A STUDY ON HEALTH NEEDS ASSESSMENT AND SCHOOL HEALTH PROGRAM IN NEPAL

Research Report
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ABSTRACT

Since a significant number of students are enrolled in school level education in Nepal, and the schools are one of the agencies that contribute to the health of the students as well as the community people, there is still paucity of information on existing situation of school health in Nepal. In this context; the study aims at assessing the health needs of the school children and the current practices on school health. The study covered 480 students from grade IV and V from three districts viz. Gorkha, Chitwan and Kathmandu. Clinical examination of the students, observation of the school environment, questionnaire and focus group discussions (FGDs) were the main methods used for the collection of data. The study revealed that pallor (30%), cyanosis (0.83%) dirty nails (29%), poor personal hygiene (21.4%) and skin diseases (28%) were found among the students. Missing and cavity tooth (25.8%) and unhealthy gums (68.9%), nightblindness (7.5%), nearsightedness (8.2%) and far sightedness (0.4%) impaired hearing (7.1%), enlarged liver (2.7%) and spleen (2.0%) were also prevalent among the students. About (14.8%) students had suffered from gastro-intestinal problems. Two - third of the schools surveyed had no games and sports facilities for the children. About one - fifth of the playground was not safe and about half of the schools surveyed were in noisy settings. Four fifth of the schools had inadequate and inappropriate furnitures. First aid kits were found only in 16.6% schools. From half of the schools only, teachers had received first aid treatment. One of the schools had provision of students' health check up. Moreover, coordination is yet to establish between the school & the local health workers.

More than 80% students had knowledge of three or more causes of diseases. About 16.6% students were the victims of the injuries and or accident. But only 28.7% had received first aid treatment following after the injuries. Both the teachers and parents showed willingness to cooperate and support for joint action for the promotion of the pupils as well as community health. It is therefore suggested that schools should be developed as entry point for health promotion with the active participation of teachers, parents and students.

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I. INTRODUCTION

1.1 Background of the Study

In order to achieve the twin goals, "HEALTH FOR ALL" and "EDUCATION FOR ALL", many countries, particularly the developing countries are striving hard for the promotion of healthy life style message in a range of school and community settings. Schools are one of the important community settings where life styles messages have the potential to reach parents by teaching the children. School settings have significant importance in reducing the burden of illness of many preventable injuries and disabilities (William et el. 1996, 300-310). Schools are the inseparable part of healthy life styles messages in a range of community settings. Communities first offer opportunities to promote health of the children, their families and the community. In school they not only acquire information, skills and attitudes regarding health, but also can be disseminators of these domains to their families and communities. But experiences from Nepal have shown that it is difficult, for health workers to work with schools in promoting health as they are focused to work in community health. On the other hand, schools are also not taking initiative for the promotion of health of the school children and the staffs. For they often consider that health promotion may be outside their core business. They have to engage in achieving educational objectives rather than health promotion.

Nearly four and a half million students study in school level education in Nepal. They spend most of their time in schools. For the rest of the time, they live with their parents. In order to protect and promote children's health and to reach parents through children school health program is highly important. For school health program means the prepared course of action taken by the school in the interest of the school child and the school personnel (Anderson, 1972: 16). School health services, health education, school health environment and school community cooperation for health are the components of school health program.

The school is one of the agencies that contribute to the health of the pupils as well as to the community people. Since health is a matter of every body's concern and it relates with children's problem, it should be the priority and concern of all people at all level. As most of the parents are uneducated and can't provide health education and health services to their children, the school and community must play the role of inloco-parents. In Nepal there is paucity of accurate information regarding health level of the school children. In the past, too many people spoke about school health; however, study on school health in the country is yet to be carried out. Therefore, it is high time to identity the existing situations of the school environment and prevailing health status of the students, available health services and health instructional practices which will be considered as the guidelines to design and implement appropriate school health program. The result of the study will serve as the baseline to the policy-makers, planners and community leaders.

1.2 Objective of the study

General Objective

The general objective of this study is to assess the health needs of the school children and the current practices on school health program.

Specific Objectives

The Specific Objectives of the study are to:

1. Assess the existing health status/ needs of school children and prevailing school health service practices.
2. Analyze existing school environment affecting health.
3. Examine students' health maintenance behavior.
4. Analyze current teacher's practices in health instruction.
5. Identity the areas in which school - community co-operation can be ensured.
6. Point out the guidelines for the management of school health program.

II. PROJECT DESIGN AND METHODOLOGY

2.1 Study type, variable and data collection techniques :

The study was a cross- sectional, descriptive study involving 12 primary schools of three districts of Nepal. The sample size was 480 school students. i.e. 40 students from each schools. The variables, which were studied in this study, include :

a. Present health status of the 4^{th} and 5^{th} graders was assessed by physical examination of the pupils, also preceded by asking few relevant and existing chief complaints. The focus of examination was eye, ear, nose throat and dental conditions together with the body systems (respiratory, cardiovascular, gastro-intestinal, genito-urinary and locomotor), immunization and nutritional status.
b. The prevailing physical facilities and environmental conditions. This included evaluation of the classroom, ventilation, lighting, furniture, sewage and garbage disposal system and safe drinking water.
c. Health promoting activities such as sports and recreation.
d. Appraisal of knowledge, attitude and practice (KAP) of the respondent students focusing on personal hygiene, dietary habits, knowledge of common, prevailing disease and application of the acquired health knowledge in the daily life.
e. Assessment of awareness and attitude of the parents and teachers regarding health of the children and in particular the school health program, its effective implementation and community participation in terms of financial and material aspects.

2.2 Sampling Procedure

Altogether 480 school children were included in the sample. The sample represented three ecological regions, namely, Kathmandu valley, hill and terai region. From each of these regions, three districts were chosen for the study. Kathmandu, Gorkha and Chitwan were the representative districts from which four primary schools each were selected for the study. Thus, altogether 12 primary schools were taken as the sample schools. While selecting the sample schools, they represented both the urban and rural areas of the particular districts. In the next step, 20 students of class IV and V from each of the sample schools were selected randomly from the sampling frame for the study. The study had been followed with at least two focus group discussions, one each for the (a) Partners and (b) teachers in each sample districts.

2.3 Data Collection Tools:

The data collection tools were:

a. Health record sheet for each student.
b. Observation checklist to appraise healthful school environment and physical facilities.
c. Questionnaire for evaluation of KAP of students.
d. FGD guide and records.

2.3 Data Collection Techniques :

The study used both the quantitative and qualitative techniques to collect information on health needs assessment and school health practices, and to get an impression of the management of school health program.

Following techniques were applied for the collection of data:

a. Clinical / health examination of the students :

A health assistant appraised the students' general health condition and the results were filled in individual health record sheet of the students.

b. Observation of the school environment and physical facilities :

In each of the schools surveyed, the study team made observation of the physical infrastructure, including the location and plan of school site, school building, furniture, heat, light, ventilation, water supply, sanitation, etc. An observation checklist was used to record the findings observed.

c. Semi -structured questionnaire (SSI) for Assessing KAP:

KAP assessment was done with the students of grade four and five from each of the sampled primary schools of Gorkha, Chitwan and Kathmandu. The students answered the questions sitting in their classroom arrangement and returned to the study team. Altogether 480 questionnaires were included for the analysis of the results.

d. Focus group discussions (FGDs)

In each of the districts, two focus group discussions, one with parents and the next with teachers were conducted. 6 to 10 persons participated group discussions in. Using separate set of topic guide for the teachers and the parents held the discussions. Cassette recording (Refer to Annex IV and V for the Topic guide or Discussion Guidelines) and field notes were made by the separate note takers. Altogether six FGDs were conducted in the three districts. After the completion of the focus group discussions, the field notes and the recordings were translated, transcribed, reviewed and analyzed for different **"domains"** or **"themes"** of school health programs such as school health service, healthful school environment, health instruction and school community cooperation. While analyzing the responses the "pattern" of the responses were analyzed accordingly. Verbatim were picked up and supplemented in the report as per their relevancy.

Table 1. Number of Participants in Different Focus Group Discussions by Districts.

Participants	Gorkha			Chitwan			Kathmandu			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Teachers	3	3	6	3	3	6	3	3	6	9	9	18
Parents	8	--	8	2	7	9	4	6	10	14	13	27
Total	11	3	14	5	10	13	7	9	16	23	22	45

Table (1) presents that there was gender balance among the participants. Ten of the participants were from the so-called lower castes. The average ages of the parents and teachers were 38.2 and 34.3 years respectively. The mean number of children borne by the participant parents was 3.2. In an average, participant teachers' teaching experience was 12.6 years. One third of the teachers were untrained.

III.STUDY FINDINGS AND DISCUSSION

This study is aimed at appraisal of student's health status, their health maintenance behavior, assessment of situation for healthful school living, access to health services, health instruction and the school-community cooperation for health promotion. Hence, all these aspects are considered as the components of a comprehensive school health program and discussed here with the findings of the study.

3.1 Findings on School Health Service:

School health service is an important aspects of school health program and involves the procedures used by the health professionals, teachers etc. that are designed to appraise, protect and promote optimum health of students and school personnel (Anderson 1985). It is mainly concerned with the current health status of the pupils. School health services have mainly three defined areas known as appraisal of health status, preventive aspects and remedial aspects. Some of the findings revealed from this study are discussed in the following section:

Photo: 1 FGD with Parent's Group

Photo: 2 FGD with Teacher's Group in Chitwan

Photo: 3 FGD with Teacher's Group in Chitwan

Photo: 4 FGD with Teacher's Group in Gorkha

Photo: 5 A Supervisor is handing over the gift to the Headmaster

Photo: 6 Students Answering the Survey Questionnaire

3.2 Appraisal of Pupils Health Status:

As mentioned in the methodology part, students' physical examination and general screening was done to assess their existing health status. The socio-demographic profile of the students is confined to the Table 2.

