Common health problems of primary school children in a rural area in Amravati District in Central India: A cross-sectional study

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ABSTRACT *Children are the most important resource investment for development. In India health conditions of children have still not improved. School health check up plays an important role in providing opportunity for early diagnosis and treatment of various curable diseases. Therefore this study was undertaken with the objectives to study the prevalence of common health problems, dental caries and obesity in primary school children. A Cross-sectional study was conducted for the children of primary school and investigations for common health problems were performed. A pre designed proforma was filled up after the examination of the child. Results showed that common health problems like cough & cold, uncut dirty nails, dental caries were observed. It was concluded that dental problems, common health problems viz. cold & cough exists in primary school children.*

Introduction

School health screening is an important aspect of any community health programmes. Concerted efforts to provide care to the children through various national programmes like maternal and child health programmes (e.g. ICDS, RCH programmes). The 2001 census showed that 21% of the population of India comprises of children aged 5-14 years (Govt. of India, 1995). The beginning of school health services in India dates back to 1909 when, for the first time medical examination of school children was carried out in Baroda city (Park, 2011).

A study conducted by Patnaik L **(**2015), observed that the prevalence of overweight obesity was 27.8% (Patnaik L et al, 2015). This increase in childhood obesity has led to increase in life-threatening conditions particularly non communicable diseases in developing countries (Jaisheeba, Sornraj & Gayathri, 2012). Dental cavity is another common ailment in school children which results due to the dense sugar content in fast foods (Nisar et al., 2009). Various types of government sponsored school health programmes have been launched from time to time, but progress and achievements are very slow and incomplete (Kumar et al., 2012).

Rashmi *et al.,*2015 observed among the 410 study subjects that between the age 5-10 years, majority 72 (89%) had mild to moderate under nutrition and 9 (11%) had severe under nutrition. Five (1%) of the participants were found to be obese (BMI > 2SD). Therefore this study was done to find out the prevalence of common health problems among the primary school children.

Aim

To study the common health problems of primary school children in a rural area in Amravati District

Objectives

1) To find out the prevalence of common health problems in primary school children.
2) To find out the prevalence of dental caries in the primary school children.
3) To find out the prevalence of obesity in the primary school children.

Materials and methods

Study Population: A detailed health check up on children of Primary School of 'Dhamangaon Railway' in Amravati District was performed.

Study Design and Settings: A Cross-sectional study of the school-going children of primary school was investigated for common health morbidities. A detail health check up was done from head to toe. *A pre-designed structured* questionnaire was used to interview the study participants to elicit the information on individual characteristics like age, sex, general examination. Anthropometric measurements were also taken and noted.

Weight: The subject standing motionless on the weighing scale with feet 15 cm apart, and weight equally distributed on each leg. Height: The subject standing in an erect position against a vertical scale and with the head positioned so that the top of the External Auditory Meatus was in level with the inferior margin of the bony orbit.

BMI: Overweight and obesity was assessed by BMI for age. Student who had BMI greater than 85th and less than 95th percentile of reference population were classified as overweight. Those students who had BMI greater than 95th percentile were classified as obese.

Dental examination: Students were examined in sitting position in presence of normal day light with the help of diagnostic instruments. (Dental probe, Dental Mirror, etc.).

Study Duration: The study was conducted from 1st September to 30th September 2015

Sample Size: All the children who were willing to participate and were present at the time of study from 1st September to 30th September 2015 were included. A total of 128 students were examined from Standard I to Standard IV. All the interviewed students during this time period were considered as the total sample size for the study.

Consent: Consent of school authorities was obtained after explaining the objectives as well as the method of the study. Verbal consent was taken from the teachers and students.

Statistical analysis: Data was analyzed using SPSS and Microsoft Excel. Appropriate Statistical test were applied to test the significance of the findings.

