CHAPTER II
REVIEW OF RELATED LITERATURE

The purpose of this chapter is to review the previous studies concerning school health education and related subjects. The review is taken up from three different angles: studies undertaken in Nepal; those conducted in India; and finally the ones relating to other countries. School Health Education Programme (SHEP) is a new trend for developing countries like Nepal. The various components and aspects of SHEP are practised differently in different schools. The classroom health instruction is formally introduced in various ways in schools of Nepal. The other aspects of SHEP are of a voluntary nature. Research studies about SHEP in Nepal are scanty. SHEP is concerned with broad areas and an attempt has been made to review the studies related to health status, health behaviour, health problems of school children, sanitation of the school, physical facilities of the school and health education. Further, the studies available in various libraries and other literary centres in Nepal have also been collected. The researcher visited Panjab University Library, Central Library of Tribhuvan University, WHO and UNICEF Libraries in Nepal, Nepal Health Research Council and Research Centre for Primary Health Care in Kathmandu for reviewing the studies carried out in the area.

2.1. RELATED STUDIES IN NEPAL

Shrestha (1971) concluded in 'A Study of District School Administration of Nepal' that the District Education Officers (DEOs)/Inspectors had not initiated programmes for the benefit of students even though they encouraged other persons to help them in specific areas of student services. The DEOs/Inspectors were hardly performing any positive work in the area of community relations. The researcher also found that most of the School Management Committees (SMC) were not functioning properly and that they could be made more functional and useful.

Khand (1979) found that most common disorders in school children were dental caries (24.5%), diarrhoea (24%), boils and impetigo scabies (18%), tonsillitis
(17.4%) and influenza (15%), when medical check up of 530 boy students was conducted during a 5 years period at a boarding school. The suggested activities of a school health services are: 1) periodic medical examination, 2) screening test for vision, hearing and nutrition, 3) examination of the cardio-vascular system, 4) dental examination, 5) orthopaedic examination, 6) communicable disease control programme, 7) first aid facility, 8) health education, health counselling and guidance.

Baidya (1982) from his research entitled 'A Need-Based Masters Degree Programme in School Health Education for Nepal' concluded that the existing health problems and needs of the Nepalese people can be resolved by providing a well-planned and professional programme for school health education in Nepal. He also concluded that there are several needs of school health educators in all the five aspects of SHEP, such as health instruction, school health service, healthful school environment, school community co-ordination, and administration and supervision. A competent health based programme for professional preparation of school health educators can help improve the health status of the students by providing quality health education.

A survey conducted by Khand (1984) of rural school children, 15 km away from Kathmandu (a sample of only 312) showed signs of persistent nutritional problems with 12.82 percent of children showing signs of anaemia and 11.21 percent of vitamin B deficiency. A high proportion of children were found to have dental problems, which could be the result of poor nutritional status. Signs of vitamin A deficiency were noted in 3.52 percent of children.

Maharjan (1985) found that more than one third of the parents of low caste and minority ethnic groups felt that their children were intimidated by higher caste teachers and students in schools, nearly two third of the parents had not felt that. But almost none of the high cast parents had felt any discrimination by high caste teachers and students against the low cast and minority ethnic group students. Nearly one fourth of the low cast parents did not agree equal treatment to higher and lower cast students by the teachers. They complained that the low cast children were forced by the teachers to sit at the back of the classroom, where it was difficult to see and hear.
Pradhanang (1986) did an 'Evaluative Study of Elementary Teacher Education Curriculum of Nepal'. He selected 25 schools for field observation from Kathmandu, Bhaktapur, Lalitpur, Gorkha, Kaski, and Parsa districts. He found that physical facilities in the primary schools were severely lacking and school buildings were poorly maintained although the schools had their own buildings. No school reported any regular structure of ECA and only 20 percent of the schools had developed instructional calendar. No school participated in community social service programmes and the community did not enthusiastically participate in the school affairs.

Gurung (1986) in a study on 'People's Participation for Educational Development: A case Study of Chhaicho Village of Kathmandu District' concluded that the village people participated directly and actively in school building construction and in decision-making. As the important part of people's participation in the school construction, the local resources were mobilized in that village. Village people were also involved in educational development very significantly.

As reported by Pandey (1986), Integrated Family Planning and Parasite Control Project (IP) was launched at Panchakhal area in Nepal. The project included organized meetings and discussions with community leaders and distribution of various pamphlets, posters and booklets indicating the objectives of the programme. Similarly, activities of person to person communication, construction of demonstration toilets, protection of water resources were launched, the eggs of parasite were shown to the parents by mobile laboratory and the documentary film 'Ascarians' was also exhibited to the community. Several other awareness programmes were organized. The result of IP found a marked reduction of parasite infection in school children in comparison to the situation that prevailed before conducting the pilot project (Incidence of parasites as high as 90%).

In a study conducted by Maharjan (1987) on 'Sports Facilities and Programme of Physical Education in the Schools of Nepal', it was found that most of the schools of the Terai region had more than 10 Ropani (1 Ropani = 5476 sq. ft.) of land that...
might be considered adequate for physical education classes. But in the valley and the hilly region less than 50 percent and less than 30 percent schools had more than 10 Ropani land, respectively. Almost all the schools of the Terai and the valley region were able to launch the programme of physical education in their schools even though they did not have the required sports facilities.

The results of research study carried out by CERID (1987) highlighted certain positive responses of the guardians towards the need of teaching health education compulsorily at all levels up to the secondary school. Seventy percent of the guardians reported that reformation and changes in health habits of their children occurred because of teaching of health education in the school. Most of the respondents (78.7%) wanted to include health education at all levels up to secondary school as a compulsory subject to improve the health habits and attitudes of the individual members and the society.

Joshi et al. (1988) studied extra-curricular activities (ECA) in different campuses of Tribhuvan University in Nepal. The campus administrators and 330 students were included as subjects of the study. The study team found that most of the students had accepted in helping their physical, mental as well as academic development by the ECA. Sixty-eight percent students had participated in different ECA. Major reason of not participating in ECA was lack of opportunity.