Table 2. Profile of the Students

S. No.	Particulars	No.	Percent
1.	Grade Level :		
	Grade Four	240	50.0
	Grade Five	240	50.0
	Total	480	100.0
2.	Sex :		
	Male	244	50.8
	Female	236	49.2
	Total	480	100.0
3.	Age : (Years)		
	8	7	1.4
	9	28	5.7
	10	57	11.8
	11	103	21.4
	12	135	28.1
	13	91	18.9
	14	43	8.9
	15	9	1.8
	16	6	1.2
	17	--	--
	18	1	--
	Total	480	100.0
4.	Weight : (In Kg.)		
	15 - 19	17	3.5
	20 - 24	83	17.2
	25 - 29	121	25.2
	30 - 34	114	23.75
	35 - 39	76	15.8
	40 - 44	53	11.0
	45 - 49	12	2.5
	50 +	4	0.8
	Total	480	100.0
5.	Height : (in CMS)		
	110 - 119	21	4.3
	120 - 129	90	18.7
	130 - 139	174	36.2
	140 - 149	130	27.0
	150 - 159	49	10.2
	160 - 169	13	2.7
	170 - 179	3	0.6
	Total	480	100.0

Altogether 480 students, 240 each from grade four and five in the three sampled districts were examined to appraise their health status. Of the total students examined, boys and girls were 244 (50.8%) and 236 (49.2%) respectively. Majority of the students (28.1%) belonged to the age group 12 years followed by 11 years (21.4%) and 13 years (18.9%). The mean age of the students was calculated as 11.8 years with the standard deviation of 1.54 years. Similarly, nearly one fourth of the students (25.2%) belonged to the weight group 25 - 29 kg. Followed by 30 - 34 kg. (23.75%) and 20 - 24 kg. (17.2%) respectively. The mean weight of the students was 32.6 kilogram. The standard deviation was calculated as 10.2 kilogram.

Majority of the students (36.2%) had attained 130 - 139 cms of height followed by 140 - 149 cms (27%) and 120 -129 cms (18.7%) respectively.

Table 3. Pupils Health Examination Result

S. No.	Physical Aspects	No.	Percent
1.	**Pallor :**		
	Mild	11	2.29
	Moderate	124	25.8
	Severe	15	3.1
	No	329	68.54
2.	**Cyanosis :**		
	Yes	4	0.83
	No	476	99.1
3.	**Nail :**		
	Dirty	140	29.1
	Clean	333	69.3
	Specific nail conditions	3	0.6
4.	**Personal Hygiene :**		
	Good	55	11.4
	Average	322	67.0
	Poor	103	21.4
5.			
	a. Skin Diseases :		
	Scabies	17	3.5
	Pustules	12	2.5
	Others	104	21.6
	b. No Disease :	147	72.3
6.	**Gastrointestinal Problems :**		
	Present	71	14.8
	Absent	409	87.2
7.	**Enlargement of lymph nodes in Neck :**		
	Yes	13	2.7
	No	467	97.3
8.	**Thyroid Enlargement :**		
	Yes	3	0.6
	No	477	99.3
9.	**Tonsils :**		
	Enlarged	79	16.4
	Not - enlarged	401	83.5

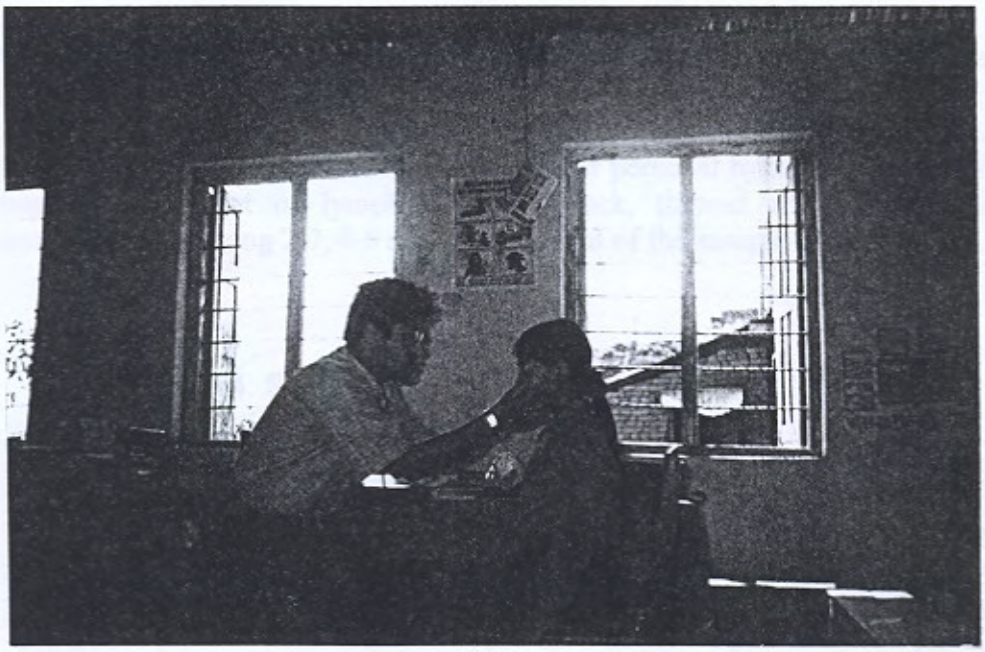

Photo: 7 Health screening of a Student

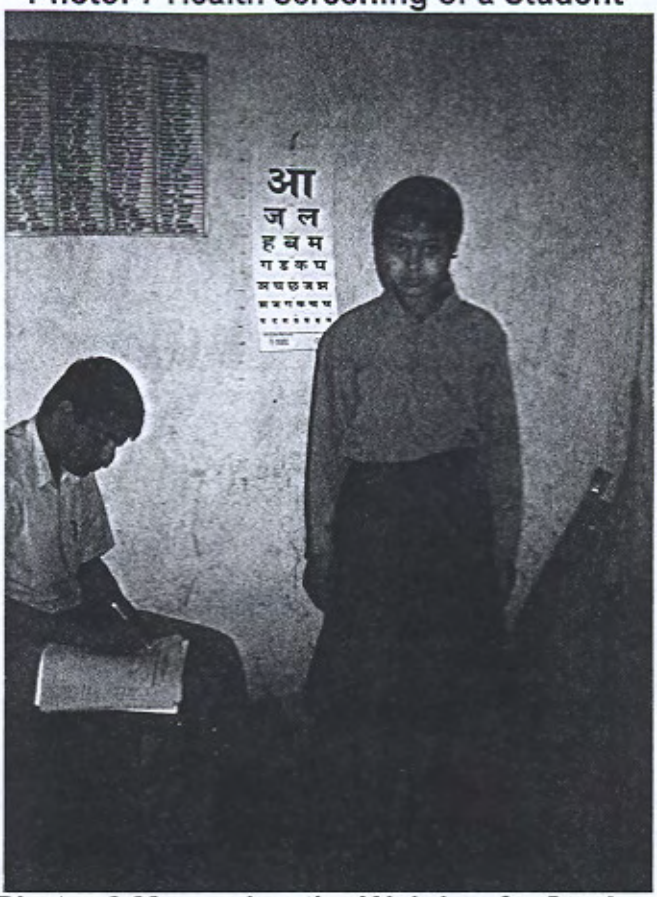

Photo: 8 Measuring the Weight of a Student

As revealed from table (3), the students who had pallor, cyanosis and dirty nails were 31.5, 0.8 and 30.7 percent respectively. In the same way, students who had maintained general personal hygiene and who had no skin disease were 78.4 and 72.3 percent respectively. It shows that nearly one - fourth of the students had poor personal hygiene and some forms of skin diseases. Enlargement of lymph nodes in neck, thyroid enlargement and tonsil enlargement were seen among 2.7, 0.6 and 16.5 percent of the sample students.

Table 4. Students' Oral and Eye Health Status

S. No.	Particulars	No.	Percent
1.	**Teeth :**		
	Missing	114	23.7
	Cavity	124	25.8
	Filled	242	50.4
2.	**Gums :**		
	Healthy	149	31.04
	Unhealthy	331	68.9
3.	**Eye Diseases :**		
	Yes	29	6.1
	No	451	93.9
4.	**Color blindness :**		
	Yes	2	0.4
	No	478	99.5
5.	**Night Blindness :**		
	Yes	36	7.5
	No	446	92.5
6.	**Visual Acquity :**		
	Normal, both eyes (6/6)	438	91.2
	Right eye Normal, Left nearsighted (6/6, 6/9)	5	1.0
	Left Eye Normal, Right Eye nearsighted (6/6, 6/9)	5	1.0
	Both Eyes near sighted	30	6.2
	Both Eyes far sighted	2	0.4
7.	**Squint :**		
	Yes	8	1.6
	No	472	98.3

Table (4) shows that about one fourth of the students teeth were missing (23.7%) and had cavity (25.8%). Rest of them (50.4%) had complete teeth. It is interesting to note that more than two - third (68.9%) of the students' gum were unhealthy.

