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RESEARCH ARTICLE

INTEGRATED SCHOOL HEALTH SCREENING PROGRAM IN KHAN SAHAB,  
DISTRICT BUDGAM (J&K)

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ABSTRACT

**Background:** Screening program in schools are designed to identify children who have early signs of health problems. This study provides information about the findings of integrated school health screening program in rural block khan sahib, District Budgam.

**Aims and Objectives:** To screen for the behavioural, visual disorders, pediculosis, nutritional status and physical examination of school going children in rural block of Khan Sahib, District Budgam.

**Design:** Community based cross-sectional study

**Methods:** This Integrated school health screening program was conducted by the Department of SPM, Govt. Medical College and Srinagar. This program had two major parts including 1) Screening of behavioural, visual disorders, pediculosis and calculating body mass index and 2) physical examination of students, conducted by primary care physicians. All services were offered free of charge. The students' parents were informed about the health status of their children. Statistical analysis used: SPSS v 20.0.

**Results:** The screening program conducted in Aug.2015-Sep.2015 included 201 students from 2 schools, age 5 yrs to 16 yrs who were studying in Government Middle and Secondary schools. Of total students studied, 89.05% had weight disorders, i.e. body mass index <3rd percentile or > 95th percentile. 27.86% had visual disorders, 3.95 % had head lice, and 2.24% had behavioural disorders. On physical examination 15.92% had upper respiratory tract infections, 33.83% had abdominal cramps and 23.87% had fungal skin infection.

**Conclusion:** In addition to its benefits to the students' health status, the results of this screening program help health policy makers to design interventions for prevention and or early detection and treatment of the most common disorders documented among school students.

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INTRODUCTION

Health of a child is a growing concern all over the world with social changes and rapid economic growth in developed and developing parts of the world. Nutritional status of school age children is a major determinant of nutritional and health status in adult life. 20-80% of primary school children are suffering from nutritional deprivation. (Fazili et al., 2012) Assessment of nutritional status of school going population is essential for improving the overall health. In a developing country like India, poverty and illiteracy is undoubtedly a major factor for malnutrition in children, but lack of awareness

of what constitutes a balanced diet is also a factor, which needs to be mentioned. (Vandana Sati and Saroj Dahiya, 2012) Health has been considered as one of the major goals of education and social development amongst the children. But little has been done in the direction of achieving the objective of optimal health. The responsibility of this lies in the hands of parents, teachers, health administrators and the community. More emphasis is required on health education to prevent health problems rather than providing curative and clinical base for the detection and treatment of health problems. A systematically planned and implemented health education programme with a built in system of feedback for programme modification is essential to achieve the goals more objectively.

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Keeping the above fact in mind and growing realization of importance of the health of a school child, this study is undertaken amongst the schools of Khan Sahib, District Budgam. Screening program in schools are designed to identify children who have early signs of health problems. This study provides information about the findings of integrated school health screening program in rural block Khan Sahab, District Budgam, J&K. It is situated at a distance of 45 Kms from the Govt. Medical College, Srinagar. No reliable estimates of nutritional status are available from the mentioned area. The present work describes the findings of the survey being conducted as part of the School Health Program run by the Department of Community Medicine (SPM), GMC, and Srinagar.

### Aims and Objectives

To screen for Behavioural Disorder, Visual disorders, Pediculosis, Nutritional Status, and Physical Examination of school going children in rural block of Khan Sahab, District Budgam.

## MATERIALS AND METHODS

This was an Observational Cross Sectional Study of children studying in Government Middle and Secondary Schools of rural block Khan Sahab, District Budgam. This Integrated school health screening program was conducted by the Department of Community Medicine (SPM), Government Medical College, and Srinagar. This program had two major parts including 1) screening of behavioral, visual disorders, pediculosis, Pallor, and calculating body mass index, and 2) Physical examination of students, conducted by primary care physicians. All services were offered free of charge. The students' parents were informed about the health status of their children.

### Method of Collection of Data

After obtaining authorized consent from the management, the school was visited and the data was collected using readymade Performa. All children between 6-15 years of age as determined using school records were included in the study. The data was collected by interviewing and examining the children with the help of class teacher. The children were assessed for nutritional status by clinical examination and by measuring height (cm), and weight (kg). Weight was measured using a floor type weighing scale with due respect to the standardization of the equipment and procedure.

