Morbidity Pattern among School Children of Gulbarga city

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Abstract

Introduction: Health of the child is viewed as absence of disease and not as comprehensive health in developing countries. School children form 20% of total population of India which is vulnerable than rest of population for infection and malnutrition and can be easily prevented by promotion of nutrition, personal hygiene and early diagnosis and treatment of the disease.

Objectives : 1) To find the prevalence of morbidity in school children. 2) To assess the morbidity pattern among school children.

Methods : A cross sectional study was conducted in both government and private schools of Gulbarga city during July 2010 to September 2010 by using a predesigned and a pretested proforma. Data was analyzed by Chi. Square test and proportions.

Results : Out of 3742 children examined 1910 (51.04%) were boys and 1832 (48.96%) were girls and majority 3143(84%) of them belong to class II,III,IV and 337(9%) to class V and 262 (7 %) belong to Class I. It was observed that many children were having more than one ailments and amongst them 17.48% of children were affected by dental caries, 8.44% defective hearing, 8.18% anemia, 3.87% otitis media, 3.61% upper respiratory tract infection, 2.41% defective vision , 2.16% worm infestation, 1.98% Vitamin A deficiency and 0.86% scabies. Prevalence of morbidity was more in government school children compared to private school children.

Conclusion : Majority of children belonged to class II, III and IV and the morbidity pattern indicates a high prevalence of common and preventable illnesses in class III, IV and V, thus providing an ideal milieu for intervention strategies.

Key words : morbidity, school children, anemia, otitis media, scabies

Introduction

Health of the child is viewed as absence of disease and not as comprehensive health in developing countries. Children are the country's biggest human investment for development. School children form 20% of total population of India which is vulnerable than rest of population for infection and malnutrition [1]. It is rather unfortunate that even after 60 years of independence; our country had made little progress in improving the health condition of our school children when compared to the developed countries.

The World Health Organization's Expert Committee on School Health Services noted as long as 1950 that "to learn effectively, children need good health" [2].

The present position with regard to the health and nutritional status of the children in our country is very unsatisfactory. Mortality in this age bracket is low but morbidity and physical defects constitute heavy burden. Extensive surveys have been carried out in different parts of the country and the findings show that sickness, morbidity and mortality rates in India are among the highest in the world [3].

Health problems of school children vary from one place to another. Surveys carried out indicate that the main emphasis will fall in malnutrition, infectious diseases, intestinal parasites, diseases of skin, eye and ear and dental caries [1]. These health problems can make learning difficult and may seriously hamper the educational process and the child's intellectual growth and may also handicap the child for life. Research indicates that nutritional deficiencies and poor health in school age children are among the causes of low school enrolment, high absenteeism, early dropout and poor classroom performance, which can be easily prevented by promotion of nutrition, personal hygiene and early diagnosis and treatment of the disease. Hence, a need was felt to carry out a survey of the morbidity pattern among school children in various schools of Gulbarga city.

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Objectives

1. To find the prevalence of morbidity among school children.

2. To assess the morbidity pattern among school children and to apply the various levels of prevention.

Methods

A Cross sectional study was conducted in both government and private schools of Gulbarga city consisting of 386 Schools divided into 4 blocks, consisting of approximately 96 schools in each during July 2010 to September 2010, by using a predesigned and a pretested proforma. By simple random sampling method we have selected 2 Government and 2 Private schools from each block. A total of 5841 school children of age 6-16 years were enrolled in the study. From 16 schools 2099 children were not present during the study period. Hence a total of 3742 school children were examined. School children were examined for defective vision by Snellen's chart, while Anemia, Vitamin C deficiency and upper respiratory tract infection (URI) by clinical examination. Data was analyzed by chi-square test and proportions.

Results

Out of 3742 children examined 1910 (51.04%) were boys and 1832 (48.96%) were girls and majority 3143 (84%) of them belong to class II, III, IV and 337 (9%) belong to Class V and 262(7%) to class I according to modified B G Prasad classification. It was observed that many children were having more than one ailments and amongst them 17.48% of children were affected by dental caries, 8.44% defective hearing, 8.18% anemia, 3.87% otitis media, 3.61% Upper respiratory tract infection, 2.41% defective vision, 2.16% worm infestation, 1.98% Vitamin A deficiency and 0.86% scabies.The prevalence of dental caries, worm infestation, URI, otitis media were more common among girls than boys except scabies which was more prevalent among boys and it was statistically not significant. Defective vision was more among boys compared to girls and it was vice versa for defective hearing and it was statistically not significant. Anaemia was more prevalent among girls whereas vitamin A deficiency was more common among boys which were statistically significant. The common diseases and deficiencies as shown in table1 and table 2 indicate distribution and deficiencies as per socioeconomic class and it was statistically significant between the classes. In table 3, the prevalence of morbidity was more in government than private school which was statistically significant.