The table also depicts that the students who suffered from eye diseases, color blindness and night blindness were 6.1, 0.4 and 7.5 percent respectively. Of the students suffering from eye problems, particularly the night blindness, majority was from Gorkha and Chitwan.

Table 5. Status of students' Ear, Chest and Abdominal Health

S. No.	Health Status	No.	Percent
1.	**Ear :**		
	Ear discharge	38	7.9
	Wax	274	57.0
2.	**Hearing Acuity :**		
	Normal	444	92.5
	Impaired	34	7.1
3.	**Chest :**		
	Chest deformity	4	0.8
4.	**Breath Sound :**		
	Normal	447	93.1
	Added	8	1.6
	Crepitating	22	4.5
	Raunchy	3	0.6
5.	Murmur	4	0.8

As confined to table (5), the students who had ear discharge and wax in their ears, were 7.9 and 57 percent respectively. About 7 percent of the participant students had impaired hearing. Chest deformity was found only in 0.8 percent. More than 93 percent students had normal breathing. Added, crepitating and raunchy breath was prevalent among 1.6, 4.5 and 0.6 percent of the students respectively. Murmer sound was found only in 0.8 percent of the sample students:

Table 6. Students' Health status on Abdomen, Testes, Gait and Limbs.

S. No.	Health Status	No.	Percent
1.	Enlarged Liver	13	2.7
2.	Enlarged Spleen	10	2.0
3.	Testis Absent	4	0.8
4.	Hydrocele Present	5	1.0
5.	Phymosis Present	4	0.8
6.	Abnormal Gait	14	2.9
7.	External Spinal Deformity	7	1.4
8.	Limb Abnormality	10	2.0

Table (6) reveals that enlarged liver and spleen were found only in 2.7 and 2.0 percent of the students. Hydrocele and phymosis were found in 1.0 and 0.8 percent of the students respectively. About 0.8% had no testis. Similarly, about 2.9, 1.4 and 2.0 percent of the students had abnormal gait, external spinal deformity and limb abnormality.

Table 7. Students' Immunization Status

S. No.	Immunization Status	No.	Percent
1.	**BCG Scar :**		
	Present	390	81.2
	Absent	90	18.7
2.	**Evidence of Immunization :**		
	Present	390	81.2
	Absent	90	18.7

Table (7) shows that about 18.7 percent of the students had no BCG scar and had no any evidence of immunization. However, it was not confirmed by other means. Finally, it was reported that about 14.8 percent (71) students were reported suffering from gastro - intestinal problems. It was further confirmed by the teacher's group discussions.

"Students drink unboild, unfiltered water both in their home and school. As a result, they suffer from helminthes, abdominal pain and diarrhea"

The teachers also reported that there were no any health supports personnel in the schools. Nor there was any first aid and health check up facilities.

3.2.1 Access to Preventive and Remedial Health Services :

Preventive aspects of school health service includes those programs which are intended to prevent or minimize the factors affecting health of the pupils as well as the staffs. The school should concern with the prevention of all- possible diseases and defects. During this study, some questions relating to communicable diseases and prevention of accidents and injuries were asked to the students, parents and teachers. In addition, pupils' health was appraised to find out if they were suffering from any communicable diseases.

As revealed from the health examination, every three in ten students had suffered from some skin diseases. About 15 percent of them were suffered from episodes of gastro- intestinal problems. These problems must have attributed due to the poor personal hygiene of the students because more than one - fifth of the students had poor personal hygiene and about two - third of them were in average condition. Every three out of ten students had dirty nails. The condition of personal hygiene such as skin health and personal hygiene could be improved by means of health education and regular inspection during morning assembly. Based on the presence of BGC scar and the students' reporting, about eight in ten of them were vaccinated. And the rest did not.

The study revealed that very few students become absent in the classroom due to the health problems. The main health problems reported by the students were gastro intestinal problems, skin diseases, fever, worm infestations, conjunctivitis etc. Of those who suffered from the health problems represented the so-called lower castes. Main causes of the health problems as admitted by the teachers were due to lack of sanitation, proper nutrition and personal hygiene. Furthermore, there was also lack of latrines in their home.

"Very few students, from the so called lower castes afflicted to health problems and diseases that were attributed to the poor sanitation, personal hygiene, food and water"

"It is difficult to send poor children to the school and keep them neat and clean."

"Students should be made aware towards sanitation, clean drinking water, hygienic food, waste disposal, parasite control etc."

In regards to the safety in schools and the playground, it appeared that more than 80 percent of the schools had safe play ground. Rest of the schools had no appropriate play ground. The classrooms in almost all schools were properly lighted and ventilated. However, one-fourth of the classrooms was crowded. About half of the schools were in noisy settings.

First aid facility was available only in two schools surveyed. None of the schools had availability of health check up facilities.

"If we do not become careful, villagers change the school into public latrine."

More than fifty percent of the schools had a teacher with about two to five day's first aid training. But the teachers were not self - confident about their knowledge and skills. They demanded more intensive and practical training at least for two weeks.

"I had taken two day's first aid training. On the first day, there was an inaugural session with tea and on the second or last day there was a closing ceremony."

The teachers noted that primary school curriculum had no provision of result-oriented contents regarding health. They demanded for practical training especially on dislocation and fractures, obstructions, poisoning, bleeding, injuries and a first aid kit with medicines etc. Moreover, they suggested to incorporate need-based curricula of health education to develop knowledge, attitudes and skills on the part of the students.

It is needless to say that in the primary schools surveyed, there is no special provision of health service facilities. It is hard to meet doctors in the near by hospitals too. During illness and injuries, students are taken to the community medical assistants or health assistants. These grassroots level health workers who are posted in the sub-health posts are not availed in the schools even upon request. It might be the causes why many parents take their children to the traditional faith healers first rather than the health workers. However, it is encouraging to note that the trend of consulting health workers while at illness and injuries are ever increasing.

"It would be better to provide first aid and emergency care to our children in the school."

Discussion with the teachers and parents concluded that health workers from the health post could be invited in the school for conducting general health check up and providing other health services. Health counseling and guidance, which aim at, informing the parents almost their children's health and encouraging them to seek correction of the health problems was yet to be established. Since it plays very important role in health promotion, a mechanism is needed for its implementation.

3.3 Healthful School Living :

All the factors that affect physical and mental health of the pupils and staffs constitute healthful school living. The utilization of a safe and wholesome environment, consideration of individual health, organizing the school day and planning classroom procedures to favorably influence emotional, social and physical health is known as healthful school living. Basically, healthful living comprises the provision of a safe and healthful school life, including animate and inanimate environment to expedite the learning process (Anderson, 1985). The ideas that school environment affects the day to day health and wellbeing of those who interact with it and that an unhealthy school environment can compromise the quality of a health program are well established. Three elements make up the school environment: the physical surrounding, the psychosocial aspects of education and the community within the school function (WHO, 1997: 69). In this section an effort has been made so as to depict the existing situation regarding healthful school living in the sampled primary school of the three districts. In doing so, the aforesaid interpretations are borne in mind.

3.3.1 Physical environment of the schools :

The Physical environments of the primary schools in the three districts are discussed on the basis of the following indicators.

Location and plan of school building :

It was observed that 50 percent of the schools were located in a noisy setting and the next 25 percent very adjacent to the community. The remaining 25 percent schools were situated in a quiet place. All of the schools were made of stones or bricks and were permanent. Half of the schools had a small play ground. Only two schools had grounds appropriate for playing volleyball, basketball or football.

The minimum and maximum per capita play ground available for the students in the schools were calculated as 0.34 m^2 and 74.4 m^2. About two-third of the primary schools had per capita playground less than 5 m^2. Similarly, the rest one third of the schools had per capita playground more than 5 m^2. Similarly, two-third of the schools had no playing facilities for small children. Thus in one hand, the schools had very limited play ground facility, on the other, there were no any indoor playing facilities in the schools. It clearly shows the situation of entertainment facilities available in the schools is poor. However, the students reported almost all playgrounds as being safe for use.

Out of the 12 primary schools surveyed, 11 of them had provision of sports and physical training in school routine. In the same way, in 9 schools, the level of inclusion of regular extra-curricular activities in school routine was satisfactory. In rest of the three schools it was reported as minimum. There is no doubt that the access to sports facilities and other extra curricular activities determines the extent how much stimulating is the school to the students. Without any external support, money, the schools could conduct these activities as well.

More than 80 percent of the schools had maintained conventional current of air or the cross ventilation. In rest of the schools ventilation was not satisfactory. Similarly 10 out of the 12 primary schools, had sufficient number of windows as against two schools having insufficient windows in the classrooms. In vast majority of schools, the staircase was not made. Of the 5 schools with staircase, 3 were safe and other 2 were unsafe. The corridors were not safe in one third of the schools.

Furniture was sufficient only in two schools (16.6%). Other 10 primary schools had inadequate furniture in comparison to the number of students. Furniture that was available in 50 percent of the schools was not appropriate as per the level of the students. However, in rest of the 50 percent schools, they were appropriate.
It is noteworthy that three forth of the classrooms were clean and the rest one forth were dirty.

"Our children have to sit in a classroom that is full of dirts, and there is scarcity of drinking water too"

About one fourth of the classrooms observed by the study team were crowded. Rest of the classrooms, there were enough furniture and space.

For the disposal of wastes, about there fourth of the schools had used incinerating process where as in one fourth of the schools, wastes and garbage were collected in a container and disposed off.