Roche et al. (1988) did a survey on drug use among 3000 school and college Nepalese youth randomly selected from Kathmandu Valley in 1987. The researchers found that students were highly aware about drugs. Their friends offered drugs in almost all the cases to students who had used it. It increased the rate of casual use of drugs (mostly alcohol) among school students (18%) and slightly higher rate (25%) among college students. The regular drug users were 3.5 percent in schools and 10 percent in colleges. Heroin was the most known drug to the students.

Singh (1988) conducted a mini research on ‘Factors Affecting Drug Addiction in School Age Children’ in 25 children (12-15 years) with a snowball sampling technique through interview method in Kathmandu and Lalitpur. The researcher
found that 28 percent subjects used drugs for the first time when they were below 12 years. In regard to reasons for drug use, 20 percent reported it as ill treatment from stepparents, 16 percent took it out of inquisitiveness and 12 percent through peer influence. According to abusers' perception, 44 percent were from middle class and 36 percent from lower class families.

An impact study on inputs of Primary Education Project (PEP) on students between the PEP students (total-1773) and non PEP students (total 1670) in 50 primary schools including 25 PEP schools and 25 non-PEP schools from six districts was done by Karki et al. (1991). The study showed conclusively that PEP students of all grades performed better in academic achievement in all subjects tested (Nepali, Social Studies, Health Education, Math, Science and English) than the non-PEP students. The students' score in the post-test of all the grades in PEP schools were significantly better than that of non PEP schools in health education. The PEP had provided various physical facilities as well as teachers' training and management training to the PEP implemented schools.

Bhandari and Subba (1992) conducted a detailed survey on knowledge, use and awareness of drugs amongst high school and campus level students of Kathmandu, Lalitpur, Biratnagar and Pokhara which are the largest cities of Nepal. The average age of the respondents was 17.4 years and about 85 percent were teenagers. The results showed that a variety of drugs (for non-medical purpose) such as cigarettes, tobacco chewing, alcohol, tranquillizers, cough syrup (containing codeine), amphetamines, cannabis, heroin, opium and locally available natural drugs were used by the population studied. The mean age at initial use of drugs varied from 14 to 16 years. The lifetime prevalence of alcohol, cannabis and heroin were 22.0, 6.1 and 2.5 percent, respectively. More of the boys were drug users than the girls. The peer pressure was the major cause of initial drug use and addiction. Staying away from tension was the major way of abstinence from drug use.

Acharya (1993) in a study of health knowledge and practices of the government primary school students in Kathmandu district found that most of the students' personal hygiene was good. He had asked questions about health knowledge
and health habits as well as observed personal cleanliness of a total of 200 students of 5th grade from urban and semi-urban areas. He also found that students of urban areas were more conscious and had good health habits in comparison to the students of semi-urban areas. The use of toilets was greater in urban schools than in the semi-urban areas.

In the process of school and classroom observation of the primary schools in Nepal, Mahaijan, S. D. (1994) found that there were poor physical facilities and unhealthy environment in most of the schools. About one third of the schools had inadequate furniture. Fifty percent schools of the city were on the roadside and polluted by heavy traffic noise. A few schools outside the city were near the riverbank or the pond with polluted surrounding of unmanaged sewage and solid waste disposal etc. Many of the schools did not have furniture for students in the rural areas.

A research study was conducted by Maharjan, S. K. (1994) on school health programme in 15 government schools of Kathmandu District. The finding of the study was that majority of the schools had least priority for health services. Two third of the schools had offered health education as an optional subject. The school environment was fair or moderately healthful and majority of the students ate day meal in the shops near the school. The study also concluded that there was no significant difference between the urban and semi-urban schools regarding the conditions of school health programme.

Milson et al. (1994) conducted a study on oral health status of 12 years old children covering all the three geographical regions viz. Himalayan, Hill and Terai. The sample consisting of 360 students was examined from randomly selected schools representing Kathmandu, two urban settings and four villages from rural Nepal. The study reported that approximately 36 percent children were affected by dental caries. The greatest number affected was in Terai (40%) and the lowest number in Himalayan (30%) regions. In Kathmandu, it was 28 percent and in Pokhara it was 45 percent. When caries prevalence in government and private schools (only urban areas) was compared 39 percent of the government school students were found affected by it.
whereas 31 percent of private schools were affected by this problem. But difference in the prevalence of this disorder in the two schools was not significant.

Stringer (1994) from the School of Public Health University of Hawaii, Monoa organized a comparative study of dental caries in the age group 6-7 years in some urban and rural schools of Lalitpur district in 1986 and 1994. The study showed that average dental caries rate was increased in total to 61 percent in 1994 as compared to 33 percent in 1986. The figures for the boys and girls were reached 58 and 64 percent, respectively in 1994 from 35 and 29 percent, respectively in 1986. Contrary to the belief that urban residents would be most affected by the caries than those from the rural areas due to easy access to sweet and refined snacks in the former, the figures were 56 and 71 percent, respectively, in 1994.

Nepal, Prabha (1995) did an opinion survey of 25 headmasters and 10 experts regarding the inclusion of drug education in secondary school curriculum in Kathmandu and Lalitpur districts. She found that 20 percent of the schools had faced problems of drug abuse among the students. Problems related with drug abuse, smoking and chewing Khaini were found to be the most common while in some cases, use of Ganja and phencidyle were also found. Almost all the respondents were unanimous with regard to the need for the inclusion of drug education in secondary school curriculum.

A survey conducted by the Nepal Multiple Indicator Surveillance (1995) in primary education showed that 16 percent boys and 10 percent girls (6-10 years) do not attend school due to physically and psychologically unfavourable environment of the schools. The survey was done on the parents of 1506 boys and 2771 girls from 41 districts that were not attending the school. Among 176 schools covered by the survey, half of the schools had their own specific source of water and about 15 percent schools did not have any kind of drinking water service and students had option to bring water from home or get it from nearby houses. Similarly two thirds of the schools had no toilets and out of the schools having toilets, one third were in a bad condition. Only two third of the schools had good building. Remaining schools had inadequate walls, no walls or no roofs etc.
CERID (1995) conducted an assessment of Tertiary Education Project for identifying the potential secondary schools in Nepal for upgrading them to higher secondary level in the process of phase out of proficiency certificate level in Tribhuvan University. The study team identified 486 such schools from the analysis of physical facilities and the number of students who appeared in the SLC. Among them, 120 schools were already upgraded. Of the remaining 366, each school on an average had 3.37 toilets. Similarly, 87.4 percent schools did have the provision of drinking water supply and 51 percent the electricity supply. Many schools did not have adequate compound area. The average size of compound area needed for each school is 9.39 Ropani (1 Ropani = 5476 sq ft.). But the available area of compounds was very much inadequate in these schools, the minimum area being 0.38 and the maximum 5117.6 Ropani.

