



## Preliminary study to find the feasibility of conducting School Medical Inspection (SMI) with the help of students of senior classes

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### Abstract

Routine SMI are done by the Divisional Director of Health Services. Only grade 1, 4 and 7 are targeted due to lack of resources. Medical history, height, weight, visual acuity, dental problems, deformities, condition of the heart and lungs are some assessment done in SMI. Students of senior classes are able to measure and record biodata and simple health measures like height and weight after training. Expertise is required only to interpret records and examine the heart and lungs. Greater number of students can be examined with the help of students during a shorter period of time. A health camp was conducted in the G/Kataluwa Maha Vidlaya. Bio data and medical history were recorded by parents or students themselves. Height, weight and visual acuity were recorded by students. Interpretation of collected information and examination of heart and lungs were done by medical graduates. Prescriptions were given when drug treatment was indicated. Medical advices and referrals were done when necessary. Collected data were analyzed for descriptive statistics. Two medical graduates and 8 Medical students have participated in the camp. The duration of the camp was six hours. All students (346) were examined. The following medical problems were detected; 139 dental caries, 53 "mal occlusion", 25 asthmatics, 13 skin disorders, 12 migraine, 15 goiters, 18 visual acuity defects and 1-3 hearing defects, cardiac valvular lesions and deformities in limbs. Participation of students of senior classes in a school as volunteer staff in a health camp is useful in detecting health problems in school children.

**Keywords:** school, medical inspection

### Introduction

SMI are conducted annually by the Divisional Director of Health Services (DDHS) office to assess the health status of students' and health related facilities in schools. Health status of students in grade 1, 4, 7 and 10 are examined in schools with student population of greater than 200 students. All students of a school are examined in schools with student population less than 200 students. Prior planning is done by Public Health Inspector several days prior to the SMI. It may take one to two days to conduct the SMI depending on the number of students in the school. The coverage of SMI (WHO publication) from year 2000 to 2006 varies from 54%–92%.

During SMI, other than examining students information about number of students in each grade, number of teachers in the school, buildings which are not hygienic, staff rooms, availability of dental clinic, details about toilet facilities, water supply, waste management and school canteen etc. are collected. Medical examination of students in SMI include taking

medical history, measurement of height, measurement of body weight, testing for near vision, testing for distant vision, dental examination, examination for physical deformities, examining for the heart sounds and breath sounds. In addition, deworming, immunization, vitamin supplementation and iron supplementations are given during SMI. Students are referred to special centers when indicated.

It is the experience of the first author that the medical history can be obtained by administering a questionnaire to students of upper classes and to parents of students in lower classes. Similarly the students of senior classes are able to measure height, body weight, test for distant vision using Snellen's, test for near vision using J chart and record them after training. Expertise is required to detect abnormalities from records of simple measurements and to examine certain health parameters like examination of heart and lungs.

It is an established practice to get the help of voluntary staff in different health related activities.

There are not many studies done to find the benefits of services of volunteer staff on health promotion activities. Nelson *et al* in 1978 has shown that well-trained volunteers under supervision identified many new health problems in follow up paediatric examinations at a minimal cost. Phomborphub *et al* in 2008 has shown that the village health volunteers are effective in screening for pulmonary tuberculosis.

The possible advantages of getting the services of students in senior classes in SMI include the possibility of examining more students in a given time, reduction of expenditure and development of leadership skills in school students. The aim of the study is to find the feasibility of using volunteer students in SMI. To find out the feasibility of getting the services of the students of senior classes in simple health parameters.

### Method

A health camp was conducted in Kathaluwa Maha Vidyalaya, Ahangama with the permission of the principal of the school. A questionnaire was prepared to record bio data, medical history, findings of measurements and findings of clinical examination. The questionnaire was pretested by administering to a group of parents and students in G/Lelvala Maha Vidyalaya, Lelevala. The questionnaire was distributed one week before the date of the health camp. The questionnaire was sent to parents of students who are learning in grade 5 or below. Students of grade 6 and above were requested to fill the questionnaire by students themselves. On the day of the health camp, the students of the advanced level biology stream were selected and trained to measure height, body weight and visual acuity for distant and near vision. They were also trained to record the obtained measurement on the questionnaire. The training was done by two medical doctors and medical students. In the training, the advanced level knowledge on structure the eye, refraction of light and focusing of light rays on retina was refreshed. After refreshing their knowledge on the theory, they were trained to test distant vision, near vision and make records on the data sheet.

The filled questionnaires were checked by medical students for false positive records and send to medical doctors to examine the heart and the lungs. All the students attended on the day of health camp were examined. The detected abnormalities were confirmed by medical doctors participated in the health camp. Students were provided with a prescription when drug treatment was indicated. Medical advices and referral to special centers were done in appropriate situations.

The collected data were analyzed to find out descriptive statistics.

### Results

The duration of the health camp was about six hours.

Table 1. Details about human resources used in the camp

Category	Number in each category
Doctors	2
Medical students	8
Students of biology stream	16

Table 2. The number of students examined on the basis of grade

Grade	Number
1	17
2	20
3	20
4	35
5	27
6	41
7	37
8	29
9	34
10	33
11	46
12	7
Total	346

Table 3. Disease conditions and defects

Name of the condition	Number detected
Dental caries	139
“mal-occlusion”	53
History of asthma	25
Skin conditions	13
Migraine	12
Goitre	15
Defective visual acuity	18
Limb deformities, cardiac valvular lesions, hearing defects	6

### Discussion

This study was conducted with medical students of the Faculty of Medicine University of Ruhuna. The organization of health camp was done with the help of medical students. Most of the work done by the medical students could be delegated to students of senior classes' school students after adequate training.

The organization of health can be delegated to a “health club” after establishing one under the guidance of teacher/s in a school. Trained students during a health camp can provide their services in subsequent years. The abnormal recordings made by trained students were reassessed by doctors to confirm before prescribing and referring to specialized management. Therefore, false positive values are minimized in this

method. It will be useful to conduct a study to find out the false negative rates before implementing this method in schools. The strength of the above method can be assessed by doing studies to find the cost benefit and advantages of the method.

### **Conclusion**

Participation of students of senior classes in a school as volunteer staff in a health camp is useful in detecting health problems in school children.

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