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Chapter 2

Systematic review of global and local studies on school health services and school health environment

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1 Introduction

This chapter presents some of the literature review pertaining to various aspects of the present study. The related studies dwell on three dimensions of schoolhealth, viz. school health environment, school health services and health education. Josse Jonathan and others (2009) have undertaken a study titled “School Injury among Ottawa-Area Children: A Population–Based Study”. This investigationexamined what factors influence the likelihood of sustaining a school injury, as wellas the underlying trends with respect to the nature and context in which these injuriesoccur. One conclusion was that children are more likely to sustain sports injuries andhead injuries at school than at other locations. A suggestion was issued forth that preventive progress to address school injuries should be targeted largely towards elementary school students. This study urged reduction of school–related injuries to promote a safe and secure learning environment for students while concomitantly reducing healthcare expenditures for preventable childhood trauma. Environmental modification and increased supervision are recommended strategies to reduce schoolinjuries. Gupta, Anu and others (2008) in their study “Innovations in Health EducationCurriculum in Schools: Towards an ‘Art of the possible’, have looked at different innovations adopted by several NGOs, while imparting health education.

They noted a distinct shift in approach from the traditional hygiene approach to the public health approach. Some noteworthy innovations on the health education front are as -Health Education Promotion International (HEPI) partnered with Tamil Nadu Govt. to prepare a comprehensive training module which covers various aspects of school health and is graded according to age and class appropriate levels; Foundation for Research in Community Health (FRCH) Maharashtra formulated a training program that emphasizes the socio- economic, cultural and biological aspects of health. Also, school health manuals were prepared in Marathi with the collaboration of children andteachers based on their experiences and understanding. Eklavya in Madhya Pradesh is another NGO that focused on the social determinants of health and ill-health while orienting and training teachers in health education. The teachers are trained as 'health masters' who handle the same syllabus in different manners with primary school children and secondary school children.

Long-term, sustained interactions and diverse approaches to school health education are advocated by the four researchers to make it an 'art of the possible'. Mariken T.W. Leurs and others (2008) undertook a study with the purpose of "Development of a collaborative model to improve school health promotion in the Netherlands". In recent decades, school health promotion programs have been developing into whole-school health approaches. This has been accompanied by a greater understanding among health promoters of the core business of schools, namely education, and how health promotion objectives can be integrated into this task. Evidence of the positive impact of school health promotion on health risk behaviour of students is increasing. This study focuses on the processes and initial results of developing a collaborative model tailored for whole school health in the Netherlands,named school beat. This study came out with a finding that a health promotion team within a school is fundamental to an effective approach to tailored school health promotion. Empowering schools in needs assessments and comprehensive school health promotion is an important element of the developed approach. This study concluded with an examination of the emerging issues in evaluating collaborative school health support during the first 18 months of development, and implementation and future perspectives regarding sustainable collaboration and quality improvement. Morgan J Philip and Vibeke Housen (2008), through their research study "Physical education in primary schools: Classroom teachers' perceptions of benefitsand outcomes" made an attempt to examine the perceptions of teachers regarding the benefits and outcomes of their physical education (PE) programs. The results of this study are as follows:

Teachers believed PE provides children with opportunities to improve fitnessand

be active to counter societal trends towards obesity and increased sedentary behaviors. Teachers believed PE impacts positively on learning and behavior in the classroom. Teachers believed PE helps children to improve social skills and allows some children an opportunity to experience success in a unique learning environment.

The researchers conclude that teachers believed PE was beneficial as a vehicle for physical activity and positively impacted on learning and behavior in the classroom. However, the reasons provided for including PE in their daily programs were reflected in thedelivery of programs of little educational value.

Baru, Rama. V (2008) in her study "School Health Service in India: An overview" has providedan analytical overview of India's school health service. She refers to promotion, prevention and treatment of morbidities among school children as the focal areas of school health services (SHS). She mentioned doctors, specialists and public health nurses as the key implementers of India's SHS program who have to provide clinical services including routinemedical checkups, referral and treatment.

She also referred to various studies that project a clear divide in the emergingneeds of the affluent and the lower middle class school children. But her opinion is that SHS should focus on the needs of the large majority who attend mostly govt. schools. Justifying her stand, she informs that macro and micro-surveys have singledout under-nutrition and communicable diseases as major concerns when compared toobesity and NCDs.

Dwelling on the history of SHS in India, she traced its beginning in the form of medical inspection in several provinces that later metamorphosed into comprehensive services envisaging treatment, nutrition improvement, reasonable environmental hygiene, theoretical and practical teaching of hygienic living, physicaleducation and development of health habits. Such a transformation in scope of SHS was actualized by a Central Committee on SHS which was constituted by the CentralAdvisory Board of Health in July 1940 and submitted its report in 1944.