Singh et al. (1996) studied on the knowledge of sex education among high school students of Kathmandu Metropolitan. They administered a questionnaire to 400 students from various schools. A significant number of respondents said that sex education was the best measure to prevent people from AIDS and they also expressed the view that sex education was needed to a greater degree in their age group. In the same study, it was found that about sixty percent of the boy and girl students wanted to keep it strictly private and secret if some sort of problem arose in or around their sexual organs.

Baidya (1997) conducted a study of sanitary facilities and their management in government secondary schools of Birgunj Municipality. He found that two-third of the schools had inadequate school land (less than 16500 sq. ft or 3 Ropanies). The classroom condition (cleanliness, ventilation and lighting system) was good except in a few rooms. The refuge disposing system, water facilities and toilet facilities were not satisfactory. And the main causes of improper sanitation facilities in schools were lack of land and budget.

Primary Teachers Training Unit of BPEP (1997) launched a school sanitation programme in 1700 primary schools of six districts of Nepal in 1995/96. The purpose
of the programme was to develop positive attitude and bring about the needed change in the behaviour of students since early childhood on personal hygiene, cleanliness of classroom, and school and community sanitation. The programme was monitored and evaluated by the team of Basic and Primary Education Project (BPEP). The team concluded in their report that the programme was not significantly effective due to some weaknesses of the programme implementation. But it was realized as necessary by all the sectors and all had positive attitudes towards it. The team suggested that the programme should be launched in a revised form.

CERID (1997) conducted a research study on ‘Awareness on HIV/ AIDS and STD Problems; Implementations for Sex Education in Secondary School Curriculum.’ The data were collected from 131 students from grades 6 - 10, 42 guardians and social workers, and 24 persons related to education and health in Bara and Rautahat districts. The study revealed that the students from grade 6-8 had some information about AIDS and they were interested in getting more of knowledge about HIV/ AIDS. But even the 9th and 10th grade students did not have adequate information about AIDS and only few students were aware of STD and adolescent education. They showed interest in having sex education in school even though they could not relate the importance of sex education with HIV/ AIDS. It was found from the study that most of the education and health personnel stressed the need for offering a course on HIV/ AIDS at the school level.

Chapagain (1997), on the basis of his investigation reported that 24 schools had their own water reservoir, nine had water lines and 13 schools were deprived of drinking water facilities among 48 sample schools in the rural areas of Kathamandu Valley, where Plan International Nepal had supported especially physical development. Regarding toilet facility, 26 schools had relatively better toilets and eight schools had only small common toilets which were shared by all the male and female teachers as well as students. Fourteen schools had no toilets and they had to go out to public places for defecation. In spite of the assistance of Plan International for school furniture, 26 schools admitted that they had inadequate furniture in the school.
Gautam (1997) conducted an opinion survey on the inclusion of sex education and reproductive health in secondary school curriculum. He collected opinions of 100 secondary school teachers from 20 schools of Kathmandu District. He concluded that most of the teachers were strongly supportive of the need for basic information about human sexuality and reproductive health for the secondary school students. And majority of the teachers (65%) did agree to the inclusion of sex education in the secondary level curriculum. Still a significant number of respondents (35%) disagreed. There was fear increase in irresponsible sex activities and also of difficulty in teaching subject matter in the classroom.

Sharma (1997) did a study through interview method on 37 school teachers from 9 different schools of Morang District in relation to the existence of psychological and behavioural problems of students. The data (3911) was analyzed. He found that 36.87 percent students had some sort of psychological problems. The problems that were noticed in the students by the teachers and as reported by them were ‘suddenly degrading school performance’ (3.50%), ‘can not concentrate on study (3.25%)’, and ‘runs away from school (3.19%)’. Similarly, other major problems were ‘unreasonably aggressive (2.22%)’, ‘very slow to learn (4.53%)’, ‘restless students (2.79%)’ and ‘unnaturally fearful (1.94%)’.

Family Planning Association of Nepal launched a parasite control programme, co-ordinated by Shrestha (1997), under the name of school health programme covering more than 4,00,000 stool examinations of students in Kathmandu Valley. The programme analyzed the reports of stool testing and found that the overall parasitic infection had come down to 57 percent in 1995 from the initial infection rate of 90 percent in 1985. The infected trend of ascaris lambricoids dominating over other types of parasites had continued followed by trichuris trichiura, hookworm and tapeworm in case of helinthic parasites and giardia lamblia dominating over entamoeba histolytica in case of protocoal parasites.

Nuepane (1998) did a study of knowledge, attitudes and practices related to SHP of 63 secondary school teachers in 21 schools of Kathmandu District. He concluded that almost all the respondents felt the need of SHP but they did not have
proper knowledge about its meaning and objectives. Almost all the teachers supervised cleanliness programme, but management of safety patrol was practised by about 50 percent of the respondents. Similarly, majority of the respondents had knowledge of school and community co-operation but, most of them practised only sometimes.

Shrestha et al. (1998) carried out a study to determine the prevalence of parasitic infection and correlate it with Knowledge, Attitudes and Practices (KAP) about parasitic infections among the primary school children of class II-V in Dharan. A total of 293 stools samples were examined for different intestinal parasites by school microscope and a KAP survey was conducted among 362 students of the same classes. Of the specimens, 27.30 percent of all stool samples were positive for various intestinal parasites. The KAP survey showed that most of the students had knowledge about parasites and the harm they can cause to health, but only about 30 percent students knew about the mode of spreading and curability of these diseases.

