Original Article

Health status of children under school health services in Doiwala Block, Dehradun

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Background -The introduction of school health services in India dates back to 1909, when school children in the city of Baroda were given the first medical examination. School Health programme ,promoting basic check up of school children for a variety of health related problems, is a systematic effort in raising awareness about health issues among school children and their families. Good health increases enrollment and reduces absenteeism. It also ensures attendance of the poorest and most disadvantaged children to school, many of whom are girls.

Aim- To study the morbidity status of the school children & elicit relationship of healthy habits with morbidity pattern.

Study Type- *Observational study*

Methodology- A cross sectional survey to find out the morbidity pattern was conducted on 757 school children (340 boys and 417girls), aged 5-16 years studying in class I-VIII in five different schools of Doiwala, Dehradun under Rural Health training centre, Rajeev Nagar.

Results- Overall students attendance was 78.2%. Clinical anaemia was higher in Girls (46.7%) as compared to Boys (34.1%). Worm infestation was higher in boys (65.1%) as compared to Girls(57.3%). Over all abnormal Visual acquity(8.5%) or eye abnormality (14%) was noticed among study subjects. Dental Caries (53.1%) and dermatitis (16.3%) were more in boys.
Healthy habits like daily bathing (82.6%), daily teeth brushing (61.1%), mouth rinsing after meal (53%) and hair clean/combed (80.2%) were more in girls as compared to boys while trimmed nail was equally (55%) noticed among both the groups.

Conclusion- Morbidities found amongst students are basically due to low awareness & negligent behaviour about personal hygiene are the key areas of concern and by active involvement of school teachers improvement in personal hygiene of school children and reduction in related morbidities can be achieved .

Introduction

Article 24 of the CRC: States Parties recognize the right of the child to the enjoyment of the highest attainable standards of health and to facilities for the treatment of illness and rehabilitation of health…"

The introduction of school health services in India dates back to 1909, when school children in the city of Baroda were given the first medical examination. School Health programme ,promoting basic check up of school children for a variety of health related problems, is a systematic effort in raising awareness about health issues among school children and their families[1]. School Health services comprise immunization, screening surveillance, counselling, early detection and treatment and referral services[2].

School is important for cognitive, creative and social development of children. So is the School Sanitation and Hygiene Education, necessary for the safe, secure and healthy environment for children to learn better and face the challenges of future life[3].

Health seeking behaviour has to initiated in childhood itself. The best opportunity for facilitating this is found in school settings. With more and more school enrolments taking place ,school have become the convergence centre for health and education programmes[1]. There is high level of diversity especially in the case of enrollment, for instance in some states the enrolment of children is around 100%, and overall literacy ranges above 80%. In other states, the primary enrolment of children is around 60% and literacy overall is less than 40%.

Due to widespread poverty compounded by literacy and limited awareness, many school children suffer from conditions that can be prevented by appropriate health education. Ensuring that children are healthy and able to learn is an essential component of an effective education system. Good health increases enrollment and reduces absenteeism. It also ensures attendance of the poorest and most disadvantaged children to school, many of whom are girls. It is these children who are often least healthy and most malnourished and who are the most to gain educationally from improved health[1]. So study was planned to assess the morbidity status of the school children & elicit relationship of healthy habits with morbidity pattern . Results so obtained will be the basis for conduction of regular follow up health examination camp and health education campaigns.

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Material and method

A cross sectional survey to find out the morbidity pattern was conducted on 757 school children (340 boys and 417girls), aged 5-16 years studying in class I-VIII in five different schools of Doiwala, Dehradun under Rural Health Training Centre, Rajeev Nagar. The morbidity survey was conducted by a health team comprising of Health worker (MSWs), Interns, PGs and a faculty member under supervision of senior faculty from Department of Community Medicine, HIMS, Swami Ram Nagar, Doiwala, Dehradun. The children were approached in their respective schools during the school hours after taking the prior permission of the principal of the schools.

Preliminary information of the students like their name, age, sex , date of birth was obtained and recorded on the survey register. A detailed clinical examination was done with special attention on those systems which were affected most. Weight of the children was measured with minimum clothing with the help of weighing machine assuring an error of ± 0.5 Kg. Height was taken with the help of calibrated metallic tape fixed to the wall, with child standing erect against the wall (barefoot). An error of ± 0.5 cm was considered while measuring the height. Anemia was diagnosed by clinical signs such as pallor of the conjunctiva/tongue.

Worm infestation and tobacco consumption were diagnosed on the basis of history and asking questions. Otoscope was used to diagnose ear problems. Hearing was assessed by Rinne's test using Tuning Fork. Snellen's chart was used to assess the visual acuity.