Later the Bhore Committee in 1946, endorsed the Central Committee report recommendations and put forth expanded duties of the SHS program. These duties included Preventive and curative health measures including detection and treatment of health complications, creation and maintenance of school hygiene environment and promotive health measures including supplementary food supply, physical culture inculcation through games, sports, gym exercises and recreation; and health education through formal teaching and practice of hygienic living. Another important recommendation of Bhore committee was that SHS program should be

part of the general health services and kept under the control of the health departments.

The SHS did not make much progress during post-independence until 1960 when a committee was set up to review the national SHS program. This review was highly critical of the system and even suggested that it would be a mere waste of timeand money to continue it. So, in response, the SHS was given status of a centrally sponsored program in the late 1970s. In 1981, a Central Government appointed SHS task force evaluated theprogram only to find several lacunae in its implementation in terms of financing, human resource, infrastructural and administrative support. The same issues continueto haunt us.

The researcher noted the following major problems with regard to national SHS implementation: Compared to other target-oriented programs like polio, family welfare and TB; SHS is treated as a low priority and is hence either ineffective or even non-functional in several parts of India. As pointed out by NIHFW, lack of vehicles, inadequate fuel and delay in arrival of drugs turned out to be major bottlenecks. Inadequate training of medical and pre-medical personnel and teachers for SHS became a weak link. The administrative set-up is weak and highly centralizedwith multiple agencies involved in the delivery of school health services, MDM and health education.

Rama also dwelt on the latest initiatives in SHS. NRHM has taken the lead inthis regard with emphasis on an inter-sectoral approach which is also devolved to the district level. The NRHM SHS framework cites Maharashtra, Tamil Nadu and Gujarat as successful implementers. Thanks to better functioning PHCs, good funding from the state government and several innovations, the SHS have been comprehensively implemented in these three states. On a parting note, Rama referred to the latest initiative of the National Curriculum Framework which asked for integration of healthwith the school curriculum.

Khera, Reetika (2008) in her study on School Health Service has dealt in detailwith India's mid-day meal (MDM) program which has registered a lot of progress ever since it commenced in 1995. At present, MDM is served to 13 crore children, thanks to a 2001 supreme court order which marked a turning point in its implementation. Reetika concludes that India's MDM is yet to become a praise- worthy school food service. The researcher expressed major concerns regarding MDM as follows:

Quality of meal is suspect due to restrictive government regulations, undesirable kitchen infrastructure and sub-standard cooking ingredients. Irregular supplies,

inadequate monitoring, incomplete reimbursement of fuel on transport costs,low and delayed remuneration of cooks and helpers, and other hurdles have lead topoor management of the MDM scheme.

The researcher suggests that anecdotal evidence points to the positive significant impact of MDM scheme on educational outcomes like attendance and retention rates. So, she urges further improvements to the MDM scheme in order to actualize its potential nutritional and socialization benefits. The researcher mentioned innovative monitoring and evaluation, active political interest, dynamic policy making and tremendous popularity as the major merits of the MDM scheme that will enable it to be successful and sustainable in thelong run.

Comptroller and Auditor General, Government Andhra Pradesh (2007-08) conducted a study, titled "Nutritional support to primary education". The study presents a critical analysis of the MDM in Andhra Pradesh.

The scheme, commonly known as mid day meals (MDM) scheme, was launched by the GOI with the intention to boost the universalization of primary education by increasing enrolment, attendance and retention in schools and simultaneously improving the nutritional level of the students in primary classes. A performance audit of the scheme revealed that the enrolment figures were inflated bythe state government while seeking allotment of rice from GOI resulting in excess lifting of rice and huge accumulation of rice stocks with State Civil Supplies Corporation.

Utilisation of fair average quality (FAQ) food grains in preparing MDM for the children was not monitored. The state government failed to provide adequate infrastructure in schools and the central assistance intended forthe schools had no water facility; 67 per cent had no kitchen sheds. None of the schools in the sample districtswere provided with kitchen utensils and 84 per cent schools had no gas connections.There is no assurance that the stipulated nutritional requirements are being met. No mechanism was evolved to monitor the impact of the scheme on health of the children. The audit also noticed deficiencies in implementation of the scheme by theNGO (at Hyderabad and Visakhapatnam) like non-serving of hot cooked food, etc. The important objectives of periodical health check-ups, nutritional supplementationand supply of tablets for deworming were neglected. The vital aspect of monitoring and supervision of the program was deficient. Evaluation of the scheme as a whole was not done and as such the impact of the scheme remained unassisted.