In a joint study of Child Workers in Nepal (CWIN) (2001) and Local Action Project on the use of alcohol and drugs in Nepali children, it was found that 19 percent children (under 18 years) had been using alcohol for the past one year. Sixty percent of them started using it on traditional festivals. Among them most of children started after 13 years age and some even before 13 years. The survey was done on 2400 families from 16 districts of Nepal. The study also reported that child drug abusers were increasing in Nepal and 20 percent of them used drugs due to parents’ drug abuse habit.

2.2. RELATED STUDIES IN INDIA

Datta et al. (1970) did a study of nutritional status of 2773 school children between the age 5-10 years in Delhi. They found that 677 children (24.4%) suffered from moderate malnutrition and only negligible cases (two cases) were found to be severely malnourished with a loss of subcutaneous tissue, muscular wasting and pitting oedema on different parts of the body.
As reported by Beulah (1970), a survey study to assess the school health programme was conducted by Central Institute of Education in 44 selected middle schools of Delhi Municipal Corporation in collaboration with various institutions. The data was collected through questionnaires from the respective headmasters covering 21,022 students from grade I-VIII. The study revealed that health education in both theory and practice was a badly treated subject in the schools though some schools had adopted health schemes. The teachers were unaware of desirable health practices in schools. The periodical medical check-up of students was not done regularly. Majority of the students were suffering from ailments of minor nature. The facilities for healthful environment was not provided adequately in 50 percent of the schools. The study suggested that health education programme should be emphasized in changing practices and habits towards better health and not only in information about health.

Rao et al. (1972) made a sample survey on chronic defects among urban school children. The study covered 622 students of 5-20 years age group from urban areas in New Delhi. A large percentage of students (71.3%) were found affected by one or more medical disorders. Among them 35 percent were affected by single medical disorder and the rest of 36.2 percent with multiple disorders.

Aggrawal et al. (1976) studied children's health problems from two socio-economically different communities of Delhi. Area I had 440 children (0-15 yrs.) from relatively well-off families and area II had 560 children of the same age from lower middle class families. It was found that 10 percent children from area I had enlarged tonsils compared to 12.3 percent children from area II. Old perforation of the eardrum was seen in 7.2 percent children in area I and 7.8 percent in area II, and otitis externa was seen in 1.8 percent of children in area I and 0.9 percent in area II. The prevalence of scabies was much higher in area II (16.4%) than the area I (5.4%) but pyoderma was not so different between the area II (10.7%) and area I (9.11%).

Dhingra et al. (1977) found a much greater prevalence of skin diseases in children from the poorer corporation schools as compared to the socio-economically
better public schools in Delhi. Skin diseases were seen in 10.7 percent children from corporation schools, but only 2.8 percent from the public school.

Shrivastava et al. (1978) did a study on school children of different socio-economic groups at Gwalior and they found a higher prevalence of malnutrition, avitaminosis and anaemia in the low socio-economic group whereas dental caries was found to be more prevalent in the higher socio-economic group. Visual defects, however, were found to be equally prevalent in both the groups.

Devdash (1978) in the studies conducted in India and Jamaica found that provision of school meals/ lunch and breakfast in schools' significantly affected the students' attendance and performance. Devdash also indicated that in the USA, children of low-income parents who received breakfast at school scored higher on test of basic skills and were less likely to be tardy or absent as compared to children of low-income parents who did not receive breakfast at school.

Sroa (1979) did 'An Analytical Study of Theory and Practices of Health Education in Government High and Higher Secondary Schools of Chandigarh'. He found that untrained teachers were teaching health education and the time allocated was very short in comparison to other subjects. Health practices were totally neglected in schools. There were inadequate and sub-standard facilities for required health services. In most of the schools, children were not given periodic medical examination and those that were examined, little or nothing was done to follow-up. School physical plant and equipment were available in most of the schools but they were not made proper use of.

Awasthi et al. (1980) conducted a study on sexual knowledge of teenage students of Jhansi in Bundelkhand, Uttar Pradesh. Five hundred twenty students in total (age 13-19 yrs) were selected for the sample including the urban and rural areas. The questionnaire covered confidential biological and psychological aspects of sex and modes of sexual expression. The study found that male students had a better knowledge of the biological aspects of sex than the female students. Female students had greater knowledge about psychological aspects of sex. The rural students scored
better than the urban students and the older students as well as the students of lower socio-economic status had more sex knowledge.

Malvani Comprehensive Health Care Centre launched a programme for 3000 school children with the aim of instructing the mothers in ways of achieving balanced diet and healthy practices for their families in the slums of Bombay. Bhalerao (1981) in this context reported that the mothers' participation was minimal until threatened that they would discontinue the programme. This resulted in the increased participation of mothers as well as children who themselves brought their siblings to the schools for inoculations. As a result the participation in immunization programme increased from 20 to 90 percent with the active participation of children.

Tragler (1981) conducted a study to assess the comprehensive health status of 638 convent school girls and 403 school boys from two private primary schools in Bombay. Both, the medical history and the examination were taken into consideration. Over 50 percent of the children had incomplete immunization for their age and 10.9 percent were under weight while 4.9 percent were diagnosed as obese. Incidence of caries (70.31%), pediculosis (46.5%), vitamin A deficiency (11.5%), worm infection (29.6%), lower respiratory infection (5.5%) and skin infection (6.1%) were found as the main problems. The incidence of major problems including weight was seen in 41 percent of the children and only 17.3 percent of the children could be classified as healthy children.

Panda and Angra (1985) examined eyes of 4398 children amongst 15 schools of Haryana and found ocular morbidity in 44.6 percent children. The break up of the noted eye diseases were trachoma in 20.9 percent children, refraction error in 13.2 percent, blepharitis in 2.04 percent, Strabismus in 1.31 percent and conjunctivitis in 0.22 percent.

Bajowa (1986) studied the programme and facilities of physical education in 10 high and higher secondary schools of Chandigarh. He found that all the schools had more than five acres of land each for playground and most of these were well maintained. Only 50 percent of the schools conducted intramural activities. But these
were not satisfactory. The local inter school competitions were also not conducted as per schedule. The investigated schools had a dispensary, a sick room and also employed a part time qualified doctor. Most of the schools had physio-medical examination, health recording and follow up services. First aid service was available in all the schools. But on investigator’s personal visit, he did not find that these services were carried properly in the schools.