The measurements are taken with children barefoot with their back of heels, buttocks and head touching the stadiometer. The measurements are taken to the nearest 0.5 Kg. Height was measured using stadiometer. Readings are taken to the nearest 0.5 cm. The important signs looked for during clinical examination are Pallor, Hair changes (sparse hair/depigmentation of hair), Eye changes (conjunctival xerosis, bitot's spots, corneal xerosis, corneal ulceration, keratomalacia), Visual Acuity, Cheilosis/angular stomatitis, Skeletal changes, Goiter, Skin changes (dry skin, flaky paint dermatosis, crazy pavement dermatosis) and Koilonychia and General hygiene.

**Table 1. Sex wise distribution of children studied**

Sex	No. of Children	Percentage
Boys	117	59.21 %
Girls	84	41.79%
Total	201	100%

**Table 2. Age Wise Distribution of Children Studied**

Age Group (Years)	No. of Children	Boys (%)	Girls (%)
5-6	8 (3.98%)	5 (62.5%)	3 (37.50%)
6-7	17 (8.45%)	7 (41.17%)	10 (58.82%)
7-8	9 (4.47%)	6 (66.66%)	3 (33.33%)
8-9	14 (6.96%)	7 (50.0%)	7 (50.0%)
9-10	15 (7.46%)	8 (53.33%)	7 (46.66%)
10-11	29 (14.42%)	17 (58.62%)	12 (41.37%)
11-12	21 (10.44%)	12 (57.14%)	9 (42.85%)
12-13	13 (6.46%)	11 (84.61%)	2 (15.38%)
13-14	17 (8.45%)	8 (47.05%)	9 (52.94%)
14-15	27 (13.43%)	14 (51.85%)	13 (48.14%)
15-16	26 (12.93%)	18 (69.23%)	8 (30.76%)
16-17	5 (2.48%)	4 (80.0%)	1 (20.0%)
Total	201 (100 %)	117 (59.21%)	84 (41.79%)

**Table 3. Prevalence of Underweight**

Age Group (Years)	Boys	Girls
5-6	4 (50%)	3 (37.5%)
6-7	6 (85.71%)	9 (90%)
7-8	4 (66.66%)	2 (66.66%)
8-9	6 (85.71%)	6 (85.71%)
9-10	6 (75%)	6 (85.71%)
10-11	15 (88.23%)	10 (83.33%)
11-12	10 (83.33%)	9 (42.85%)
12-13	10 (90.90%)	2 (15.38%)
13-14	7 (87.50%)	9 (52.94%)
14-15	13 (92.85%)	12 (92.30%)
15-16	17 (94.44%)	8 (30.76%)
16-17	4 (80%)	1 (20%)
Total	102	77

**Table 4. Finding in Physical Examination**

Age Group (In Years)	Visual Disorder	Head Lice	Behavioural Disorder	Upper respiratory Tract Infection	Pallor	Abdominal Pain	Skin Infection
5-6	3(37.50)	1(12.5)	1(12.5)	1(12.5)	5(62.5)	5(62.5)	2(25)
6-7	6(35.2)	2(11.7)	0	3(17.6)	12(70.5)	8(47)	6(35.2)
7-8	2(22.2)	1(11.1)	0	1(11.1)	6(66.6)	4(44.4)	2(22.2)
8-9	5(35.7)	0	1(7.1)	4(28.5)	8(57.1)	6(42.8)	4(28.5)
9-10	6(40)	0	1(6.6)	2(13.3)	10(66.6)	4(26.6)	1(6.6)
10-11	10(34.4)	3(10.3)	1(3.4)	5(17.2)	18(62)	10(34.4)	8(27.5)
11-12	13(61.9)	0	1(4.76)	3(14.2)	14(66.6)	6(28.5)	4(19)
12-13	4(30.7)	1(7.6)	0	2(15.3)	9(69.2)	6(46.1)	4(30.7)
13-14	6(35.29)	0	0	2(11.7)	11(64.7)	4(23.5)	3(17.6)
14-15	9(33.3)	0	0	5(18.5)	21(77.7)	6(22.2)	5(18.5)
15-16	11(42.3)	0	0	3(11.5)	19(73)	7(26.9)	7(26.9)
16-17	0	0	0	1(20)	3(60)	2(40)	2(40)