Inga Dora Sigfusdottin and others (2007) in a study on "Health behavior and academic achievement in Icelandic school children", analyzed cross-sectional surveydata from 5810 Icelandic school children to express the relationship between selectedhealth behavior and academic achievement. Body mass index, diet and physical activity explained up to 24% ($p < 0.01$) of the variance in academic achievement when controlling for gender, parental education, family structure and absenteeism. Variance explained increases to 27% when depressed mood ($p < 0.05$) and self- esteem ($p < 0.01$) are added to the model, but confounds the role of physical activity.Although not robust, those findings are consistent with previous work and affirm thecomplexity of the relationship of health to academic achievement.

Handa, Ajay and others (2006) have undertaken a study on "Involvement of teachers, parents and health care providers in various government and private schoolsof Delhi".

The researchers formulated some recommendations, on the basis of findings, for proper and effective functioning of the school health services. They recommended coordination among the school teachers, parents and healthcare workers needs to be improved ;Orientation courses of short durations for teachers maybe organized to ensure their active involvement in the school health activity; circulation of the medical examination or immunization health card of the children to their parents to note down the past chronic and immunization history of their children priorto the medical examination should be made compulsory and parents should be informed about the outcome of the medical checkup of their children so that they could take appropriate actions; wide publicity about the functioning of the SHS is needed to raise awareness amongst the parents; and In-service training opportunitiesshould also be provided for medical and Para-medical staff through workshops, seminars and symposia to raise the qualitative and quantitative standards of school health services.

The researchers concluded that though there is a proper set-up for the implementation of the SHS, some lacunae from the policy makers' side cripple the result orientation of SHS which need to be rectified very soon. The involvement of parents is found to be inadequate in most of the organizations although parents have amajor role in increasing the coverage of school health as well as in reinforcing the impact of health messages on their children. The need for teachers to motivate boththe children as well as the parents for screening of illnesses was felt. The researchersalso advocate frequent in service training for the health care providers so as to implement the SHS more efficiently in different schools.

Brown, S Stewart (2006) .undertook a study titled “What is the evidence on school health promotion in improving health or preventing disease and, specifically, what is the effectiveness of the health promoting schools approach”?

In answer to the first part of the synthesis question – about the existence of evidence on school health promotion improving health or preventing disease – this synthesis provides sound evidence that these programs can be effective, but also that they are by no means always so. It also provides evidence that programs to promote some aspects of health are more effective than those that promote other aspects. The most notable development since the last review of reviews of promoting health in schools was published has been the proliferation of reviews of initiatives that promote mental health, including programs on preventing violence and aggression.

Arguably, the most important finding of this synthesis is that school-based programs that promote mental health are effective, particularly if developed and implemented using approaches common to the health promoting schools approach: involvement of the whole school, changes to the school psychosocial environment, personal skill development, involvement of parents and the wider community, and implementation over a long period of time. Moderate to large effects were reported inreviews that undertook quantitative analyses. The effectiveness of different types of programs varies. Programs to improve conflict resolution and reduce violence and aggression were among the most effective. Programs for developing self-esteem wereless effective. One review reported that programs that focused on self-esteem in its own right were more effective than those that combined it with other goals. The results of the review of programs on injury prevention contrasted with those of the previous review, which demonstrated programs on injury prevention to be relativelyeffective. Moreover, driver-education programs were either ineffective or counterproductive. The interventions that promoted healthy eating and physical activity were effective. These programs were among the most sophisticated, and the ones that wereeffective were more likely to involve changes to the environment of the school and involvement of parents. In this area, as well as in mental health programs, a range ofdifferent types of programmes proved effective.

The school health promotion programs that were effective in changing young children’s health or health-related behavior were more likely to be complex, multifactorial and involve activity in more than one domain (curriculum, school environment and community). These are features of the health promoting schools approach, and to this extent these findings endorse such approaches. The findings ofthe synthesis also support intensive interventions of long duration. These were

shownto be more likely to be effective than interventions of short duration and low intensity. This again reflects the health promoting schools approach, which is intensive and needs to be implemented over a long period of time.

The answer to the second part of the synthesis question – about the effectiveness of the health promoting schools approach – is therefore yes and no. There is evidence to support some of its features, but no evidence that the approach inits entirety is more effective than other approaches to health promotion in schools. The majority of studies included in the reviews have been carried out in the United States, and the extent to which the findings of these studies are relevant to Europe must be considered. Most of the studies in the reviews covered entire schoolpopulations, so to this extent not discuss the potential contribution of cultural factors to effectiveness. Programs on healthy eating and physical activity are also among the most effective health promotion programs. Also, peer-led health promotion appears tobe a promising approach, but one whose efficacy has not been reliably proven.