Raut (1986) studied the implementation of physical education programme in secondary schools of Amaravati City. He concluded that the headmasters of secondary schools had favourable attitude towards physical education programme, but lack of sports facilities, insufficient periods in timetable and lack of leadership resulted in ineffective implementation of this programme in the secondary schools.

Vidyarthi (1987) conducted a study titled ‘Comparative Study of Physical Facilities in the Government and Non-government Secondary Schools of Gaya District’. He concluded that the play fields, sports equipment, condition of playgrounds, availability of required physical education staff and standards in sports competitions of non-government schools of Gaya District were significantly superior to the government secondary schools. The data were collected from 10 government and 10 non-government secondary schools through the questionnaire method.

Kanchan (1988) did a survey of physical education programme in high and higher secondary schools in Shimla. She concluded that most of the schools participated in almost all the tournaments conducted by school education department. The authorities regularly organized coaching camps for various games. Students were interested in games and sports, but they could not do proper practice due to lack of play fields in the school. Majority of the schools had health examination services with either part time or full time doctor being available.

Lakshminarayan (1988) did a comparative study of the Physical Education facilities available in the rural and urban schools of south Delhi. The data was collected from a total of 65 rural and urban schools of southern region of Dehli Administration through the questionnaires and personal visits. He concluded that the
physical education facilities were comparatively better in the schools of urban areas of southern region of Dehli than the rural areas of the same region.

Uboweja (1989) conducted a study of attitudes of 100 parents and 100 teachers towards Parent Teacher Associations (PTA) including private and government schools from various regions. He found that the attitudes of the whole group of parents and teachers towards PTA was favourable. The attitude of private school teachers as well as students' parents were significantly more favourable towards PTA than the government schools'. The teachers reacted significantly more favourably towards PTA than the students' parents in both the groups of schools.

Mannan (1990) in his study 'Survey of the Facilities of Games and Sports in the Secondary Schools of Nizambad District in Andhra Pradesh' concluded that out of 22 schools only one school of Nizambad had adequate sports facilities, whereas the remaining 21 schools were in poor condition.

Ghuman (1990) conducted a comparative programme and facilities of physical education in 20 model high schools and government high schools of Patiala District in Panjab and the data were collected through questionnaires and personal visitation. The study revealed that model schools had adequate sports facilities, whereas government schools did not have them.

Kaur (1991) found that guidance and counselling services was not a regular feature in most of the schools in Panjab and Chandigarh. She had collected data from 59 schools covering students, teachers, parents, administrators, guidance counsellors and district level administrators. The services were available to high/higher secondary classes in most of the schools. In most of the schools the information about pupils was obtained mainly through achievement tests, periodic health examination and rating by the teachers. The Parent Teacher Associations existed in most of the schools, but these were not functioning effectively. Medical check-up was generally conducted once a year in most of the schools.
Sarathy (1991) conducted a study on the health status of 2560 urban school children between the age of 5 and 15 years from three schools of Ludhiana City. The students were clinically examined to ascertain their health status and determine the prevalence of morbidity in different socio-economic groups. The researcher found that a majority of the students had some morbidity. The prevalence of malnutrition increased with age in both sexes especially so during the adolescent growth spurt period. The prevalence was observed to be 7.1 percent at the age of 5 years and increased up to a maximum of 37 percent by the age of 15 years. The magnitude of malnutrition varied inversely with the socio-economic class of parents, the per capita income of families and maternal literacy.

In 1992, Maria Sorensson (International Water and Sanitation Centre, Hague) carried out a detailed study of 22 public primary schools in and around Madras. In many respects the schools were very similar: all were co-educational, run by the local government, served similar types of population and trained teachers in hygiene and environmental sanitation. The study showed that training was not enough for good physical environment in the schools. Water and sanitation condition differed significantly in favour of three schools where each had at least one member of staff who was truly motivated and s/he was committed to putting word into practice, and this enthusiasm spread to pupils and other staff. Those three schools had clean functioning toilets, a well-tended compound and well-observed hand washing practice. In the other 19 schools, the children were defecating in the compound, the water was contaminated and the waste area was poorly controlled (Winblad & Dudley, 1997).

According to Rao and Bharambe (1993), a group of dental workers conducted an oral health examination of 778 children attending two urban, four rural and two tribal primary schools in Wardha District, India, during 1990-1991. The purpose of the study was to determine oral health status and the association between oral health and sex, location of school, brushing behaviour and nutritional status. The examination found that 16.5 percent of all children had dental caries. Dental caries were more prevalent among urban children than rural and tribal children (22.8% Vs 15.5% and 15%, respectively) Stains were more common among tribal children than
urban and rural children. No association between dental caries and nutritional status existed.

Walia (1993) concluded that adolescence and youth periods, being periods of stress and strain need to be given due importance. Students at this stage are prone to encounter psychosocial problems, which are likely to affect their physical and mental health and emotional adjustment in home and society. Parents, teachers and community need to be aware of the interests and needs of the adolescents and youth while assigning them duties and responsibilities and building up expectations from them. There is a need for initiating well-planned programmes of physical and mental health in all the educational institutions, she suggested emphatically.

Aggrawal and Kumar (1996) administered a questionnaire on AIDS to 336 ninth and tenth graders in three rural and three urban schools in Ambala District in 1993. They found that 85 percent of the students had heard of AIDS, among them 56 percent respondents infected sex partner and 38 percent the use of unsterilized drug-injecting equipment as means of HIV transmission. Sexual monogamy (49%), condoms use (44%) and use of sterilized needles (40%) were identified as the main strategies for prevention of HIV transmission. There was misinformation about HIV transmission and control in many students. For example, 23 percent of the students believed that drinking from glass used by an infected person could transmit HIV and 22 percent thought mosquito-biting spread the virus. Similarly, 57 percent believed that persons with AIDS could be detected by their physical appearance and 38 percent considered AIDS to be a treatable disease. Urban students were significantly more informed about AIDS than their rural counterparts.