Out of the 12 primary schools, 10 schools had separate latrines to use by males and females. In the remaining two schools there were no any latrine. About half of the latrines that were being used in the schools were not clean. In the schools of Kathmandu valley, drainage system was made for the disposal of sewage.

Tap water was the main source of drinking water in two third of the primary schools. The next one fourth of the schools from Chitwan reported that well water was being used for drinking. Almost all schools reported that untreated water directly from the source was used for drinking. Prevalence of gastrointestinal problems was higher in the schools where students neither in there home nor in schools had used treated water. Food stall or a local eatery was found only in two primary schools. Sanitation was poor in the local eatery or food stalls.

Thus, the physical infrastructures observed in the primary schools show that must of the schools have permanent building, but the furniture are sufficient and appropriate only on 84 percent schools. Even the sanitation of the classroom, drinking water and waste disposal, which could be done in, the schools are also yet to be done. To sum, there is lack of indicators to assess the physical environment of the primary schools in Nepal.

3 3.2 Mental environment in the schools :

Psychosocial environment in the schools plays a crucial role in maintaining and promoting mental health of the pupils and the staffs. In order to identify disruptive students at an early age, intervene appropriate and prevent the development of disruptive or inappropriate behavior and develop sense of security, confidence, adaptability or harmonious interpersonal relationship the schools should bear some responsibility among the staffs and students, and any students and staffs. School administrators and educators should consider human relationship among staffs and students, and student and students and staffs. In addition, they should be more responsive from teacher selection, to the grade placement and promotion of the students, and from instructional technology to the assignment and daily school schedules.

Literatures have shown that the development and measurement of psychosocial indicators are less advanced. (WHO, 1997: 69). In the Nepalese context, it is hard to find some guide or indicators that assess mental environment in schools. In this study, a few questions were raised about the mental aspects in schools.

Answering the query, **" How much do you like your schools?"** 457 (95.21) students highly liked their schools where as 21 students (4.3%) did like partially. Only two students disliked their school due to their failure in examination.

The students who favored their school gave following reasons :

- Had got opportunity to learn new ideas and habit.
- Teachers were friendly and lovely.
- Had learnt about their health.
- Joining school was itself a fun for them.
- School was beautiful and clean.
- School was near from their house.
- Had good companions in the school.

Majority of the students responded that they liked their schools because of the opportunity they got for learning something in the school. Only some students rated the stimulating school environment as the cause of their favoritism.

More than 50 percent of the students suggested for providing drinking water and health check up. Next 25 percent students demanded for fencing of the school and the provision of sports facilities. Rest of the other students asked for the latrines, books and bag and quality teaching.

It is interesting to note that none of the school students had taken snacks for the tiff from their home.

The discussions with the teachers' groups revealed that 50% of the schools had organized quiz context, cultural program, sports competition and sanitation campaign. It has been mentioned in the previous section that about two - third of the schools had no sports facilities for the children. In the same way, three - fourth of the schools had no indoor playing facilities. These situations reveal that primary school children are deprived of the access of wholesome mental as well as physical development.

3.4 Health Instruction :

School is the entry point for the acquisition of knowledge, development of favorable attitudes and ideals as well as the establishment of practices essential to health promotion. Health education can be given through a variety of approaches such as formal or curricular approach, informal, non-formal and incidental approaches. In the Nepalese context, some messages relating to health education are integrated with environment and science in primary grades. There is lack of curricular contents regarding health. It was highly noted by the teachers during focus group discussions.

"There is no content for giving health knowledge to the students. Due to lack of health education subject, we are unable to provide practical knowledge to our students."

The teachers further added that they were unable to conduct awareness raising program on health. The teachers also suggested to appoint and train a local teacher on different relevant aspects of health such as first aid, personal hygiene, sanitation, disease, nutrition etc. and

> **"A package of health instruction should be prepared for disseminating to the students, teachers and the parents or community people."**

The parents group also emphasized on the need of special training to the teachers.

> **"Train our teachers so that they can help our children to take care of their body and adopt healthy habits"**

In regards to the need of trained and experienced teacher, one of the headmasters said,

> **"Teachers experience is important as much as his qualification. So he should acquire health related knowledge and skills."**

A question was asked to the students about the sources of information regarding health and disease. The sources of information noted by the students are confined in the table below:

Table 8. The sources of information on health and disease

S. No.	Sources of Information	No.	Percent
1.	Teacher	408	85.0
2.	Parents	167	34.7
3.	Radio	233	48.5
4.	Television	180	37.5
5.	News Papers	167	34.7
6.	Peers	74	15.5
7.	Health workers	266	55.5

Note: The figures given above are based on multiple responses. The main sources of information to the students and teachers (85%), television (48.5%), newspapers (37.5%), parents (34.7%), and peers (34.7%). 55.5 percent students reported health workers.

3.5 Health Maintaining Behavior :

In the schools, students should develop certain life - skills, which seek to build and reinforce the skills and strengths, needed for young people to make healthy decisions throughout their lives (WHO, 1997: 69). One of the primary goals of a health promotion program is to influence behavior favorably and support that which is consistent with a healthy life style. Knowledge, attitude and skills or practices are important indicators for measuring students' behavior. Researches have shown that there is association between the risks posed by specific behavior (such as smoking behavior leading to injury) and the causes of morbidity and mortality of diseases among children and adolescents.

In this study, an attempt has been made to gauge and measure students' knowledge; attitude and skills on health related behavior.

Brushing Teeth :

Answering the query, **"Why do you brush your teeth?"** 276 students (57.5%) replied that teeth should be brushed to prevent them from decaying. **"To keep teeth clean"** and **"avoid foul smell"** were reported by 145 (30.2%) and 50 (10.4%) students respectively. Nine of the students (1.8%) never brushed their teeth. The students were further asked, **"How do you brush your teeth?"** 90 percent of them informed that they brushed their teeth up and down. Next 8.5 percent students brushed them horizontally which is considered an improper way of brushing.

Table 9. Students Knowledge and Practice on Brushing

S. No.	Health Behavior Question	No.	Percent
1.	**Why do you brush teeth?**		
	a. To prevent decaying of teeth	276	57.5
	b. To keep teeth clean	145	30.2
	c. To prevent foul smell	50	10.4
	d. No response	9	1.8
2.	**How do you brush your teeth?**		
	a. Vertically	434	90.0
	b. Horizontally	41	8.5
	c. Others	2	--
	d. No response	3	--

Bathing :

About 97 percent students emphasized the need for bathing body. One-fourth of them (26.4%) reasoned that it was needed to become neat and clean. It was considered important to keep body healthy and holy, were rated by 66.4 and 3.1 percent of the respondent students respectively.

Table 10. Students' Knowledge and Practice on Bathing

S. No.	Variables	No.	Percent
1.	**Why should we bathe?**		
	a. To become neat and tidy	127	26.4
	b. To keep body healthy	319	66.4
	c. To keep body holy	15	3.1
	d. No response	3	--
2.	**What do you use for bathing?**		
	a. Soap	460	95.8
	b. Soil	7	1.4
	c. Water only	13	2.7
3.	**How often do you bathe?**		
	a. Daily	33	6.8
	b. Twice a week	229	47.7
	c. Once a week	218	45.4
	d. Others	--	--

As can be seen from the table, 95.8 percent students used soap for bathing followed by plain water only (2.7%) and soil (1.4%). Majority of the students (47.7%) bathed twice a week and the rest 45.4 percent bathed once a week. It is one of the encouraging aspects of personal hygiene. However, it is yet to confirm by observing the actual behavior of the participant students.

Nail trimming and Toilet use :

Trimming of nails is very important in maintaining personal hygiene and elimination of parasitic infestations. Students opinion regarding trimming of nails and toilet use are given in the table below:

Table 11. Students' opinion towards long nails and their attitude and practice on defecation

S. No.	Variables	No.	Percent
1.	**What happens if the nails are long?**		
	a. Nails become dirty	64	13.3
	b. It causes diseases	389	81.0
	c. Breaking of long nail causes wound	27	5.6
2.	**Why should we use toilets?**		
	a. For privacy	49	10.2
	b. For environmental sanitation	158	32.9
	c. For the control of diseases	161	33.5
	d. All of the above	106	22.0
	e. No response	6	1.2
3.	**What do you wash your hand with after defecation?**		
	a. Use papers	11	2.3
	b. Use ash	14	2.9
	c. Use soil	20	4.1
	d. Use water	17	3.5
	e. Use leaves	4	0.8
	f. Use soap water	10	2.0
	g. Do not use anything	404	84.1
4.	**Do you wash your hands before meals?**		
	a. Yes	468	97.5
	b. No	12	2.5

As shown in the table above, the causes of toilet use were for the control of diseases (33.5%), environmental sanitation (32.9%) and privacy (10.2%). All of these causes were noted by 22 percent of the respondent students.

It is interesting to note that about 84 percent students did not use anything for cleaning hands after defecation. Other students used soil (4.1%), water (3.5%), ash (2.9%), papers (2.3%), soap water (2.0%) and plant leaves (0.8%). Since stool and dirty hands and nails are the source of transmission of many gastro-intestinal diseases, non-washing of hands after defecation is one of the main risk factors for disease causation. However, 97.5 percent of the students reported that they washed their hands before meals.