As this synthesis focused on systematic reviews of controlled trials, it cannot directly address questions that are important to the success of health promotion initiatives, such as: How did this initiative work? Why did it succeed in this context and not that? What might make this initiative more effective? However, there is evidence to show that sustained, multifactorial, whole school approaches are effective. These are important elements in the health promoting schools approach, butthere are no studies that evaluate the approach in its entirety. Further research on promoting health in schools is needed. Such research should include a wide range ofmethodologies, to establish what works and what does not. Research should useoutcomes appropriate to the population being studied (universal or targeted), should consider issues of implementation and, where possible, should include evaluations ofcost–effectiveness.

The Nutrition Foundation of India (2006), in a working study on "Nutrition/ Health Education for Children and Adolescents in Schools" reported that through thevast network of schools, children can easily be approached in large numbers at a given time, for imparting the necessary nutrition and health related education. The nutrition knowledge could gradually be transferred to the families as well. Hence, there is a need to explore the potential of the school education system for imparting nutrition/ health education effectively. This study suggests ensuring, through the goodoffices of NCERT that adequate focus is given to nutrition and health education in future textbooks/curricula and reinforce this by drawing special attention to the importance of nutrition through sensitizing school children and teachers towards thisissue. Nancy

D. Brener and others (2006) undertook a study on "Applying the School Health Index to a Nationally Representative Sample of Schools". The study formulated the school health Index (SHI) as a self assessment and planning tool that helps individual schools identify the strengths and weaknesses of their health policiesand programs. To determine the percentage of US schools meeting the recommendations in the SHI, the study analyzed data from the School Health Policiesand Programs Study (SHPPS, 2000). The questions of SHPPS were then matched to SHI items to calculate the percentage of schools meeting the recommendations in fourareas: School health and safety policies and environment, health education, physical education and other physical activity programs, and nutrition services. The study concluded that a more coordinated approach to school health would help schoolsreinforce health messages. jugo, Augustine I (2005) conducted a study on "Status of Health Appraisal Services for Primary School Children in Edo State, Nigeria.'

The purpose of this wasto determine the status of the health appraisal services provided for primary school children in Edo state, Nigeria. The researcher points out that there is a general neglectof school health services because no particular school personnel are specifically detailed to take responsibility for the health services at school. The teachers at the primary school level should as a matter of routine observe every facet of the childrenbut the finding that children's mouth and teeth, as well as ears were not being adequately observed reflects a sorry state of affairs.

It is the contention of this researcher that the purpose of the school health services would be better served if it is rendered under the portfolio of the school counselor. The counselor's training and job schedule places him/her in a position to enlist the services of other school personnel to render health services to school children. In furtherance of this, the study recommends the recruitment and posting ofprofessional school counselors to all schools within the state so that the child's overallhealth status is determined periodically and maintenance of the health records is ensured.

Levinger Beryl (2005) in his study on "School feeding, school reform, and food security: Connecting the dots", concludes that universal access to basic education is a prerequisite for long-term food security, which, in turn, is critical to achieving the millennium development goals. This study examines how food for education interventions can contribute to improved food security, improved education outcomes, and a broader set of development goals. Food for education entails the distribution of food commodities to children who attend school. The commodities may be locally grown and purchased or contributed by aid donors. The food may be consumed by students in school snack, breakfast, or lunch programs. Alternatively, it

may be given as a take-home ration for consumption by a family that regularly sends "at-risk" children (usually girls) to school.

Four interrelated ideas are discussed: (1) the universalization of primary school education is a prerequisite for food security (defined here as availability of, access to, and proper biologic utilization of food supplies); (2) Food for education boosts primary school participation and, therefore, food security; (3) the effects of primary school education on food security are greatest wherever "quality standards"are met, although important effects are present even when education quality is modest; and (4) efforts to improve primary education participation (demand) and efforts to improve primary education quality (supply) are highly interrelated and mutually reinforcing. Food for education is a versatile resource that can be used to address a broad range of issues related to both education supply and demand. To be effective, food for education interventions must reflect local education supply and demand realities.

Ian Warwick, and others (2005) in their study "Evaluating healthy schools: perceptions of impact among school-based respondents" portray schools as important settings in which to promote children's and young people's physical and emotional health. This study conducted an evaluation of the National Healthy School Standard in England which showed that education and health professionals have implemented a range of projects and activities to improve pupils' health. Although these were generally well received by parents and pupils, they were not uncritical of them. Perceptions of the value of health-related work were influenced by the contextual characteristics of schools—whether primary or secondary, the quality of social relationships, the quality of teaching, and the extent of pupil and parental involvement in the life of the school. With local responsibilities for children's services in England being reorganized in response to the Green Study, *Every Child Matters: Next Steps*, there are new opportunities to develop a coherent set of outcome measures that pay due regard to pupils' and parents' views, and which inform collaborative reviews of healthy school programs, in particular, and local services, more generally ccording to staff, governors and parents interviewed by the researchers of this study, involvement with the local healthy school program had enabled them to develop and implement a wide range of health-related activities.