## RESULTS

### Age wise distribution of children studied

Among the 201 children, 8 (3.98%) belong to 5-6 yrs age group, 17 (8.45%) belong to 6-7 yr age group, 9 (4.47%) belong to 7-8 yr age group, 14 (6.96%) belong to 8-9 yr age group, 15 (7.40%) belong to 9-10 yr age group, 29 (14.42%) belong to 10-11 yr age group, 21 (10.44%) belong to 11-12 yr age group, 13(6.46%) belong to 12-13 yr age group, 17(8.45%) belong to 13-14 yr age group, 27(13.43%) belong to 14-15 yr age group, 26(12.93%) belong to 15-16 yr age group and 5 (2.48%) belong to 16-17 age group. (Table 1)

### Prevalence of Underweight

The overall prevalence of underweight in the studied school children was 89.05% (179). The prevalence of underweight in boys was 87.39% (104) and in the girls, it was 91.66% (77). The prevalence of underweight is more among girls compared to boys (91.66% Vs 87.39%). Among the boys underweight was seen more commonly in the age group 15-16 years (94.44%) and among girls in 14-15 year age group (92.30%). (Table 2)

### Prevalence of Nutritional Deficiencies

In the present survey we observed a prevalence of under nutrition (89.05%) for underweight. It was found to be high when compared to results of study done by Hasan *et al.* from Bangalore among 5-14 year old children (58.2%) for underweight. (Hasan *et al.*, 2011) Ruchika *et al.* from Allahabad reported a prevalence of 25% underweight and 17.3% stunting in children of 7-10 years age group. Anjum *et al.* in a study from Kashmir among 5-14 year old children had reported only 11.1% and 9.25% for underweight and stunting respectively (Fazili *et al.*, 2012), Mendhi *et al.* from Assam reported a prevalence of 47.4% stunting and 51.7% underweight in 6-8 year old children.

Iron deficiency anaemia is the most common nutritional deficiency which affects health, education, economy, and productivity of the entire nation. Appropriate and timely intervention can prevent a large portion of cases. In our study, out of 201, pallor was noted in 136 (67.66%) children who included 59 boys and 77 girls and was more common in the age group 14-15 years (42%) in age group 6-7 years. Pravin *et al.* in a study among 1808 school going children of 49 villages of Dharwad and Haliyal taluks reported an anemia prevalence of 25.5%. Muthayya S *et al.* in a study among school age children in Bangalore reported an overall low prevalence of anemia of 13.6%.

Hair changes in the form of sparse hair or depigmented or lusterless hair were seen in 19 (9.45%) who included 12 boys and 7 girls and was more in the age group 9-10 years (6.7%). Prabhakar *et al.* assessed the nutritional status of Jenukuruba tribal children in Mysore District, Karnataka and found that majority of the children had lack of luster (94.1%), sparseness (94.1%) and straightness (83%) in hair. Only a healthy body can harbour a healthy mind. Malnutrition accounts for the

majority among the various problems faced by the school going children. It should be efficiently and timely assessed and corrective measures should be employed accordingly. Despite the fact that several national nutrition programmes are in operation, especially for the benefit of children, the prevalence of micronutrient deficiencies, particularly among rural children, continues to be of public health concern. There are certain limitations for this study. Nutritional status of the children depends on the education, occupation and socioeconomic status of the parents which was not assessed in this study as parental interview is required. Detailed diet history of the children from the time of birth also helps in establishing the cause for particular nutrient deficiencies as well as laboratory testing for the confirmation of certain nutritional deficiencies were not done.

### Conclusion

The present study reveals that, the Rural school going children of Khan Sahab, District Budgam are suffering from different grades of malnutrition and other Health related problems. Mothers of these children should be educated about the importance of balanced diet.

Consumption of foods like cereals, pulses, green leafy vegetables, roots and tubers, sugar and jaggery, fats and oil, milk and milk products, fruits etc., should be promoted. Government should introduce awareness programs through community participation, involvement of NGOs and other sectors regarding affordable but nutritious foods.

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