Air, Water and Food Sanitation :

The sample students' health maintenance and health seeking behavior on air water and food sanitation are depicted in the following table:

Table 12. Students Behavior on Air, Water and Food Sanitation

S. No.	Variables	No.	Percent
1.	**Why should we keep windows open in the room?**		
	a. For looking outside	29	6.0
	b. For fresh air and light	444	92.5
	c. For talking with the neighbors	6	1.2
	d. Others	1	--
2.	**What kind of water do you drink?**		
	a. Filtered	104	21.6
	b. Boiled	190	39.5
	c. Filtered with clothes	88	18.3
	d. Direct from the source i.e. tap, well etc.	98	20.4
3.	**What kinds of food should we eat?**		
	a. Rice, sweets and milk	39	8.1
	b. Fish, meat and egg	70	14.5
	c. Rice, milk, bread, vegetables and fruits	371	77.2
	d. Chowmin, biscuits, chocolate, ice cream	--	--
4.	**What happens if we eat stale food and food spoiled by flies?**		
	a. We become sick	459	95.6
	b. We suffer from cold	12	2.5
	c. Food loses its taste	8	1.6
	d. Does not have any effect	1	--

Table (12) presents students' knowledge, attitude and practice regarding air water and food sanitation. About 92.5 percent students had proper knowledge on need of ventilation in the room. Students reported that they used to drink boiled water (39.5%), filtered water (21.6%) and water filtered with muslin clothes (18.3%). One fifth of the students (20.4%) noted that they had drunk untreated water i. e. direct from the source. During the focus group discussion, the teachers from all the sampled primary schools informed that students used to drink water obtained directly from the taps or wells without any filtration or treatment. The students might have drunk boiled or filtered water in their home but still they had to drink unfiltered or unboild water in their schools. It necessitates a joint effort of the guardians as well as the school authorities for providing safe drinking water to the students. About three-fourth of the students were positive in eating cereals, fruits, vegetables and milk products. They chose none of the fast foods. A vast majority of the students (95.6%) were aware about the effect of stale food in their body. 2.5 and 1.6 percent of the students reported **"We suffer from cold and Food looses its taste"** respectively.

Communicable Diseases :

Primary school students' knowledge attitude and practice regarding food bank diseases causes of diseases and practices during diarrhea are given in the table below:

Table 13. Students' Knowledge on Diseases

S. No.	Variables	No.	Percent
1.	**Would you tell please any three foods borne diseases?**		
	a. Named three or more diseases	395	82.2
	b. Named two diseases	62	12.9
	c. Named one diseases	20	4.1
	d. Did not tell any diseases	3	0.6
2.	**What are the three main causes of diseases?**		
	a. Knowledge of three causes	387	80.6
	b. Knowledge of two causes	45	9.3
	c. Knowledge of one causes	9	1.8
	d. No knowledge	39	8.1
3.	**What do you do during diarrhea?**		
	a. Use Jeevanjal/ Nunchinipani	216	45.0
	b. Go to the doctor/ Health post	132	27.5
	c. Take medicines	48	10.0
	d. Take liquid foods	24	5.0
	e. Drink boiled water	24	5.0
	f. Others	12	2.5
	g. No response	24	5.0

Table (13) shows students' knowledge and attitude towards communicable diseases. Students were asked to write down any three foods borne diseases. The students who were able to write three, two and one diseases were 82.2, 12.9 and 4.1 percents respectively. Only three students were not able to spell even a food borne disease. Similarly, students who had knowledge of three, two and one causes of communicable diseases were 80.6, 9.3 and 1.8 percents respectively. About 8.1 percent students had no any knowledge regarding the causes of diseases. In regards to the health maintaining behavior following diarrhea, majority of the students (45%) had tendency to use oral dehydration solution like Jeevanjal or Navajeevan or Nunchinipani (Salt and Sugar Solution).

More than one-fourth of the students noted that they would seek doctors or health workers from hospitals or health posts. Taking medicines (10%), liquid foods (5%) and drinking boiled water (5%) were the other measures suggested by them. However, 24 (5%) students did not response any.

Immunization :

Immunization coverage for major diseases likes tuberculosis, polio, diphtheria, whooping cough, tetanus and measles have been significantly increased over the past few years in Nepal. The vaccination coverage for these diseases has exceeded 90 percent now. In the Nepalese context, children are vaccinated mostly in the near by health service institutions like hospitals and health posts. It is also done by the mobile clinics run by these institutions. Schools have just a motivating role towards increasing the immunization coverage. In this study, more than three-fourth of the students (76.6%) was found knowledgeable about the need of vaccination see (Table 14)

Table 14. Knowledge and Attitude of Students towards Immunization

S. No.	Variables	No.	Percent
1.	**Why should we take vaccines?**		
	a. To protect from diseases	368	76.6
	b. To become healthy	110	22.9
	c. Do not know	2	--
2.	**What are the vaccines the children should take?**		
	a. Know three or more vaccines	395	82.2
	b. Know two vaccines	37	7.7
	c. Know one vaccine	7	1.5
	d. Did not know any vaccines	41	8.5

Table (14) presents students' familiarity with the major vaccines. The need of vaccines as to "protect from diseases" and to "become healthy" was consented by 76.6 and 22.9 percent respondents respectively. The school children who mentioned names of three or more vaccines, two vaccines and a vaccine were 82.2, 7.7 and 1.5 percent respectively. Nearly one in ten students was not familiar with the names of the vaccines against the main diseases.

Injuries and First Aid Treatment :

Primary school children perform active movements in home, school and on the way to and from the school. At the same time if the environment is not safe and the children have not awareness of their activities they fall prey of the accidents. When asked, **"Did you become victim of any accidents in last week?"** 80 students (16.6%) reported **"Yes."** The major injuries as reported by the teachers were falls, cuts, bruise, burns, fractures, road accidents, head and eye injuries and burns. One of the teachers from Gorkha said that his two sons who had to sit under a building with corrugated metal roof suffered from nose bleeding. He further added that due to the extreme heat under the roof, many students suffer from that kind of emergencies.

"Crowded class rooms, inappropriate building, unsafe corriders and furnitures, lack of care by the teachers and parents and students' negligence are the causes of injuries and accidents."

Student and teachers' practices following the accidents are presented in the following table:

Table 15. Prevalence of Injuries and Practices following it

S. No.	Variables	No.	Percent
1.	**Did you suffer from any injuries/ accidents last week?**		
	a. Yes	80	16.6
	b. No	400	83.3
2.	**What do you do immediately after injuries or accidents?**		
	a. I pat soil to stop bleeding from the wound	5	1.0
	b. I use plant leaves to stop bleeding	3	--
	c. I clean wound with water	55	11.4
	d. I use medicines	417	86.8
3.	**Did you get any first aid treatment from the school/ teachers?**		
	a. Yes	138	28.7
	b. No	342	71.2

As can be seen from the table above, about two out of ten students suffered from injuries or accidents. Immediately after the injuries, overwhelming number of students (86.8%) noted that they used medicines. Similarly, one in ten students (11.4%) washed their wound with water. Five of the students (1%) even noted that they put soil in their wound. It is one of the harmful practices that can lead to tetanus. Due to lack of first aid kit and essential drugs, required the teacher's clean students' wounds with water only. **"We wash the wound with water and clean it simply"** said the teachers from Gorkha and Chitwan. In almost all schools, the teachers asked for first aid kit, some essential drugs and an intensive training to the teachers from each school. Moreover, the teachers also suggested sensitizing parents on matters of safety and first aid. The reason behind it was that students were reluctant to tell about their injuries neither to the teachers nor to the parents. It reveals that the students should be made aware to inform their teachers, peers or parents about their injuries.

Little more than one fourth (28.7%) of the students reported that they got first aid treatment from the teachers as against three-fourth (71.2%) without such assistance. Whatever may be the means and methods, the students need teachers' assistance to assure of their recovery and reduce health risks.

Extra Curricular Activities :

Two questions were asked to the students to appraise their attitudes regarding extra curricular activities like games and sports, quiz contexts, art, music and dance competitions, poem and essay writing etc. The students (88.1%) had reported an overwhelmingly positive attitude to the extracurricular activities. Rest of the 11 percent students had negative consent towards these activities. For they were just the wastage of time and might have hampered their study.

Table 16. Students' Attitude towards Extracurricular Activities

S. No.	Variables	No.	Percent
1.	**What do you think about extracurricular activities?**		
	a. It hampers study	31	6.4
	b. It is necessary for our development	423	88.1
	c. These kinds of activities are not to be done in school.	24	5.0
	d. No response	2	--
2.	**What is your opinion about games and sports?**		
	a. It is the loss of time	24	5.0
	b. It can cause injuries and accidents	44	9.1
	c. It is necessary for good health	355	73.9
	d. It is a leisure time activities	57	11.8

About three-fourth of the students felt that games and sports were necessary for their better health. It was also considered a loss of time (5%), only the leisure times activity (11.8%) and could cause injuries (9.1%). Thus in total, more then one fourth of the students (26%) did not perceive the importance of games and sports. As it was mentioned in the previous section that extracurricular activities were conducted in half of the schools surveyed. Two - third of the schools had no any sports facilities and three - fourth of the schools had no indoor sports facilities. It may be the causes of low felt - needs of extracurricular activities. Since these activities could be done in a nominal cost or with out any cost, schools should be encouraged to organize such activities for the well being and all round development of the students.