They believed this had contributed to important changes within their school—sometimes associated with the pupils' physical health, and also associated with emotional well-being and pupils'capacity to learn.

Pupils, while not uncritical of health-related activities, generally appreciated the efforts made to improve the school in ways that would contribute to theiremotional, physical and intellectual development. Where it occurred, pupils valued being listened to and having their views taken into account. They highlighted that where problems were being discussed, confidentiality was paramount.

Both pupils and adults, however, indicated that more could be done to improve the involvement of children and young people (and their parents and careers) in the life of the school. One aim of this component of the evaluation was to identify respondents' views about health school activities. The researchers referred to St Leger (2000) who asserted that a range of stakeholders should be involved in the development of indicators: those attached to schools and the education sector more widely, those involved in the development and provision of health services, as well as those with expertise in evaluation research.

Understanding more about local determinants—those contextual factors that, in conjunction with certain inputs and processes lead to particular outcomes, will provide useful knowledge for school community members to build new healthy school programmes for the future, as concluded by the researchers. Kochurani Mathew (2005) undertook a comprehensive case study titled "The School Health Clubs Project in Kerala." whose objectives are

- To stimulate and increase children's awareness of improved hygiene; to promote the adoption of better practices related to the collection, handling and use of water, to promote safe disposal of excreta and waste and good personal hygiene habits;

- To influence other family members and ultimately the community by popularizing healthy habits in personal hygiene and environmental sanitation;

- To motivate the pupils to avoid the hazards of gastro-enteritis and other water- borne diseases and to use sanitary latrines;

- To make pupils aware that the health of a person is the health and wealth of the family and society.

The researcher outlined challenges for the future as well. It was noted with concern that even though most of the schools had sanitation facilities when the SHCs were started, they still had problems with not enough units, the design and quality of

construction, and a lack of proper use and maintenance.

The issues identified include: Sites for sanitation facilities need better selection; Action research programs need to be done, to test ideas like the adoption of poor neighborhoods and sanitation camps; There is a lack of coordination between various departments in the implementation of SHC programmes; Follow-up activities are not taking place; Evaluation studies, the sharing of information, documentation, etc. are not taking place; Capacity-building programs for the teachers and SHC members are not done.

The researcher issued a set of recommendations to show the way forward. These are as follows:

- Constant monitoring and support is needed to convert emerging habits into sustainable habits. This part of the programme should last at least three years;
- The effectiveness of the SHCs depends mainly on teachers, so capacity-building programs have to be organized regularly;
- Girl-friendly, child-friendly and user-friendly designs have to be developed;
- More IEC materials have to be developed;
- PRA tools need to be used for SHC training;
- National-level and state-level seminars and workshops should be arranged.

Over a thousand school health clubs have been created in Kerala. They have had success in changing behavior in areas such as the following: children are using the toilet facilities in schools; they are aware of the need to wash their hands with soap or ash after defecation; children are influencing their parents to construct toilets and keep them clean.

While behavior is not yet changed in 100% of students, it is estimated to be between 50% and 80%. The SHCs help with the speedy construction of household latrines in the project area. A further monitoring and support stage of at least three years is crucial if the SHCs are to ensure that all children lead a healthy life at and outside school. Children can also act effectively as agents of change within their communities. Children have the ability to observe, learn and transfer knowledge

more deftly than many adults. Teachers play a crucial role in making the SHC effective, so an effective plan for participatory training and retraining of teachers is crucial for the SHC sustainability.

The panchayat institutions now responsible for education should take a stronger role in supporting the SHC activities and should coordinate various departments using a partnership approach. If support goes on for a sufficient length of time and acquired habits are consolidated into routine good practice, then the project can claim to have made a serious difference to health and well-being.

Pandey S and others (2005) undertook a study titled "health profile of school children in Bhaktapur." It sought to find out the existing common health problems among school children and to arouse health consciousness among the children. The study concluded that good health is essential for learning and cognitive aptitude. Ensuring that children are healthy and able to learn is an indispensable constituent of an effective education system. The study identified the school-aged child as one at the greatest risk from infections with one or more of the most common parasites. It referred to population dynamic theory's estimate that focusing treatment effort on the age group of 5-14 years would considerably reduce transmission in the population as whole. The researchers suggested that school health education on hand washing, keeping ear clean and on personal hygiene, especially brushing technique to prevent dental caries is necessary.

K. Raghava Prasad (2005) undertook an analytical study on "School health" in which the concept, history and scope of school health were dealt with apart from elaborating on the Andhra Pradesh School Health Project which was executed from 1991-1999. The researcher rightly referred to a comprehensive school health service as one of the most cost-effective public health measures. The major areas that comprised school health services, according to the researcher, were immunization, screening, surveillance, counseling, early detection and treatment and referral services. The school health environment includes the school building and its environs, classrooms, lighting and ventilation, furniture, water supply, meals, waste disposal, abatement of pollution if any, etc.