School Health Annual Report Programme (SHARP) (1999) surveyed 10,000 school going children in non-government schools in Delhi and neighbouring areas. The report indicated the emergence of an increasingly unhealthy young Indians. The survey report showed that 13.48 percent of boys and 6.06 percent of girls were overweight, 3.56 percent of boys and 1.18 percent of girls were obese and the higher percentage of girls were under weight. Several students confessed to either not brushing their teeth at all or brushing once in two or three days and 32 percent of the
children had dental cavities. The survey also indicated the absence of personal hygiene in 56 percent boys and 44 percent girls had dirty nails.

2.3. RELATED STUDIES IN OTHER COUNTRIES

The study of Salazar (1969), in appraisal of the school health programme of the elementary schools in the district of Urdaneta, Philippines used normative survey method on 115 schools composed of school administrators, school health personnel and classroom teachers as subjects. It was concluded from the study that the provisions for healthful school living were fairly satisfactory in the schools studied in spite of inadequate physical facilities. The objectives and contents of subject matter were highly satisfactory and teaching methods fairly satisfactory. The health services were inadequate but the provision of functional clinic, measurement of height and weight, and health recordings were satisfactory.

Ramsdell (1972) made a comparative analysis of student health interest as indicated by students, their parents, school counsellors and public health nurses in West Virginia. Fifty-five county school systems, all school counsellors, public health nurses, sophomore and senior students and parents or guardians were part of the study. The study showed that the interest in and needs of health areas were somehow different in various respondent groups. But on the whole, the highest health interests and need areas were family health, mental health, drugs and narcotics, and safety education. The lowest interest areas were nutrition, dental health, community health and smoking.

Contreras (1975) studied 'Health Problems of Adolescent Boys and Girls in Calinog Agricultural and Industrial School' in the Philippines. The study made use of unrestricted sampling from 539 students aged 12-16. On the basis of the health problems found in the study Contreras recommended that there should be continuing evaluation of the total health programme such as health instruction, health services, healthful environment and school community co-ordination to determine the progress made in the translation of health services and practices in the home, school and community.
Shirreffs (1978) conducted a survey in America to identify how college and university health educators (309) defined the term health and viewed the nature, scope and meaning of health education. The most acceptable definition (48%) of health was that “Health is a quality of life involving dynamic interaction and interdependence among the individual’s physical well being, his/her mental and emotional reactions and the social complex in which one exits.” In response to health education, 77 percent viewed it as a process and 23 percent believed that health education was the transmission of scientific data. In the 21 content areas in college health course, 84 percent of teachers suggested emotional health, 69 percent said human sexuality, and 61 percent responded by saying that drug, alcohol and tobacco as most essential content areas. Other highly essential content areas were consumer health, environmental health and nutrition. The following subject matter areas did not yield consensus: human body system, health careers and the senses.

A survey was conducted by the health and physical education students of University in Ibadam on healthful school environment of 40 primary schools in Nigeria. Udoh (1981) reported that most of the school buildings were not in good condition and they urgently needed either renovation or maintenance. Most of the schools did not have suitable space for games and recreation. Chairs and desks for students were grossly inadequate in most of the schools. Most of the schools had water tap installed on the premises but most of them had grossly inadequate toilet facilities. The food vendors/sellers were mostly appointed by the health office in Ibadam City and they took a course in elementary nutrition and personal hygiene. Meal duty teachers inspected the foods.

Ellis (1983) conducted a survey of knowledge, beliefs and attitudes of 409 secondary school students in British Columbia, Canada. He found misconceptions in students about the nature of breast-feeding. The majority believed that it was an instinct rather than a socially learned behaviour. Another misconception, although to a lesser degree, was the belief that breast-feeding capability is related to breast size. A prevalent belief (among 116 of the students) was that breast-feeding is associated with
the lower socio-economic class. The significant finding of the study is the need of integration of information about breast-feeding into school health programme.

Romas (1985) drew conclusions from 'A Need-Based School Health Programme for Concordia College' that the health educators needed skills in rendering first aid and emergency care, identifying health problems, selecting subject matter in particular health curriculum and performing screening procedures for vision, hearing, height and weight. He also found that consumer health, mental-emotional health, oral-health, vision and hearing care, communicable and non-communicable diseases, physical exercises, and rest and sleep were the most needed topics in health education.

According to Graphic (1985), a national survey, from 12.5 percent random sample of all state schools in England and Wales was undertaken during May 1981 to September 1981. The respondents were mostly headteachers and a few others were deputy headteachers and other teachers. The survey revealed that 87 percent of all schools had taught health education (primary- 87.0% & secondary- 85.3%). Among them only 30.7 percent primary schools and 68.5 percent secondary schools had planned programme of health education. The remaining schools left it to the discretion of the classroom teachers or subject teachers. Most of the schools (73.5%) used outside agencies in health education programme (HEP). In the context of parents' involvement in health education, 18 percent schools consulted the parents about their HEP and 44 percent schools kept parents informed about the content of health teaching. Regarding schools' responsibility to teach health education 29 percent primary and 53 percent secondary schools strongly agreed on it and 66 percent primary and 45 percent secondary schools agreed on it moderately.

Weisman (1987) reported that the pregnancy rate among American girls aged 15 to 19 was 10 percent in 1981. Among them, 80 percent of these pregnancies were unintended and unwanted. Johns Hopkins Medical School practiced a pregnancy prevention programme from 1982 to 1983 in two schools and the pregnancy rate was reduced by 30 percent in those schools. The National Academy of Sciences published
its conclusion, based on a two-year study that contraceptives should be distributed to teenagers in public schools 'on Risking the Future' in 1986.

Mubbasher, et al. (1989) found that students work together to promote their mental health and that of their families and communities through the school mental health programme. The study was conducted in Rawalpindi District, Pakistan. The programme used slogans, essay and speech contests, mental health committees, Parent-Teacher Associations, and training workshops for district education officers. Evaluation of the programme showed that students improved their grades, increased their attendance and decreased their dropout rates and that the number of appropriate general and mental health case referrals were increased.

According to McAcley (1989), North Western Health Board of Ireland set up a health promotion programme in their schools to promote the health of young people in the region. The project team responsible decided to adopt 'life skills' approach and key skills were identified such as communication, relationship building, self-esteem, maintaining physical well being, decision making and assertiveness skills. The findings indicated that outcomes of the programme were both significant and positive for the vast majority of teachers at a personal as well as professional level. The programme also had an identifiable impact on pupils in six specific skill areas. Other schools also introduced the programme gradually on phase-wise basis.