Oral cavity was examined for any abnormal pigmentation of teeth, caries, cavities, glossitis and ulcers of mouth or tongue.

During the study period, all the children were given single dose of Tab. Albendazole(400mg). A brief health talk session was held with the teachers and children to discuss the importance of various aspects of personal hygiene, nutrition and environmental sanitation.

Data thus collected and recorded on the survey register was analyzed by interns under the supervision of the faculty member, and was subjected to be tested for any statistical significance.

Result:

Overall students attendance was 78.2%. Students found absent despite of three visits one week apart ranges from 12.7% to 30.2%. Age wise distribution of students attending school out of total enrolled varies between 53.8% to 88.6%. There is no significant correlation between the age and school attendance.

Female students enrollment was proportionately higher (55.1%) as compared to males (44.9%) & attendance was also better for girls (80%) than for boys (75.9%), while overall attendance was (78.2%)

Clinical anaemia was higher in Girls (46.7%) as compared to Boys (34.1%) whereas Worm infestation was higher in boys (65.1%) as compared to Girls(57.3%). Overall abnormal Visual acquity(8.5%) or eye abnormality (14%) was noticed among study subjects though almost equally distributed in both sexes. Dental Caries (53.1%) and dermatitis (16.3%) were more in boys.

Healthy habits like daily bathing (82.6%), daily teeth brushing (61.1%), mouth rinsing after meal (53%) and hair clean/combed (80.2%) were higher in girls as compared to boys while trimmed nails were equally (55%) noticed among both the groups.

Table 1: Sexwise distribution of attendance out of enrolled students

S. N	Sex	Enrolled students	Students present
1	Girls	417(55.1%)	334(80%)
2	Boys	340(44.9%)	258(75.9%)
Total		757	592(78.2%)

* figures in parenthesis indicate percentages

Table 2 : Gender wise Morbidity Pattern of children under study group

SN	Variable	Boys		Girls		Total		X^2
		Present	Absent	Present	Absent	Present	Absent	
1	Anemic status (n=592)	88 (34.1)	170 (65.9)	155 (46.7)	179 (53.3)	243 (41.1)	349 (58.9)	.002
2	Worm Infestation (n=592)	168 (65.1)	90 (34.9)	192 (57.3)	143 (42.7)	360 (60.8)	232 (39.2)	.054
3	Normal Visual acquity (n=340)	161 (92.5)	16 (7.5)	150 (90.4)	13 (9.6)	311 (91.5)	29 (8.5)	.475
4	Eye abnormality (n=344)	23 (13.7)	151 (85.8)	25 (14.2)	145 (86.3)	48 (14.0)	296 (86.0)	.891
5	Dental caries (592)	137 (53.1)	121 (46.9)	131 (39.1)	204 (60.9)	268 (45.2)	324 (54.8)	.001
6	Dermatitis (592)	42 (16.3)	215 (83.7)	41 (12.3)	292 (87.7)	83 (14.1)	509 (85.9)	.163

* figures in parenthesis indicate percentages

Table 3 : Gender wise Personal Hygiene of children under study group

S.N	Personal Hygiene variables	Boys(n=258)		Girls(n=334)		Total (n=592)		X^2
		Present	Absent	Present	Absent	Present	Absent	
1	Daily Bathing	188(72.9)	70(27.1)	276 (82.6)	58(17.4)	464 (78.4)	128(21.6)	.000
2	Teeth Brushing daily	125(48.4)	133(51.6)	204(61.1)	130(38.9)	329(55.5)	263(44.5)	.003
3	Mouth rinsing after meal	91(35.3)	167(64.7)	177(53.0)	157(47.0)	268(45.3)	324(54.7)	.000
4	Hair clean, combed	192(74.4)	66(25.6)	268(80.2)	66(19.8)	460(77.7)	132(22.3)	.164
5	Nail trimmed	143(55.4)	115(44.6)	183(54.8)	151(45.2)	325(54.9)	267(45.1)	.516