The researcher, while referring to school health education, emphasizes that it assumes greater importance in changing the lifestyles and behavior which play chief role in many of the current health problems. In short, schools are the most fruitful and rewarding venues for health education.

The researcher regretted that though school health is recognized as a routine public

health function to be carried out by the network of primary health centers and sub-centers, the very fact that routine public health services are given low priority, generally neglected and not executed systematically in a planned manner tends to relegate school health to the back-burner.

The researcher suggests that the school health component of routine health services desires to be strengthened; the job charts of the health functionaries have to be rewritten to incorporate school health public services; school health needs to contribute to the achievement of our health policy goals.

The project report of rapid assessment and action planning process in Gujarat, (2005) has come out with certain recommendations related to school health and its components. The assessment was carried out jointly by Department of Family Welfare, Gujarat and World Health Organization. The broad recommendations of this eport are to establish a common vision for a school health program with school health policy, changes in the school environment, skill-based health education and health and nutrition services as significant components; the health and education departments should jointly plan, implement and evaluate the school health programs at state, district and block levels; health checkup and school health program should focus on prevention and health promotion.

The report also recommends that the ongoing teacher training programs at various levels to include all aspects of school health program including preparation of training modules and skills based health education curriculum and enhancing training capacities. Health checkup and school health program should focus on prevention and health promotion and the health and education departments should identify and promote the use of interactive methods of health education such as games, competitions, demonstrations, mobile health exhibitions. In the context of school environment the report recommends that there should be a policy to maintain the cleanliness of the sanitation facilities in every school through creation of appropriate mechanisms and also a mechanism to monitor school environment, availability of safe drinking water, adequate sanitation facilities and maintenance of the same. The recommendations, if implemented strictly would definitely create a positive health scenario in the schools, but the schools should be provided with necessary support to enable them to adhere to the aforementioned recommendations.

Vanessa J. Tobin & Paul van Koppen (2005) in their study “Water, sanitation and hygiene education for schools” argue that school water, sanitation and hygiene

education initiatives have a profound impact on the health of children, on learning, the teaching environment, and on girls' education. They are directly related not only to physical, mental and social health, but ultimately to economic and social development. Lack of action is not because there is insufficient knowledge of the components necessary for effective programs. Recent and growing evidence from the field points to the key components necessary to achieve this.

There is no shortage of mandates to undertake such programs. Investing in water, sanitation and hygiene services contributes to the achievement of several international agreements, including the goals of 'A World Fit for Children', the Convention on the Rights of the Child, Education for All, the Millennium Development Goals and Vision 21. The researchers enlighten us that there are manifold economic and social reasons for ensuring safe water, adequate sanitation and complementary hygiene education in schools. Among the benefits are:

- Effective learning. Children perform better and their dignity is raised in a clean, hygienic environment.
- Better enrolment and retention of girls. Girls and their parents are encouraged by water and sanitation.
- Facilities, curricula, policies and improved school environments that provide protection and respect.
- Child rights. Water, sanitation and hygiene are key to securing children's rights to health and education.
- Reduced disease burden. Properly used and maintained sanitation facilities, safe drinking water and an adequate supply of water for personal hygiene prevent infections and infestations.
- Effective learning. Children perform better and their dignity is raised in a clean, hygienic environment.
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- Child rights. Water, sanitation and hygiene are key to securing children's rights to health and education.

- Reduced disease burden. Properly used and maintained sanitation facilities, safe drinking water and an adequate supply of water for personal hygiene prevent infections and infestations.

- Reaching the home and community. School children can introduce and reinforce positive hygienic behaviors and attitudes in their homes and communities.

- Environmental cleanliness. Properly maintained and used facilities contribute to overall public health and environmental protection.

- Equipping children for the future. Educating all children, especially girls, is one of the most important investments any country can make in its future. Four of the most valuable benefits are: keeping children healthy so they can learn and fully participate in society; equipping children to claim their rights; influencing the health and education of future generations (a common goal of every nation); and empowering children to achieve solid political and economic status in society.

The researchers emphasize that there is an urgent need to move from rhetoricto action to ensure that safe water, sanitation and hygiene education are provided to all primary schools by 2015.

The researchers felt that stakeholders have a vision of buildings filled with books, challenging curricula and dynamic teachers. But without safe water, sanitation and hygiene education, far too many desks are empty and far too few students, particularly girls, attend school. They called upon stakeholders to honour their commitments to all children and to fulfill their special promise to girls. A vision of a quality learning environment needs to see water, sanitation and hygiene education as essential to schools as reading, writing and arithmetic. The researchers argue that only then will the stakeholders be able to properly fulfill their promises to all children. By investing in these basic services, the stakeholders will take a step towards human dignity and a giant leap closer to ending poverty in a single generation, according to the researchers in their concluding note.

