

Anaemia in Children: Part II. Should Primary Health Care Providers Prescribe Iron Supplements by the Observation and Presence of Assumed Symptoms?

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Abstract

The dilemma of private practitioners is whether to prescribe or not to prescribe iron supplements on suspicion of anaemia. This cross sectional study was done in an urban squatter settlement with a primary health care centre to assess the significance of symptoms and a history of associated diseases in the diagnosis of anaemia. A total of 321 children were sampled from 1800 children <5 years of age in a population of 11,000, by systematic random sampling. Mothers were asked about the presence of assumed associated symptoms and diseases which were listlessness, irritability, anaemia, pica, poor weight gain, diarrhoea, acute respiratory infection and malaria in last 3 months. There was significant association between anaemia (Hb<11gms%) and irritability ($P<.02$), anorexia for solid foods ($P<.04$), pica ($P<.001$), episode of diarrhoea ($P<.001$) and poor weight gain ($P<.006$). There was no significant association between malaria, cold, cough and anaemia. children with these symptoms complex should receive iron supplements (JPMA 44:284,1994).

Introduction

Nutritional deficiency problems are common in children less than 5 years of age. The figures for malnutrition in 1977 through Micro Nutrient Survey¹ were more or less the same as in 1988 National Nutrition Survey². The same is true for nutritional deficiency anaemia. According to. National Nutritional Survey, 1988², the prevalence of anaemia in children was 65%. Jalil and Khan³ have shown that of all the anaemic children, almost 83% had iron deficiency anaemia. Besides, nutritional deficiency, malaria has been found to be one of the important causes⁴ of anaemia. Iron deficiency in infants and children is associated with lower weight gain, abnormalities of behaviour and mental performance which improves with treatment of iron⁵⁻⁸. It may also be responsible for a decreased humoral immunity and can lead to a number of infections. Nutritional iron deficiency anaemia is easier to cure, cal status and growth velocity⁹. The need to supplement iron by a primary health provider in an anaemic child can be justified by identifying the possible associations of anaemia with selective clinical findings and presumed symptoms of diseases.

Subjects, Methods and Results

This was a cross-sectional study in one of the squatter settlements of Karachi. Three hundred and twenty-one children, age 6-60 months, were randomly selected through 2 stage cluster sampling. Anaemia was labelled many child who had haemoglobin (Hb) less than 11 Grams%. Blood was collected by finger-prick and haemoglobin recorded on site immediately through the Hemocue (a digital instrument). Detailed history of children was taken from the mother or guardian, in case where mother was not alive. Data on demographics, socioeconomic status and morbidity was collected. The diseases of interest in the past history were: malaria, diarrhoea, respiratory tract infections and growth

retardation. The symptoms investigated were: listlessness, irritability, pica and anorexia for solid foods. The data was entered on Dbase IV and analyzed through SPSS statistical package. Of the 321 children, 205 (64%) were anaemic. Frequency distribution of the presumed symptoms and/or signs are shown in Table I.

Table I. Frequency distribution of symptoms and/or signs in studied children less than 5 years of age.

	No.	%
Cold and cough in past 3 months	254	79
Diarrhoea in last 3 months	198	62
Poor weight gain	100	31
Respiratory tract infection in past 3 months	69	21
Pica	63	20
Anorexia for solid food	43	13
Irritability	35	11
Listlessness	24	7
Malaria	23	7

Total children: 321. The total frequency adds to more than 321, as a child may have more than one symptoms/signs.

Many children had a past history of cold and cough (79%), diarrhoea (62%) and poor weight gain (31%).

Table II. Summary of the significance and strength of association of anaemia with presumed symptoms and/or diseases.

Symptoms/Diseases	Chi Square P value Less than (<)	Odds ratio (OR)	95% Confidence Interval (CI)
Listlessness	0.15	2.06	0.6-6.5
Irritability	0.05	2.76	1.04-7.69*
Anorexia for solid food	0.04	2.16	.94-5.09
Pica	0.001	3.0	1.4-6.4*
Diarrhoea in last 3 months	0.001	2.13	1.28-3.54*
Respiratory tract infection	0.30	1.35	0.72-2.54
Poor weight gain	0.06	2.13	1.19-3.81*
Cold and cough in past 3 months	0.08	1.65	0.89-3.06
Malaria	0.39	1.55	0.55-4.61

***Indicates stronger association.**

Table II shows that diarrhoea, irritability, pica, poor weight gain and anorexia for solid food were significantly associated with anaemia.

Discussion

Clinical detection of anaemia followed by a brief and quick history of symptoms and diseases can help the physician to diagnose anaemia. Our study shows that if a child comes to a general practitioner with history of diarrhoea in the past and is irritable with pica and poor weight gain, anaemia should be suspected and iron supplements should therefore be given without any laboratory tests. However, they should be regularly followed and if no clinical improvement is seen after 6-8 weeks, they should be investigated. It is recommended that along with curative care of anaemic children, prevention of anaemia should also be considered.

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