3.6 Home - School - Community Cooperation for Health Promotion :

The development of good links between Home - School and Community is one of the twelve criteria set for defining the health promoting schools. (WHO, 1996: 314). Families, community members, health service agencies and other institutions have an important role to play in promoting the health of the pupils as well as school staffs. At the same time, the school can play an important role in improving the health of the community as whole. For this purpose, twin activities are to be done i. e. active participation by the school and its students in programs to improve the health and development of the entire community or the vice versa.

In this study, an attempt has been made to discuss the home school - community cooperation and collaboration for health promotion.

During the focus group discussion, the parents expressed highly positive attitudes towards mutual cooperation between school and the parents. However, they added that it was not possible till then.

"Teachers, students and parents could do every work, but it has not done in practice"

The parents said that they would even pay some money as the cost for the health check up of their children. The parents group from Gorkha was willing to help school for providing basic first aid treatment and training of teachers.

The teachers group from one of the Primary Schools of Chitwan reported that community health workers were not involved in providing health care services to the school students. So was the case in Gorkha and Kathmandu. They were eager to get help from the community health workers such as health assistant, community medical assistants and village health workers on quarterly basis or semi - annually.

In regards to the school participation in the community health programs, most of the schoolteachers opined that they could participate in the programs like nutrition education, personal hygiene, environmental sanitation and drinking water. Their main focus was on awareness raising among the community people. They also would like to reach the parents through the children or students.

"We could raise community awareness through the students by conducting programs like street drama and cleanliness campaigns" said the teachers from one of the Primary schools investigated.

They further informed that in the past they had conducted community cleanliness programs. But due to the lack of cooperation from the community, they stopped their activities. In this context, it is important to quote the teachers' opinion from a Primary School of Bhaktapur, **"We should conduct health education programs to the parents also, at least twice a year."** They also suggested for the mobilization of the community health workers in collaboration with the local municipality and the community **"But for this effect, we must continuously push the people"**, they added. Some teachers had opined to invite parents in the school to make them aware about different aspects of health promotion.

Thus, the focus group discussions made with the teachers and parents revealed that teachers as well as parents were willing to participate in health promotional activities both in the community and school. But the problem was the lack of a mechanism that would bring the community people, schoolteachers and students as well as the health workers or service providers. In regards to proposed mechanism, the suggestions given by the teachers' group from, Gorkha was quite commendable. According to them, under the umbrella of school management committee (SMC), a sanitation management committee should be formed. It should have representation of teachers, parents, students, elected leaders, local health workers and the community people. The sanitation committee should constitute village sanitation committee and it should implement and monitor sanitation and other health related programs in the school as well as in the community. However, the questions that has to take a lead role, school management committee or the local village development committee or municipality demands further research.

4. FINDINGS AND RECOMMENDATION:

There is no doubt that schools could play more crucial role than perhaps any other single institution to maintain wellbeing and competence of children and adolescents. Yet schools, particularly primary schools in Nepal, have difficulty in addressing the critical physical, mental and social needs of the pupils. It is needless to say that health of children significantly affects their learning ability. The schools directly affect the self-esteem, the educational achievement and the health of its students. Due to lack of research studies on school health program, there is a paucity of wide-based knowledge on the health needs of the children and the situation of school in Nepal. This study which aimed at assessing the health needs of the school children and the practices concerning school health has come up with the findings given here under:

4.1 MAIN FINDINGS:

1. The mean ages of the respondent parents, teachers and students were calculated as 38.2, 34.3 and 11.8 years respectively. The main weight and height of the students were 32.6 kilogram and centimeters respectively.
2. Pupil health examination revealed that mild, moderate and severe pallor was found in 2.29, 25.8 and 3.1 percent respectively. Cyanosis was seen only in 0.83 percent. Dirty nails (29.1%), poor personal hygiene (21.4%) and skin diseases (28%) were observed among the students. Similarly, enlarged lymph nodes in neck (27.1%) thyroid enlargement (0.6%) and tonsil enlargement (16.4%) were also seen among the students (23.1%).
3. Missing and cavity tooth (15.8%) and unhealthy gums (68.9%) were also observed in the students. Eye diseases, night blindness and color blindness was observed only in 6.04, 7.5 and 0.4 percent students. Similarly, nine in ten students had normal visual acuity. About 8.2% students were found near sighted and next 0.4% as farsighted. Only 1.6-% students were found squint.
4. Nearly one in ten students had ear discharge. Impaired hearing, deformed chest, and Murmer were seen in 7.1, 0.8 and 0.8 percent students respectively. Added crepitating and raunchy breath sound were observed in 1.6, 4.5 and 0.6 percent students examined.
5. Enlarged liver (2.7), and spleen (20%), Hydrocele (1.0%) and absent testis (0.8%), phymosis (0.8%), abnormal gait (2.6%), external spinal deformity (1.4%) and limb abnormality (2.0%) were the other indicators of students' health status.

6. BCG scar and evidences of immunizations were recorded in (81.2%) students. Still (8.7%) of the students had no such evidences. Almost all students were positive towards vaccination. However, knowledge of 3 or more, two and one vaccines were found in 82.2, 7.7 and 1.5% students'. About 8.5% students had no knowledge of a vaccine.
7. About 14.8% students were suffering from gastro-intestinal problems, such as diarrhea and dysentery. The reasons behind it were drinking the unbilled and unfiltered water both at home and school as well as the lack of sanitation and personal hygiene. But the students reported that they used to drink boiled (39.5%) and filtered water (21.6%).
8. Very few students only were reported being absent in the class due to the health problems. Of those who suffered were from the so-called lower castes. The main health problems were diarrhea, skin diseases fever, worms and conjunctivitis.
9. Snapshot observation of the school physical environment revealed that two-third of the schools had no playing facilities for the children. Even the indoor playing facilities were not available in three-fourth of the sampled schools. Only two schools (16.6%) had ground appropriate for playing outdoor games like volleyball, football or basketball. The minimum and maximum per capita availability of playground was $0.34m^2$ and $74.4m^2$. About one-fifth of the playground were not safe. However, 80% of the classrooms were well lighted and ventilated. About one-fourth of the classrooms were crowded. Nearly half of the schools surveyed were located in a noisy setting. Four-fifth of the schools had inadequate and inappropriate furniture.
10. None of the school children had access to the health check up facilities in their school. First aid kits were seen only in two schools (16.6%). However, in half of the schools first aid training was given to one of its teachers. Teachers were not self-confident on their knowledge and skills. The teachers suggested incorporating practically oriented contents regarding safety and first aid as well as other contents of health education in the primary school curriculum. They referred personal hygiene, sanitation, disease and illness, and first aid.
11. There are grass-root level health workers who work in the community and are posted in the local health posts. But till date, there is no any mechanism to coordinate with them for providing health care facilities to the school children. It is noteworthy that a child as well as parents' tendency to seek health workers during illness and injuries is ever increasing.
12. One-fourth of the schools had not planned any regular extra-curricular activities for the students where as it could be conducted without any support from the external sources. On the other hand, a great majority of students had positive consents towards extra-curricular activities. One in ten students thought that it might hamper study. Three-fourth of the participant students had opinion that participation in games and sports was necessary for their health. Rests of the one-fourth were not positive about it.
13. About three-fourth of the classrooms were clean but still next one fourth of the classrooms were very dirty. In three-fourth of the schools, open burning was the main method of waste disposal against dumping in one-fourth of the schools. There is no latrines in the two schools surveyed (16.6%). Of the latrines observed, half of them were not cleaned properly.

14. Tap water (75%) and well water (25%) were the main sources of drinking water. None of the schools had provision of filtered water for the students. They drunk it directly either from the source or from the vessels.
15. More than 50 percent of the schools had no any provision of canteen or safe eatery. None of the students brought snacks or khaja from their home to the school as per their needs. None of the students preferred fast foods like noodles, biscuits, ice-cream etc. But it was not confirmed by observing their behavior. Vast majority of the students were (98%) positive in avoiding stale foods.
16. Over wheeling number of students (95%) liked their schools because of the opportunity they got to learn new things, to play with friends, teachers' friendliness and the distance of the schools. More than 50 percent students preferred for drinking water and health check up in the schools. Next 25 percent demanded for fencing the school compound and provision of sports facilities.
17. Teachers (85%), television (48.5%), newspapers (37.5%), parents (34.7%), peers (34.7%) and health workers (15.5%) were the main sources of information for the students.
18. Two out of one, hundred students had never brushed their tooth. 90% students had proper knowledge on the techniques of brushing where as remaining 10% had brushed improperly.
19. The students who wanted to bath to become neat and tidy, keep body healthy and holy were 26.4, 66.4 and 3.1 percent respectively. Majority of the students bathed with soap (95.8%), soil (1.4%) and plain water (2.7%). Students bathed daily (6.8%) twice a week (47.7%) and once a week (45.4%).
20. Students trimmed their nail to present them from being dirty (13.3%), from diseases (81%) and due to fear of breaking them and causing wound (5.6%).
21. Toilet was used for privacy (10.2%), environmental sanitation (32.9%), control of diseases (33.5%) and all of the above (22%). After defecation the students used paper (2.3%) ash (2.9%), soil (4.1%), water (3.5%), leaves (0.8%) and soap water (2.0%) for washing the stool. About 84.1 percent students reported that they did not use any thing to wash stool and hands. However, 97.5 percent of them noted that they used to wash their hands before their meals.
22. The students who had knowledge of three or more, two and one food-borne diseases were 82.2, 12.9 and 4.1 percent respectively. Similarly, students who had knowledge of three or more, two and one causes of diseases were 80.6, 9.3 and 1.8 percent respectively. About 0.6 percent students could not tell name of diseases also and next 8.1 percent were not able to mention even a single cause of diseases.
23. The students preferred using Jeevanjal or Nunchinipani, consulting doctor or health workers (27.5%), taking medicines (10%), drinking boiled water (5%) and liquid foods (5%) during diarrhea.
24. About 16.6 percent students reported that they had suffered as the victims of an accident or injury. The major injuries were falls, cuts, brush, burns, fractures, hand and eye injuries and burns. Teachers from the sampled schools reported that crowded classrooms, inappropriate building, unsafe corriders and furniture, teachers and parents and negligence were the main causes of students' injuries and accidents. About 86.8 percent students informed that they used medicines after injuries or wounds. As against it, students also put soil (1%), washed the wound used plants leaves as medicines to present bleeding (0.6%), and with

water (11.4%). Little more than one fourth (28.7%) had received first aid treatment in their last injuries or accidents. Rest of the 71.2 percent students had no such opportunity.