Bhagwat S and others (2004) have undertaken a study on "some neglected aspects of school health checkups." The study has succeeded in highlighting the need for

focused health checkups. Provision of school health services has become more of a ritual where anthropometry and general checkups are done and adequate attention is not paid to vital aspects like follow-up after remedial measures. A lot of resources inthe form of manpower, material, money and time are utilized but the effectiveness hasnot been as per expectations. The researchers recommended a few measures for effective school health checkups which are as follows:

A scheme may be worked out wherein every checkup may include one aspectof health that may be given special emphasis along with the routine checkups so that the efficacy of this essential service can be increased. Methods may be worked out to provide facilities to the schools either through actual involvement or through increasing the awareness of the staff and the students.

Dhanasekharan G. (2004), in his study on "Teacher intervention in developing school health program", sought to assess the effectiveness of teacher intervention strategy in developing school health program in primary schools. Some interesting results were reported in the study as an impact of teacher intervention as follows:

Every morning the teachers enquire from the students about their personal hygiene like cleaning of teeth, bathing, washing, nail trimming and combing of hair;teachers keep a separate dustbin in their classrooms and educate the students to use itfor refuse disposal; teachers keep the drinking water/pot covered with a lid and handleit without contamination; Teachers keep the environment internal and external neat and tidy; teachers conduct parent's meeting in the school and discuss their children's health problems; every day during prayer, the selected students address the assemblyon a selected theme of health; at least twice in a week for 40 minutes each, the teachers orient their students towards the selected topics discussed during the training. The teachers have identified some deficiency diseases among their class students and referred to the medical officers of the respective primary health centers for their attention. The teachers have maintained the health cumulative card for each student in their class and updated all the details during the intervention period.

All the teachers have prepared simple visual aids on various health themes andused for their health education activities. They have also displayed them on the wallsso that all the students will have reinforcement of health messages taught in classes.

This study concludes that the teachers can provide effective health education on various aspects of health to the children and hence should be adequately oriented towards health promotional measures by incorporating health promotional concepts in the teacher education curricula at various levels and organizing a suitable in-

service training program for the teachers at various levels to update their knowledge and upgrade skills in health promotion.

The researcher of this study advocated that health education may be includedas a separate subject in the existing school curricula so that the students will realize the importance of health. He also recommended that the schools with no ailment or disease among the students may be suitably recognized and sanctioned awards. He even urged that an early attempt may be made by the Central Ministry of Education towork in close collaboration with the Central Ministry of Health in drawing and implementing plans for imparting health education to children who are physically andmentally prepared for learning. Poppy Dlamini and Khanyisile Mabuza-Imaam (2004) took up a study entitled"Primary school baseline study on water supply, sanitation and hygiene education". The objective of this study was to collect, analyse and assess baseline data on water,sanitation and hygiene education in all primary schools of Swaziland. This study identified several possibilities for action to improve sanitation and hygiene educationin schools as follows:

There is a great need to extend hygiene education to schools in the country. Hygiene education should be included in the schools curriculum as a subject, rather than being treated as an extra curricular activity.

School inspectors, school health nurses and environmental health officers should play a more visible role in evaluating the achievements of teachers and monitoring cleanliness. They can also foster effective collaboration between Government and communities by disseminating information and supporting community action.

The most effective role for Government, concerned NGOs and inter- governmental agencies is to support schools and communities in their efforts to improve the school environment and the teaching of hygiene.

Lawrence St Leger (2004) posed an important question captured by the title ofhis study "what is the place of school in promoting health? Are we too optimistic?" He found a good answer in a report published by World Bank in 1993 which stated that poor health inhibits learning. So, Lawrence reasoned that though the corebusiness of schools is actually focused on the educational outcomes–not reducing health problems, the schools should embrace health related initiatives to enhance theircore business of maximizing learning for students.

Lawrence felt that if schools support this belief, then they are likely to construct their health program in quite different ways from those traditionally developed by

the various issue-based groups in the health sector.

Lawrence referred to another study of his which suggested that school health interventions are most effective if: The focus is on cognitive and social outcomes as ajoint priority with behavioral change; Programs are comprehensive and holistic, linking the school with agencies and sectors dealing with health; The intervention is substantial, over several school years and relevant to changes in young people's social and cognitive development and adequate attention is given to capacity building through teacher training and the provision of resources.