Shi et al. (1990) reported that 29.4 percent pupils of secondary level and 19.1 percent of primary level in urban schools and 15.48 percent pupils of secondary level and 18.61 percent pupils of primary level in the schools of rural areas were found having poor vision in a survey of 250,000 pupils in China in 1980. In a survey of 1600 students in Liaong Province, China in 1987, it was found that 53 percent of pupils suffered from energy deficiency and 72 percent from protein deficiency. The Chinese Ministry of Public Health focussed on poor vision, nutrition and dental care. It was decided to control the vision problem through treatment, improved architectural design of school building and lessening of homework assignments. Nutrition problem was to be addressed through supplements of vitamins and minerals with community involvement. Dental care was to be taken through treatment and education.
‘A Teen Learning to Cope’ (TLC), a cognitive behavioural skills approach to sex education was evaluated by Watkins-Ferrell (1990) among 256 minority adolescents TLC and 127 controls from a poor inner city high school in Chicago. The programme was designed to impart knowledge, teach skills, clarify values, teach personal responsibility and increase motivation for delaying parenthood. Pre-test and post-test measuring tools were developed by different personnel and agencies. The results showed that the programme was very effective in increasing use of birth control methods. The difference between TLC and control group was higher in magnitude but insignificant in choosing complete responses in problem situation of post-test. Knowledge of contraception was improved significantly, but not sexual assertiveness skills. The problem-solving skills were improved in high-risk sexual situations but not otherwise.

Little Doctor Programme has been widely applied in Indonesia. In that programme, selected students are trained to act as motivators to promote health and healthy behaviour in the school, home and community. Health Education Strategies in South East Asia (1991) reported that the schools employing the Little Doctor Programme demonstrated large improvement in sanitation, environment, personnel hygiene, and level of health awareness of parents and communication in comparison to non-participating schools.

A project was conducted by WHO (1992) in collaboration with the Ministry of Health in 1987 to construct VIP (Ventilation Improved Pit) latrines in primary schools of remote areas and prevalence of communicable diseases areas of Butha Buthe, Leribe, Mafeteng and Mokhotlog districts in Lesotho. The project found positive results so far as eliminating of diarrhoeal diseases and typhoid and demanding of VIP latrines in most of the other schools were concerned. But the few latrines built in these schools were not enough according to WHO standard of one toilet for every 30 pupils. Generally four toilets per school have been built irrespective of the school roll as a part of this project.
Girma (1992) conducted a survey of 267 mothers, 114 clinic users, and 528 students from 6 primary schools to determine the effect of schooling on nutritional knowledge, attitudes and practices and nutritional status in Debre Berhan in Ethiopia in 1989. He found that only the highest-grade students scored higher on nutritional knowledge than did others, but their score was still less than 50 percent. Children whose parents had an upper secondary education and worked in a professional job scored higher than the children of parents with lower education and either worked in other occupations or were unemployed. Mother’s education had a significant positive effect on nutritional status of 6-31 month old children, especially on height-for-age and weight-for-age and child’s immunization status.

Huq et al. (1992) did evaluation of an innovative pilot scheme introduced in 20 schools as part of the Bangladesh Rural Advancement Committee’s programme of primary education for older children. Some 458 girls aged 11-17 years participated in the programme. All girls were given health cards on which they recorded their illness and treatment. In addition, once a month the girls worked in pairs to record their height and weight. The teachers used these records and measurement sessions as opportunities for discussion on health and nutrition. Both teachers and students felt positive about the inclusion of these activities in the curriculum and felt that they had increased their own awareness of their health status.

Faciano and Devaney (1993), and various other studies in the USA have documented that carefully designed and implemented comprehensive health education curricula can prevent certain adverse health behaviours including tobacco use, drug use, and dietary pattern that cause disease; sexual behaviours; and physical inactivity. Further, the curricula reduce school absence by controlling adverse effects of disease, drug and alcohol use, injuries and pregnancies; and improve cognitive performance through diet, exercise, sleep, and stress reduction.

Grunseit and Kippax (1993) found in a review of 35 evaluated studies of sexuality and HIV/AIDS education in schools that the provision of sex education, including the provision of contraception, did not increase the initiation of sexual activity among young people. It showed that sex and HIV/AIDS education may delay
the initiation of sexual intercourse, decrease sexual activity, and increase the adoption of safer sexual practices among sexually active young people.

Centre for Disease Control and Prevention (1994), USA in collaboration with the University of Texas at Houston and ETR Associates completed the five year Safer Choices HIV prevention study. The programme was conducted sequentially in the 9th and 10th grades with five components: school organization, curriculum and staff development, peer resources and school environment, parent involvement, and school-community linkages. Students were surveyed at baseline, 7 months, 19 months and 31 months after the programme began. At the 31-month follow up, Safer Choice was found to reduce unprotected intercourse and increase the use of protection at last intercourse among sexually active students. Significant differences favouring the intervention group were also found for the majority of psychosocial variables.

Primary School Nutrition Programme (PSNP) was introduced in 1994 as a Presidential Lead Project in South Africa. An evaluation programme was launched for the assessment of the main problems, weaknesses and strengths of the programme policy as well as its management and implementation. The evaluation programme showed that the implementation of the PSNP had been limited to being a vertical school feeding programme, and de-worming, nutrition education and micro-nutrient supplementation were considered to be more cost-effective interventions than school feeding but these were not systematically implemented as part of the PSNP. Many of the problems with the implementation of the programme had resulted from inadequate management and in several parts of the country; the coverage of school feeding was poor and inconsistent for significant periods of time. Despite the various problems and weaknesses there were anecdotal accounts of improved school attendance and classroom performance as a result of the PSNP (McCoy, 1997).

Hadju et al. (1995) conducted a cross-sectional study of parasitological and anthropometric examinations upon 276 male and 231 female urban slum school children of mean age 8 years in Ujung Pandang, Indonesia. Scheffe’s test for multiple mean comparisons showed that the children high on infection i.e. 1000 eggs per gram
(EPG) faeces had significantly lower nutritional states than those lower EPG or non-infected children.