25. Both the teachers group and the parents groups in focus group discussions agreed upon the need of cooperation and collaboration for the promotion of student's health in the schools as well as people's health in the community. Awareness programs on safety and first aid, nutrition, deworming, sanitation, disease etc. were the identified areas to work with mutually. At the same time, it is important to mention that assistance from grass root health workers be sought for these kinds of programs. There is a need to set up a coordination mechanism among the schoolteachers, students, health workers, social leaders and the community people so as to implement health-promoting initiatives.
26. About one third of the teachers were untrained and more than half of the schools surveyed had no teachers trained in safety and first aid treatment procedures.

4.2 IMPLICATIONS OF THE RESULTS:

Despite the efforts made by the government through its health care system, peoples' health, basically those of the rural poor, have yet to improve. Millions of children in Nepal have been enrolled in school level education. This huge population of school students as well as their parents should be taken into consideration while implementing any programs for promoting people's health. We can reach to the parents by teaching health knowledge, attitude and skills to the school children. In Nepal, schools are scattered in every nook and corner. As a result, the accessibility and coverage of schools is so large than the coverage of health care institutions. In this context, implementing school health program could come up with considerable impact in people's health promotion. This study though basic in school health sector in Nepal, will identify the existing school health problems, need and practices and will provide baseline information for taking informed decision and health promotional activities in the days to come. The study will point out useful guidelines for policy makers, health care providers, schoolteachers and parents to plan and implement an effective school health program.

4.3 RECOMENDATIONS:

Based on the major findings of the study following suggestions are given:

1. In order to enable learning ability and promote healthy living in schools give emphasis on improvement and expansion of investment in schooling. It is necessary to create a safe and congenial environment in schools.
2. Consider school as an entry point for health promotion and a location for health information. Schools should encourage children in such a way that they can make educated choices as they get older. Focus on a package of skills - based health education comprising topics such as sanitation, personal hygiene, nutrition, safety and first aid, infectious diseases and the health compromising behaviors such as smoking, alcohol etc. Implementation of participatory health education would encourage and promote behavior that lead to health promotion.

3. It is the high time to formulate proper policy, legislation and guidelines to plan, implement, monitor and evaluate school health programs in local, regional and national levels.
4. It has been recommended for the formulation of school health committee in collaboration with the parents, local social leaders, service providers, government and non- - government organizations. The school and community should work together to mobilize the local resources, as well as better implementation of school health education programs.
5. Conduct studies covering different ecological regions so as to develop indicators on designing, implementing and evaluating school health components such as school health service, healthy school environment, health instruction and home - school - community cooperation for health promotion. Design appropriate and affordable methods to collect baseline data on students' health status, educational attainment and living conditions.
6. Organize training and seminars to empower teachers in decision - making, enable them to control the processes of change in their classrooms and enhance their self-confidence.
7. In the schools, provision should be made to appraise and treat common oral health, vision and hearing problems. In addition, measurement of height and weight, stool test, promotion of hygienic behavior and first aid treatment should also be accounted as well. Periodic health checkup can be done in coordination with the local health institutions, even in a low cost.
8. Periodic orientation programs are needed to inform and motive parents about the health and learning ability of their children. They also should be involved in designing and evaluating the impact of school health programs.
9. Schools on there own part should plane and organize regular extra-curricular activities for the students. Hence, these activities can be conducted in a minimum cost but with highest enthusiasm of the students.
10. Pre/in service teacher training for primary school should include an appropriate and practical component on school health program.

Finally, let us remind the WHO Expert Committee's Call to Action to imagine **"A world where schools take on this challenge and implement new and exciting ways to coordinate educational process, the environmental conditions within and outside the school and the range of available health services in order to enhance educational achievement and health of young people."**

BIBLIOGRAPHY

- Pradhan, Hari Bhakta (1995). **A Text Book of Health Education**, Kathmandu, Educational Research of Health
- Devkota Bhimsen (2000). **Administration and Supervision in School Health Program**, Kathmandu Ratna Pustak Bhandar
- Galli, Nicholas (1987). **Foundation and Principles of Health Education**, John Wiley and Sons, INC.
- Jessie, Helen Haag (1992). **School Health**, Lea & Febiger
- Kerry Redician etal (--), **Organization of School Health Program**
- Rubinson, Loura & W. F. Alles (1984). **Health Education Foundations for the Future**, St. Louis, T. M. Mosby College Publishing
- Turner C. E. & Friends (1970). **School Health & Health Education** St. Louis. The C. V. Mos by Company
- WHO (1996). **Research to Improve Implementation and Effectiveness of School Health Programs**, Geneva
- WHO (1996). **The Status of School Health**, Geneva.
- WHO (1997). **Promoting Health through Schools.**

Annex I

A STUDY ON
HEALTH NEED ASSESSMENT AND SCHOOL HEALTH PROGRAM IN NEPAL
2001
STUDENTS' PHYSICAL EXAMINATION RECORD SHEET

Name of the student:

Coding

1. Height: ☐ Cms. 2. Weight: ☐ Kgs 3.Age: | Y | M | 4. Sex: 1.Male 2.Female

5. Pallor 1.Yes 2. Mild 3. Moderate 4. Severe 5.No

6. Cyanosis 1.Yes 2.No

7A. Nail 1.Dirty 2.Clean 3.Specific nail conditions

7B. Personal Hygiene 1.Good 2.Average 3.Poor

8. Skin 1.Disease 2.Scabies 3.Pustules 4.Others 5. No disease

9. Enlarged Lymph nodes in Neck 1.Yes 2.No

10. Thyroid enlargement 1.Yes 2.No

11. Tonsils 1.Enlarged 2.Not enlarged

12. Tooth 1.Missing 2.Cavity 3.Filled

13. Gums 1.Healthy 2.Unhealthy

14. Eyes: Visual acuity
R =
L =

15. External eye disease 1.Yes 2.No Specify: .....

16. Color blindness 1.Yes 2.No Specify: .....

17. Squint 1.Yes 2.No

18. Night blindness 1.Yes 2.No

Ear:

19. Ear Discharge 1.Yes

1	[ ]
2	[ ]
3	[ ]
4	[ ]
5	[ ][ ]
6	[ ]
7A	[ ]
7B	[ ]
8	[ ][ ]
9	[ ]
10	[ ]
11	[ ]
12	[ ]
13	[ ]
14	[ ][ ]
15	[ ]
16	[ ]
17	[ ]
18	[ ]
19	[ ]

	2.No					
20. Wax	1.Yes					20 [ ]
	2.No					
21. Hearing acuity	1.Normal	2.Impaired	3.Conductive	4.Neurosensory		21[ ][ ]
22. Chest deformity	1.Yes					22 [ ]
	2.No					
23. Breath sound	1.Normal	2.Added:	3.Crepitations	4.Raunchy		23[ ][ ]
24. Murmur	1.Yes					24 [ ]
	2.No					
Abdomen						
25. Enlarged Liver	1.Yes					25 [ ]
	2.No					
26. Enlarged spleen	1.Yes					26 [ ]
	2.No					
	Other abnormality if any					
27. Testis	1.Absent					27 [ ]
	2.Present					
28. Hydrocele	1.Absent					28 [ ]
	2.Present					
29. Phymosis	1.Absent					29 [ ]
	2.Present					
30. Gait	1.Abnormal	Specify				30 [ ]
	2.Normal					
31. External spinal deformity	1.Absent	3.Kyphosis	5.Scholiosis			31[ ][ ]
	2.Present	4.Lordosis	6.Kyphoscoliosis ...			
32. Limb abnormality	1.Absent					32 [ ]
	2.Present	Specify				
33. Immunization status						33 [ ]
BCG scar-						
	1.Present					
	2.Absent					
34. Evidence of immunization						34 [ ]
	1.Present					
	2.Absent					
35. Gastro-intestinal Problem						35 [ ]
	1.Present					
	2.Absent					

Annex II

A STUDY ON
HEALTH NEED ASSESSMENT AND SCHOOL HEALTH PROGRAM IN NEPAL
2001

CHECK LIST FOR PHYSICAL ENVIRONMENT ASSESSMENT

Name of the School:
District:
Address:
No. of students: Boys Girls
No. of teachers: Male Female

