ORIGINAL RESEARCH

Morbidity, its Patterns and Associated Factors among School Children Residing in a North Indian City

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A B S T R A C T

INTRODUCTION: Children are the pillars of the future of a country shall rest, are no less than a treasure and need to be as healthy as possible.
AIM: To assess the health status of school children in various areas of Una city, Himachal Pradesh, India.
MATERIALS AND METHOD: The present study was conducted among school children aged 7-18 present on the day of the study. Data collected was cross-sectionally using a pre-validated and pre-tested questionnaire duly standardized prior to commencement of the study. The first section of the questionnaire contained details about the demographic profile, and in the second, the examiners recorded the presence or absence of common childhood diseases, namely pallor, lymphadenopathy (L.N.), Bitot spots, Worm infections, Scabies, Ear discharge, Dental caries and Fluorosis. Statistical analysis included the Shapiro-wilk test to check for data normalcy, followed by descriptive statistics and Pearson's correlation. Significance value (p) was kept significant at ≤0.5.
RESULTS: Most children belonged to the age group of 12-15 years (42.8%), followed by 7-11 years(34.3%) and 16-18 years(22.9%). Majority of the students were girls (61.5%) and most them belonged to the age group of 12-15 years(41.0%). Disease in any from was observed in 813 (76.2%) of the children, with the most prevalent disease observed being dental caries (32.3%), followed by fluorosis (20.5%) and pallor (14.3%). Pearson's correlation revealed a strong, positive association between the disease status and age (0.7) and gender (0.8)
CONCLUSION: The results of the present study indicate the need to have various specific programmes to reduce the burden of various diseases, namely dental caries and pallor among school children through efforts of various programmes.

KEYWORDS: Morbidity, Children, Caries, Worm Infection

INTRODUCTION

Children, who are god's greatest gifts and are the foundation on which the pillars of the future of a country shall rest, are no less than a treasure and need to be as healthy as possible. However, in some places, communities still are deprived of essentials such as clean water and proper health-care facilities.[1] Even so, there are reports stating that the quality of life among school children, by most standards continues to be poor in certain parts of the globe, especially in rural areas and urban slums.[2]

The present position with regard to the health and nutritional status of the children in our country is very unsatisfactory, with mortality being low, but morbidity and physical defects constitute heavy burden, even when under the ICDS Scheme; freshly, cooked food supplements are provided to children aged 3-6 years while take-home-rations of food grains are provided to children aged 6 months until 3 years.[3] School health programs can help to ensure that children are healthy and able to take full advantage of what is often their first and only opportunity for formal education.[4]

Health surveys in Indian schools indicate that

morbidity and mortality rates of children of primary school age are among the highest in the World.[5] Under nutrition continues to be a primary cause of ill-health and premature mortality among children in developing countries.[6] Under nutrition among children is prevalent in almost all the states in India.[7]

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.[8] 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. Keeping all these facts in view, a need was felt to assess the health status of school children in various areas of Una city, Himachal Pradesh, India.

MATERIALS AND METHODS

The present study was conducted among school children aged 7-18 years after obtaining proper approvals from the concerned authorities. Students absent on the day of the examinations were excluded from the study.

Data collected was cross-sectionally using a pre-validated and pre-tested questionnaire by examiners (including the dentist) duly standardized prior to commencement of the study. The first section contained details about the demographic profile, and in the second, the examiners recorded the presence or absence of common childhood diseases, namely pallor, lymphadenopathy (L.N.), bitot spots, worm infections, scabies, ear discharge, dental caries and fluorosis.

Statistical analysis included the Shapiro-wilk test to check for data normalcy, followed by descriptive statistics and Pearson's correlation. Significance value (p) was kept significant at ≤0.5.

RESULTS

Table 1 describes the gender-wise distribution of the children. It was observed that most children belonged to the age group of 12-15 years (42.8%), followed by 7-11 years(34.3%) and 16-18 years(22.9%). Majority of the students were girls (61.5%) and most them belonged to the age group of 12-15 years(41.0%).

AGE	BOYS (%)	GIRLS (%)	TOTAL (%)
7-11 years	166(40.4)	200(30.4)	366 (34.3)
12-15 years	188(45.7)	269(41.0)	748 (42.8)
16-18 years	57(13.9)	187(28.6)	185 (22.9)
Total	411 (38.5)	656 (61.5)	1067 (100)

Table 1. Age and Gender Wise Distribution of the Schoolchildren

Disease in any from was observed in 813 (76.2%) of the children. Upon further analysis, the most prevalent disease observed was dental caries (32.3%), followed by fluorosis (20.5%) and pallor (14.3%). The least percentage of disease observed was Worm infection(8.2%) followed by L.N.(3.6%) (table 2).

DISEASE	NUMBER	PERCENTAGE
Pallor	117	14.3
L.N	29	3.6
Bilot spot	61	7.5
Worm infection	67	8.2
Scabies	36	4.5
Ear discharge	74	9.1
Fluorosis	166	20.5
Dental Caries	263	32.3

Table 2. Prevalence of various diseases among the Schoolchildren (LN: lymphadenopathy)

Analysis of the data by the Pearson's correlation revealed a strong, positive association between the disease status and age (0.7) and gender (0.8) (table 3).

	AGE	GENDER
Disease Status	0.7	0.8

Table 3. Pearson's Correlation Relating the Disease Status of The Children with Age And Gender

DISCUSSION

The results of the present study documented disease in any from among 76.2% of the children, with the most prevalent disease observed was dental caries (32.3%), followed by fluorosis (20.5%) and pallor (14.3%).

The overall prevalence of 38.5% boys and 61.5% females observed in the present study is in contrast to the observed prevalence of Utkarsh S et al.[9] (59.5% males & 40.5% females) and Dambhare et al. (68.97% males and 31.03% girls).[2]

Children enrolled in the present study revealed an overall presence of 32.3% of dental caries, which was lower as compared to the findings of Syed S et al. (56.24%)[10], and higher as compared to Shakya SR et al. (19.8%)[11] and Phuljhele S et al. (10.91%).[12]

Worm infection among the children was observed as 8.2%,; and this percentage was higher as compared to Khanal LK et al. (17.6%)[13] and higher as per Singh JP et al. (2.50%).[14] These findings indicate that plans of the government as well as other not for profit organizations have helped reduced the burden of this worm infections.

The second most prevalent disease observed among children was fluorosis (20.5%) and this was low as per the findings of Shekar C et al. (71.5%)[15] and Sebastian ST et al. (41.73%).[16] Such variations can be attributed to the presence of fluoride belts, increased presence fluoride in of water as well and the intake of fluoridated water by the mother during pregnancy.

CONCLUSION

Based on the results of the present study, there is a need to have various specific programmes to reduce the burden of various diseases, namely dental caries and pallor among school children through efforts of various programmes of the government and assistance of various not-for profit organizations.

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Source of support: Nil, **Conflict of interest:** None declared   **Contact Corresponding Author At:** editor[dot]ihrj[at]gmail[dot]com