Results
Table -1. Distribution of demographic data and common health problems

Sr. No.	Group	Sub-Group	Total students	
Demographic distribution of school children			n=128	%
1	Standard	I	29	22.7%
		II	34	26.6%
		III	35	27.3%
		IV	30	23.4%
2	Gender	Male	67	52.3%
		Female	61	47.7%
3	Age	6 years	26	20.3%
		7years	22	17.2%
		8 years	21	16.4%
		9 years	49	38.3%
		10 years	10	7.8%
Common health problems found in students (Multiple responses)				
4	Teeth's	Normal	66	51.56%
		Caries	56	43.75%
		Fluorosis	2	1.56%
		Stains	8	6.25%
5	Nails	Normal	101	78.90%
		Pitting nails	4	3.12%
		Dirty nails	23	17.96%
6	Respiratory system	Cough and cold	26	20.31%
7	GIT	Pain in abdomen	28	21.87%
8	General Examination	White patches on face	18	14.06%
		Pallor	37	28.90%

Table -2.Genderwise distribution of BMI

Classification	Male		Female		Total (n=128)
	Total Male	%	Total Female	%	%
Underweight (<5th percentile)	12	9.37%	18	14.06%	30 (23.43%)
Normal (5th percentile to less than the 85th percentile)	43	33.59%	41	32.03%	84 (65.62%)
Overweight (85th to less than the 95th percentile)	5	3.90%	0	0.00%	5 (3.90%)
Obese (Equal to or greater than the 95th percentile)	7	5.46%	2	1.56%	9 (7.03%)
Total	67	52.34%	61	47.65%	128

In all 128 students were interviewed, Standard I (22.17%), Standard II (26.6%), Standard III (27.3%), Standard IV (23.4%). Total Males were 52.3% and females 47.7%. Students 6 year old (20.3%), 7 years (17.2%), 8 years (16.4%), 9 years (38.3%), 10 years (7.8%). Normal teeths were present in 51.56%; Caries was present in 43.75%, Fluorosis in 1.56%, Stains in 6.25%. Normal nails were observed in 78.90% students, pitting nails 3.12% and dirty nails 17.96%. Cough and cold was reported by 20.31%, pain in abdomen by 21.87%, white patches on face was observed in 14.06%. Pallor was observed in 28.90% of the students. Normal weight was found to be 62.50%, followed by underweight 23.43%, obesity 7.03%, overweight 3.90%.

Discussion
In the present study it was seen that White patches was seen in 14.06%, Cough and Cold was reported by 20.31%, Pain in abdomen in 21.87%, Pallor was observed in 28.90% students. Caries was present in 43.75%. A little different results were shown in a study conducted by *Patel et al.,* (2015) showed that worm infestation was the commonest morbidity found in most children (42%) followed closely by upper respiratory tract infection (36.39%) Dental caries were observed in 25.19% children; however findings of anemia (30.99%) are similar to our study. A study done by *Sugunu,* (2014) Chennai revealed that overall 51.1% of the subjects had at least one symptom of ARI in the preceding 2 weeks. Manifestations of ARI included allergic rhinitis (46.1%), dry cough (18.9%), etc. In the present study, normal weight was found to be 65.62%; underweight was 23.43%, overweight 3.90%, obese 7.03%. Similar findings were revealed in a study conducted by *Rani,* (2013) showed that among the students, 5.2% were obese, 6.2% were overweight, 57.1% were of normal weight and 31.5% were underweight as per the age and gender adjusted BMI percentiles of the WHO child growth standards.

Conclusion
Prevalence of common health problems like cough and cold was found to be 20.31%. Dirty nails were observed in 17.96%. Pallor was observed in 28.90%. White patches on face were seen in 14.06% students. Prevalence of Dental Caries was found to be 43.75%. Overweight was observed in 3.90% and Obesity in 7.03% students.

Recommendations
School health check up should be done periodically to screen the students for any emerging illnesses in them and treating it immediately. Proper hygiene should be taught to these students at early age so that diseases like worm infestations can be avoided in them. Obesity is an emerging health problem which should be given attention and appropriate health education must be given to students.

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