.57 per cent) have suffered from mild grade anaemia. Further, it may be mentioned here that boys are more suffered from anaemia than girls. Regarding the normal haemoglobin

status of boys, 35.79 per cent boys are found to be normal as against 44.98 per cent of girls. The overall mean haemoglobin levels of boys and girls are 11.32 g/dl and 11.56 g/dl respectively.

Table 1

Percentage distribution of various of grades of anaemia of boys and girls					
		Boys		Girls	
Haemoglobin level (g/dl)	Grades of anaemia	f	p.c	f	p.c
<10.0	Severe	26	9.59	15	5.58
10-10.9	Moderate	46	16.97	40	14.87
11.0-11.9	Mild	102	37.64	93	34.57
>11.9	Normal	97	35.79	121	44.98
Total		271	99.99	269	99.99

Table 2 represents percentage distribution per- capita monthly income of families. Analysis of income reveals that out of the total 121 households, the highest 46.28 per cent of households fall under low income group and the next highest percentage (27.27 per cent) are under middle income group, while more or less the same 26.44 per cent belongs to high income group.

Table 2

Percentage distribution per- capita monthly income of households				
Sl. No.	Income group	Range	f	p.c
1	High income	>2370	32	26.44
2	Middle income	1470 - 2370	33	27.27
3	Low income	<1470	56	46.28
	Total		121	99.99

5. Discussion

As for the present study, the overall prevalence of anaemia among boys is 64.20 per cent as against 55.02 per cent of girls. Vyas and Choudhry (2005) reported the various prevalence of anaemia for severe (32.9 per cent), moderate (60.2 per cent) and mild (0.6 per cent) among the tribal school children of Rajasthan which is much higher than severe (15.17 per cent) and moderate (31.84 per cent), but much lower than mild (72.21 per cent) of both sexes of the

present study. On the other hand, the prevalence of anaemia was only 14.6 per cent, and 9.8 per cent among the children aged 7-12 years and 2-6 years (Sinha et al., 2012).

The present study by and large has revealed that the problem of anaemia is still continuing among the scheduled caste children of Manipur. Due to two main reasons, that is, socio economic status and lack of awareness about nutrition, many children suffer from anaemia. Analysis of per - capita monthly income of households under study has shown that majority of them belonged to low income group. On the other hand, green leafy vegetables such as palak, amaranth, fenugreek, mint, bottle gourd leaves, colocasia leaves which contain rich amount of iron are not consumed by many people due to lack of awareness about food values.

Govt of India in collaboration with the state Government have implemented programmes to provide mid day meal for school going children and priority has been given to scheduled castes and tribes, backward areas where nutritional deficiencies are prevalent. In spite of all these efforts the nutritional problem cannot be solved. The reason behind this is many private schools for better academic carrier of their children. As such children did not get the facility of mid day meal.

Recommendations

1. Regular and adequate amount of iron rich foods should be provided for Scheduled Caste children of Manipur.
2. The right to free and compulsory education up to the age of 14 years under the Act 2009 should be implemented at everywhere so that all children may enjoy the facility of mid day meal.
3. Food and nutrition programmes for house wives should be provided.

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