In Zimbabwe, as part of a demonstration project, nursing schools sent 12 students to five rural secondary schools in Masvingo Province to provide health education over a seven-week period to 141 students (9.33 hours/student). The curriculum topics included AIDS, STD and drugs. Munodawafa et al. (1995) found that students in intervention group had increased post-test scores in 24 of 27 health knowledge items. More than 70 percent of the students rated the student nursing tutors high and the school teachers supported the concept of using student nurses to provide health education in schools while concentrating on community development.

Saab et al. (1996) studied the health status of 2778 elementary school students of 25 government schools in Beirut, Lebanon in 1992. The health status was determined by physical examination of students and parental reports of the child’s medical history and other demographic information. The two most frequently reported child health problems by the parents were defective vision and bedwetting. The physical examinations revealed that the most common problems were dental cavity, pediculosis and defective vision. About 10 percent reported defective vision, 54 percent of the students had poor dental hygiene and cavities, and more than sixty percent students had incomplete immunization doses.

According to King et al. (1996), WHO’s Regional Office for Europe oversaw the fourth survey of Health Behaviour of School Age Children (HBSC) in 1993-94. HBSC aimed to increase understanding of health-related attitudes and behaviours of the youths of different countries of Europe. The finding of the study was that the use of tobacco and alcohol increased with age in every country. Most of the 15 years old children had experimented with both substances. Exercise outside the school also decreased with age. The diet of many youth in all countries did not conform to current nutritional advice. Only in Sweden, most of the youth considered themselves very happy. Youths in Eastern Europe and the UK did not have that feeling. Headaches were common. Most of the youths with any ailment used medication to ease symptoms. In almost all the countries, 30 percent had an injury requiring medical
attention in the last year. Boys were more likely than girls to have injuries. Bullying
behaviour at school was common.

Elzubier et al. (1996) carried out a study on AIDS–related knowledge and
misconceptions in 46 teachers and 416 secondary school students in Kassala, Sudan.
They found that respondents were well informed about HIV transmission and had
general knowledge related to AIDS. There was however, a high frequency of AIDS
related misconceptions especially among females and among students and teachers in
the science education track.

A pilot project, in visual acuity screening was conducted in a poor community
of Ibadan, Nigeria and primary school teacher was given training to conduct visual
acuity screening. A total of 19 teachers from 10 schools in the Inalende-Bola
community participated in a 15 hour in-service training course especially on major
structures and functions of eye and to demonstrate the steps for assessing visual
assessments and to identify pupils in need of referral. Ajuwon (1997) recorded that
the score of teachers’ knowledge was increased 75.8 percent after training from 17.7
percent in the pre-test. A follow-up survey conducted six month after the training
indicated that 322 children had been screened, 42 of who had confirmed acuity
problems. Teachers modified the classroom seating arrangement of these children and
parents of half of the children followed through on referrals for eye care.

Kann et al. (1993 & 1997) conducted a survey on ‘Youth Risk Behaviour
Surveillance in the United States, 1993 and 1997’ under the Division of Adolescent
and School Health Programme of National Centre of Chronic Disease Prevention and
Health Promotion. The survey indicated intentional and unintentional injuries,
tobacco, alcohol and other drugs use, unhealthy dietary behaviours, sexual behaviours
leading to unintended pregnancy, STD and HIV infection, and physical inactivity as
six major risk behaviours in adolescents in The Unite States. It was also concluded
that those behaviours, which frequently appeared in youth hood extended into
adulthood. In spite of focusing on safe, disciplined and drug free school at the national
level, the risky behaviours increased in driving with alcohol consumption, injecting of
illegal drugs, smoking and not attending physical educational class within the national
surveillance of 1993 and 1997. The risky behaviours decreased more positively in alcohol consumption, sexual intercourse, consuming of marijuna, carrying weapons, unsafe sexual contact, and not eating fruits and vegetables. The percentage of risky behaviours was relatively different between the boys and girls, and among racial/ethnic students as white, black and hispanic groups.

Markham et al. (2001) conducted a survey of 316 Bangladeshi adolescents (14 to 15 year old) who has been living in inner city locality of UK to determine smoking prevalence in them. They found that regular smoking was more common amongst Bangladeshi males (39%) than amongst Bangladeshi females (11%). Social norms and cultural values were found to greatly influence smoking in both Bangladeshi males and females. However, many of the reasons why Bangladeshi adolescents continue to smoke, stop smoking or never smoke appear similar to those of the identified white adolescents.

Rugkasa, J. et al. (2001) conducted a survey based on depth interviews with 85 children from 10 to 11 year old throughout Northern Ireland on smoking and symbolism. It concluded that it is necessary to focus on the social relations of children to understand and prevent childhood smoking. They argued that regardless of various restrictions to their choices, children act intentionally in constructing their identities. Instead of viewing the smoking children as communicating with the adult world, they focused on smoking as negotiation of status within the children's culture. To them such negotiations utilize symbolism derived from and shared with the adult world. So they suggested that the metaphor 'rite of passage' and terminology such as 'peer pressure' versus 'adult influence' commonly used to analyze the children's smoking behaviour may actually conceal an important aspect of childhood character.

The forgoing review of related literature shows that in developing countries most of the schools have less of physical facilities. There is no comprehensive SHEP and children are suffering from different health problems as infectious diseases, malnutrition, environmental pollution, lack of physical facilities and low health status etc. in these countries. Many students of oriental and occidental hemisphere have various misconceptions about recent health issues. In developed countries, risky
health behaviours are the major health problems in school children. The school children from urban area and good socio-economic background are relatively good in all aspects of health education/ health status. The special health programmes and projects launched related to school health have positively affected students' health behaviors, solving their health problems and improving health education programme in schools. Considering the positive impact of well-planned and effectively executed programmes of health education wherever they are found existing, the present investigator has attempted a survey of the existing programmes in Nepal. On that basis he has tried to develop a model of health education programme for the schools of Nepal so that the children could derive maximum benefit from school education, academically, as well as in respect of their general and overall growth and development.