* figures in parenthesis indicate percentages

Table 4 : Morbidity Pattern of children under study group

S. No	Age of student (in Years)	Anemic	Abnormal Visual acquity	Other Eye abnormality	Ear Discharge	Dental Caries	Dermatitis
		No.	No.	No.	No.	No.	No.
1	5 (n=55)	20(36.4)*	7(12.7)	7(12.7)	14(25.4)	22(40.0)	7(12.7)
2	6 (n=74)	33(44.6)	3(4.0)	9(12.2)	26(35.1)	40(54.0)	9(12.2)
3	7 (n=90)	36(40.0)	3(3.3)	8(8.9)	39(43.3)	53(58.9)	13(14.4)
4	8 (n=95)	34(35.8)	15(15.8)	17(17.9)	12(12.6)	40(42.1)	22(23.1)
5	9 (n=82)	33(40.2)	4(4.9)	12(14.6)	25(30.5)	33(40.2)	12(14.6)
6	10 (n=88)	29(33.0)	2(2.2)	16(18.2)	25(28.4)	40(45.4)	7(7.9)
7	11 (n=45)	25(55.5)	7(15.5)	13(28.9)	9(20.0)	22(48.9)	7(15.5)
8	12 (n=31)	19(61.3)	2(6.4)	1(3.2)	12(38.7)	10(32.2)	4(12.9)
9	13 (n=18)	8(44.4)	3(16.6)	1(5.5)	8(44.4)	4(22.2)	1(5.5)
10	14 (n=7)	6(85.7)	1(14.2)	0(0.0)	3(42.8)	1(14.3)	1(14.3)
11	15 (n=7)	2(28.6)	1(14.2)	0(0.0)	3(42.8)	3(42.8)	0(0.0)
Total(n=592)		243(41.0)	48(8.1)	84(14.2)	176(29.7)	268(45.2)	83(14.0)
X^2		.000	.003	.593	.004	.041	.612

* figures in parenthesis indicate percentages

Discussion:

In the present study students found absent despite of three visits one week apart ranged from 12.7% to 30.2%. Females enrollment was proportionately more (55.1%) as compared to males (44.9%) & attendance was also better for girls (80%) than for boys (75.9%). While overall attendance was (78.2%). Absenteeism could be due to lack of parent's interest in child education or dropout from school. It was observed in separate study conducted in Dehradun that 34% of adolescents were found to have dropped from schools with financial difficulties as main reason[4], while 49% school dropouts were reported in a study conducted amongst 5-14

years urban slum dwellers of Delhi and none of female in age group of >14 year had studied beyond middle school[5].

Clinical anaemia was higher in Girls (46.7%) as compared to Boys (34.1%) which is higher than reported by Panda et al (26%) in their study based at Ludhiana City[6]. Worm infestation was higher in boys (65.1%) as compared to Girls (57.3%) in present study. In another study it was observed that lower worm infestation in girls, greater number of girls (28%) were having anemia[8]. Anemia reported by Ananthakrishnan et al was higher (57.1%) than our study (27.18%), reason could be higher load of worm infestation they have reported in their study[7].

Overall , abnormal Visual acquity (8.5%) or ocular Morbidity (14%) was noticed among study subjects though almost equally distributed in both sexes. Eye infections which is much higher than as reported by Ananthakrishnan et al (2.7%)[7].
Higher prevalence of dental caries (45.2%) was more common in boys (53.1%). Other studies have reported Dental caries was present in the range of 23.1% to 27.9% (6,7,8) . Dermatitis (16.3%) was more in boys. In another study also skin related diseases were significantly higher in boys as compared to girls[6]. Skin infections were reported in 8.7%. of children by Ananthakrishnan et al[7].
Ear morbidity was found to be significantly higher in boys as compared to girls. Ear infection/ ear discharge was reported in 2.51% cases while Ananthakrishnan et al reported it to be 3.1%[7].

Healthy habits like daily bathing (82.6%), daily teeth brushing (61.1%), mouth rinsing after meal (53%) and hair clean/combed (80.2%) were more in girls as compared to boys while trimmed nail was equally (55%) noticed among both the groups. These findings were much better when compared to study conducted at Wardha where only 27.6% of tribal school children reported Clean & combed hair , and 29.7% with clean and cut nails[9]. Similarly Kishore et al also observed oral hygiene to be significantly better in girls as compared to boys, which may be due to better personal care taken by them[8].

While tobacco consumption was noticed among only 2% students as compared to Kishore et al, chewing habits were found in 7.72% boys as compared to 3.14% girls[8].

Conclusion & recommendations

School dropout, high morbidities, low awareness about personal hygiene were the key areas of concern which could be tackled by active involvement of school teachers, improvement in personal hygiene of school children and reduction in related morbidities. Training of teachers and repeated health education sessions of students and their parents is recommended. Effective school health programmes that are developed as part of community partnerships provide one of the most cost effective way to reach school age children, adolescents and broader community, and are sustainable way to promote healthy practices.

Beside communicable diseases ,non communicable disease programmes also can be initiated keeping in mind the behavioural & lifestyle changes community is adopting.

Approximately 23% of children belongs to 5-14 years age group in India , many of them are still away from reach i.e. out of school children ,it is challenging task to provide them health education, & health checkup, & nutritional benefits as their right. Special consideration at policy level is required for children who never attended school or dropout children, etc.

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