1. School location	1.Isolated in good location 2.Noisy 3.Near community	1	[ ]
2. School building		2.1	
	1.Permanent building (a) Brick/stone (b) Wooden (c)		[ ]
	2.Temporary		[ ]
	3.Open place		[ ]
3. Play ground	1.Available	3.1	
	(a) Football ground		[ ]
	(b) Volleyball ground/basketball		[ ]
	(c) Small playground		[ ]
	2.Not available		
4. Area of Ground			
	a.	4	[ ]
	b.		
	c.		
5. Playing facilities for small children			
	1.Available 2.Not available	5	[ ]
6. Indoor playing facilities			
	1.Available Specify ..... 2.Not available	6	[ ]
7. Safety of playground			
	1.Safe 2.Satisfactory 3.Unsafe	7	[ ]
8. Inclusion of sports and physical training in school routine			
	1.Yes 2.No	8	[ ]
9. Inclusion of regular extracurricular activities in school routine			
	1.Sufficient 2.Satisfactory 3.Minimum 4.None	9	[ ]
10. Ventilation in classroom			
	1.Cross ventilation 2.No cross ventilation	10	[ ]

11. Exhaust hole	1.Present 2.About			11	[ ]
12. Windows	1.Sufficient 2.Insufficient			12	[ ]
13. Staircase	1.Safe 2.Unsafe			13	[ ]
14. Corridor	1.Safe 2.Unsafe			14	[ ]
15. Classroom Furniture					
A.	1.adequate 2.inadequate			15 A	[ ]
B.	1.Appropriate 2.Inappropriate			B	[ ]
16. Classroom Condition	1.Dirty 2.Clean 3.So so			16	[ ]
17. Light in classroom	1.Sufficient	2.Not sufficient		17	[ ]
18. Light in classroom	1.Natural	2.Artificial		18	[ ]
19. Furniture	1.Sufficient	2.Not sufficient		19	[ ] [ ]
20. Furniture	1.Proper	2.Improper		20	[ ]
21. Classroom size and student proportion	1.Crowded	2.Adequate		21	[ ]
22. Waste disposal	1.Container	2.Incinerator	3.Everywhere	22	[ ]
23. Toilet facility	1.Not available ..... 2.Available 3.(a) Clean	(b) Not clean		23	[ ]
24. No. of latrines	1.For male	2.For female		24	[ ]
25. Drainage system	1.Yes 2.No 3.Not necessary			25	[ ]
26. Drinking water source	1.River 4.Well 7.Stone tap	2.Stream3.Lake 5.Tube-well 8.Others.....	6.Tap water	26	[ ] [ ]
27. Drinking water facilities	1.Filter 3.Treated tap	2.Boiled 4.Untreated from the source		27	[ ]
28. Nearby food stall	1.Yes	2.No		28	[ ]
29. If, yes,	1.Healthy	2.Dirty	3.Satisfactory	29	[ ]
30. Regular health check up facility in the school	1.Available	2.Not available		30	[ ]
31. First-aid facility in school	1.Available	2.Not available		31	[ ]
32. Is there any health support personnel in school	1.Yes	2.No		32	[ ]

Annex III

Questionnaire On
Health Needs Assessment and School Health Program in Nepal

Request to the Students,

Dear Students,
This is not a test. This questionnaire has been designed to identify the health problems faced by the school students and to seek the solutions of those health problems. The researchers would like to ask you some questions. Please answer the questions given below without any hesitation:

Name: District:
School: Village:
Class: Age:
Roll No.:

Please Tick (✓) the answers of the questions you think most appropriate:

1. Why do you brush teeth?
    a. To prevent from decaying
    b. To keep teeth clean
    c. To prevent bad odor
    d. I do not brush teeth
2. How do you brush your teeth?
    a. Brush horizontally
    b. Brush up and down
    c. Others
3. Do you think that bathing is necessing?
    a. Yes
    b. No

If yes, why?

    a. To become neat and clean
    b. To keep body healthy
    c. To maintain holiness of body
    d. Other reasons

4. What do you with?
    a. Soap
    b. Soil
    c. Water only
5. How frequently do you bath?
    a. Daily
    b. Twice a week
    c. Once a week
    d. Others
6. What is the disadvantage of long nails?
    a. It becomes dirty
    b. It causes diseases
    c. It breaks and causes injury

7. Why do you use toilet?
    a. For privacy
    b. To keep the environment clean
    c. To control transmission of disease
    d. All of the above
8. What do you do after defecation?
    a. Clean the hands
    b. Flush the stool
9. What do you use for cleaning the after toilet use?
    a. Paper
    b. Ashes
    c. Soil
    d. Water
    e. Leaves
    f. Soap water
    g. I do not use anything
10. Why do you keep the windows open?
    a. To look outside
    b. To get light and fresh air
    c. To talk to the neighbors
    d. Others
11. Whom do you go during your last illness?
    a. Faith healers
    b. Doctor/ health worker
    c. Ayurvedic doctor/ Baidya
    d. Treated at home
12. What kind of water do you drink at your home?
    a. filtered
    b. Boiled
    c. Filtered with cloth
    d. Direct from the tap/ wells
13. What type of food should we emphasis to eat?
    a. Milk, Rice, Sweets
    b. Fish, Meet, Eggs
    c. Milk, Rice/ Bread, Vegetables, Cereals & Fruits
    d. Chowmin, Biscuits, Chocolate, Ice -Cream
14. What happens it you? Eat stale food and foods with flies?
    a. We become ill
    b. Nothing happens
    c. It causes cold
    d. It is not tasty
15. Would you please write any three diseases transmitted from dirty foods? If yes what are they?
    a.
    b.
    c.
    d. I do not know

16. What are the any three causes of communicable diseases
    a.
    b.
    c.
    d. I do not know
17. List the main vaccines that are to be given to the children
    a.
    b.
    c.
    d.
    e.
    f.
    g. I do not know
18. Why is immunization necessary?
    a. To prevent from diseases
    b. To become healthy
    c. I do not know

19. What do you do if you get diarrhea?
---

20. What do you do if you get an injury?
    a. Apply soil in it to stop bleeding
    b. Apply plants leaves
    c. Wash it with water
    d. Apply medicine
21. Do you wash your hand before taking meal?
    a. Yes
    b. No
22. What do you think about games and sports?
    a. It is the waste of time
    b. It causes injury, so we should not play
    c. It is necessary for health
    d. It is just a leisure time activity
23. What do you think about extracurricular activities?
    a. It hampers study
    b. It should be conducted in school
24. What is your source of information about health and disease?
    (Multiple answers may be obtained)
    a. Teacher
    b. Parents
    c. Radio
    d. Television
    e. News letters
    f. Friends
    g. Healthworkers
    h. Others

25. Did you fell prey of any injuries/ accidents last week?
    a. Yes
    b. No
26. If yes, did you get any help from the school/ Teachers?
    a. Yes
    b. No
27. How much do you like your school?
    a. I like it very much
    b. I like it little
    c. I do not like it
28. Why?

    ---

29. What kinds of facilities and services are available in your school?

    ---

30. Finally, do you have any suggestions?

Thank you!

Annex IV

Focus Group Discussion Guidelines for the Teachers Health Needs Assessment of the School Children and School Health Program,2000

1. How many students are there in your school?
2. Do all the school going age children come to the school?
3. What do you say about girls' attendance?
4. Do the students regularly come to school? If no why?
5. Do the students become absent due to their ill health?
6. What are their major health problems/ diseases?
7. Is their provision of students' health check up?
8. Where/ whom do the students are taken for treatment/ check up? What is the distance?
9. What kinds of health services and treatment facilities are available in the local hospital/ health posts?
10. Are the service provided by those health institutions satisfactory causes?
11. Is their first aid facility in your school? If yes, what are they?
12. Is there a trained teacher on first aid? If yes, what type of training?
13. What kinds of first aid have you carried out?
14. Do you think that the training you received is sufficient?
15. What are the possible training areas?
16. Are any health workers/ institutions involved in health related activities? If yes, what are they?
17. Are the students/ teachers involved in any health programs managed by the community?
18. Are the contents on health included in the curricular sufficient for the students?
19. What topics should be given more emphasis? Or be added?
20. Is it needed to make parents participate in health related awareness program? If yes what are they?
21. What type of co-curricular activities is organized in your school?
22. Do you need training on concepts of basic health? If yes, in what areas?
23. Would you provide he to the parents and community? In what areas?
24. What type of activities is to be organized for the health protection, maintenance and promotion of the students?
25. How can we organize and manage health program in the schools?
26. Do you have any suggestions?

Thank You !

Annex V

Focus Group Discussion Guidelines for the Parents Health Needs Assessment of the school children and school Health Program , 2000

1. Does your daughter/ Son go to school regularly? If no, why?
2. Was your daughter/ son absent in school due to illness? If yes, what was it?
3. Whom / where did you consulted during his/ her illness? Treated in the house? Taken to the faith healers? Taken to Hospital/ Health post?
4. Did your child suffer from any accidents/ injuries? Where? What kind of accidents?
5. What kind of treatment gone followed? Where?
6. Did any health workers from local health institutions come to teach about health maintaining behavior? If yes, what?
7. Does the school invite you in any special program? What program?
8. Do you want to provide basic health care to your child in school besides teaching? By whom? Why?
9. Are your children neat and clean? What are the causes?
10. What are your expectations from the school? About education? About health care? ENT? Common illness? Other aspects?
11. Is it needed to implement programs on joint efforts of the parents and the school? If yes what?
12. What role school has to play in health promotion in the community?
13. How can community assist to the school?
14. Is it good to teach community people by teachers/ Students?
15. What programs should the school focus on?
16. For basic health care, how can school support to the teachers?
17. Do you have any suggestions?

Thank You !