Table 1. Distribution of children according to gender and morbidities

Common Diseases	Boys n=1910	Girls n=1832	Total n=3742	χ^2-Value	p-Value
Dental caries	319 (16.70)	335(18.29)	654(17.48)	1.628	p>0.05
Worm infestation	35(1.83)	46(2.51)	81(2.16)	2.032	p>0.05
URI	60(3.14)	75(4.09)	135(3.61)	2.44	p>0.05
Scabies	19(3.61)	13(0.71)	32(0.86)	0.897	p>0.05
Otitis media	72(3.77)	73(3.98)	145(3.87)	0.116	p>0.05
Common Deficiencies					
Anaemia	119(6.23)	187(10.21)	306(8.18)	19.698	p<0.001
Vitamin A deficiency	42(8.18)	32(1.75)	74(1.98)	0.987	p>0.05
Defective vision and hearing					
Defective vision	49(2.57)	41(2.24)	90(2.41)	0.427	p>0.05
Defective hearing	148(7.75)	168(9.17)	316(8.44)	2.444	p>0.05

Note: Numbers in parenthesis indicate percentage

Table 2. Distribution of children according to socio-economic status and diseases

	S.E.S-I n=262	S.E.S-II n=1048	S.E.S-III n=1085	S.E.S-IV n=1010	S.E.S-V n=337	Total n=3742	χ^2-Value	p-Value
Dental caries	18 (6.87)	28 (2.67)	262 (24.15)	290 (28.71)	56 (16.62)	654 (17.48)	301.764	p<0.001
Worm infestation	1 (0.38)	3 (0.29)	20 (1.84)	39 (3.86)	18 (5.34)	81 (2.16)	51.7099	p<0.001
URI	5(1.91)	19(1.81)	38(3.50)	43(4.26)	30(8.90)	135(3.61)	40.307	p<0.001
Scabies	1(0.38)	4(0.38)	8(0.74)	13(1.29)	6(1.78)	32(0.86)	9.267	p>0.05
Otitis media	7 (2.67)	21 (2.00)	40 (3.69)	45 (4.46)	32 (9.50)	145 (3.87)	40.468	p<0.001
Anaemia	19 (7.25)	22 (2.10)	95 (8.76)	106 (10.50)	64 (18.99)	306 (8.18)	112.052	p<0.001
Vitamin A deficiency	2 (0.76)	16 (1.53)	20 (1.84)	20 (1.98)	16 (4.75)	74 (1.98)	16.533	p<0.005
Defective vision	7 (2.67)	10 (0.95)	26 (2.40)	26 (2.57)	21 (6.23)	90 (2.41)	30.621	p<0.001
Defective hearing	25 (9.54)	43 (4.10)	86 (7.93)	97 (9.60)	65 (19.29)	316 (8.44)	79.338	p<0.001

Note : Numbers in parenthesis indicate percentage

Table 3. Distribution of children according to type of school and diseases

Diseases	Government School n=1684	Private school n=2058	Total n=3742	χ^2-Value	p-Value
Dental caries	392(23.28)	262(12.73)	654	71.434	p<0.001
Worm infestation	57(3.38)	24(1.17)	81	21.53	p<0.001
URI	75(4.45)	60(2.92)	135	6.3	p<0.001
Scabies	23(1.37)	9(0.44)	32	9.42	p<0.001
Otitis media	95(5.64)	50(2.43)	145	25.65	p<0.001
Anemia	250(14.85)	56(2.72)	306	181.32	p<0.001
Vitamin A deficiency	46(2.73)	28(1.36)	74	8.98	p<0.001
Defective vision	27(1.6)	63(3.06)	90	8.386	p<0.001
Defective hearing	228(13.54)	88(4.28)	316	102.79	p<0.001

Note : Numbers in parenthesis indicate percentage

Discussion

In the present study, 17.48% of children were affected by dental caries which is similar to study done by Shakya S R et al [4].The study showed 3.87% children are affected by otitis media, 2.16% worm infestation in contrast to study done by Pandeyet al [5]. Our study reports that 1.98% children are affected by vitamin A deficiency which is similar (1.8%)to study done by Madhu Gupta et al [6] and 2.41% of defective vision which is in contrast to the study done by same author. According to our study 8.18% children are affected by anemia in contrast to 79% at National level [7]. Our study reports that prevalence of morbidity was maximum in children belonging to class III,IV and V socio-economic class which is similar to study done by NeeluSaluja et al [8].

Conclusion

The health standards of the school children under study are found to be low, more so in girls than in boys. Anaemia, infection and defective hearing were more prevalent among girls whereas vitamin A deficiency and defective vision were common among boys.

The diseases and deficiencies were more prevalent among socioeconomic class III, IV and V.The prevalence of morbidity was more in government than private school. The health of the child can be preserved and improved, provided that the defect or disease is detected and remedied early by a well-organized school health programme. Care should be taken to improve the pitiable state of personal hygiene and poor sanitary practices of these school children through coordinated and concerted health education measures by teachers as well as parents.The morbidity pattern indicates a high prevalence of common and preventable illnesses; thus provide an ideal milieu for intervention strategies.

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