Lawrence concluded that the multiplicity of legitimate and relevant indicatorsfor school health demonstrates both its richness and complexity. But he drew a note of caution that whilst school health programs might be improving in their design rigour,we are still unclear about what outcomes we expect them to achieve. Is it behaviour change, new knowledge, technical skills, community action competencies, physical health advance, or all of these plus others? On a parting note, Lawrence urged readersto consider the school as an ongoing setting where health is created, supportive environments are built, partnerships made and many skills are learned.

Tara Gopaldas (2004) in an evaluation study entitled" Improved Effects of School Meals with Micronutrient Supplementation and Deworming", evaluated Gujarat's improved mid day meal program (MDMP) of the period 1993-1996. A few important lessons learnt from the study are as follows: India must give top priority to the improved MDMP, and it should follow the 'GUJARAT MODEL'; e-governance, good management, forward planning, and an adequate flow of finances and stock are essential to take care of the "Walking injured", namely 90% of school children in the classroom.

Hawes (2003) in his study titled "Skills-Based Health Education. Content and Quality in Primary Schools" has conceptualized health education as a part of all fourcomponents in comprehensive school health in the following manner:

Teachers, parents and children work together to cut the high grass round the school, find other places where mosquito larvae breed and clear them. (Health environment); children are asked to take information about times of immunization clinics back to their parents and neighbors and to ask politely whether they can show and explain the posters they have made. (Health education); a school offers a first-aidservice and involves children; children are also encouraged to tell the teachers aboutany of their friends who seem to have difficulty seeing the chalkboard or

hearing wellor who seem very unhappy and do not want to play together. (Health services) and a school agrees on a series of health rules and children elect a committee to help monitor them. (Health management).

Despite omissions, ambiguities and overlaps, analysis of health programs in India revealed that health issues are taken very seriously in official documents, that coverage is wide and that there is a genuine attempt to present a range of content to suit needs at different levels. but, whilst there is probably greater coverage of health in national syllabusesand textbooks than at any other time, unfortunately the amount actually transmitted in class in any one school is disappointing. Because health education lacks standing (particularly in India) it is frequently omitted from programmes in favor of higher status subjects. A university researcher in Pune writing her doctorate on health education in primary schools stated that she had never seen a specific lesson on health education in schools, despite its presence in the official syllabus.

The researcher suggested that both the ministries of health and school education can prepare a joint, detailed statement on school health education by encompassing aspects as to why school health education is vital to the nation and it citizens; the nature, purpose and goals of school health education, and its role within the wider context of comprehensive school health promotion; the health school; responsibilities for the head; health organizers; other teachers; the children themselvesand their parents and how school health education can be monitored and evaluated bychildren themselves; by teachers and parents; by health workers.

Vinod Kumar CS et al., (2003) conducted a study on "Prevalence of Anemia and Worm Infestation in School Going Girls at Gulbarga, Karnataka". In their study, the researchers choose to focus on intestinal parasitism as a priority healthproblem in their study. Since worm infestation is seldom the direct cause of death, they tend to be regarded as relatively unimportant. Worm infestation is probably more significant than specific vitamin and mineral deficiencies in developing countries. InIndia, the problem is likely to be more common because of bad hygiene, poor awareness, illiteracy, misbelieves, poverty and variety of allied factors. Studies carried out in various parts of India have reported a prevalence of intestinal parasitismup to 30% - 50% and anemia from 40% - 73% among school going girls.

The objective of this study was to evaluate the prevalence of anemia and worm infestation in 716 school going girls of age 6-10 at Gulbarga, a semiarid region located in the Deccan plateau of North Karnataka. Grading of anemia was done

according to WHO guidelines. The percent prevalence of worm infestation was 71.73%. Out of 281 non-anemic girls, 177 (62.98%) had worm infestation, while of the 435 anemic girls, 334 (76.8%) demonstrated evidence of worms in their stool. Prevalence of worm infestation was 86.66%, 68.16% and 82.97% in mild, moderate and severely anemic groups respectively.

The high prevalence of worm infestation is stressed by the four researchers asworms are so closely correlated with nutrition. The continuous presence of worms in marginally nourished children can cause severe anemia and subsequently affect the growth and development of these children. In the present study, stool parasite positivity was 71.3% among school children aged 6-10, which is comparatively highas compared to a study carried in the tribal areas of Madhya Pradesh, which reported50% prevalence, in school going children.

The researchers concluded that the high prevalence of parasitic infestation seems directly related to the unhygienic living conditions associated with lack of knowledge about the communicable disease and variety of allied factors, which need to be studied. The researchers suggested that amongst the intervention measures, it isimportant to take up sustained health education, provision of safe drinking water andimprovement in environmental sanitation. It would be also useful to teach them about personal hygiene and conduct health education at schools through 'School Health Projects'. During the school health checkups, periodic screening for intestinal parasites and blood indices can be evaluated, as finally suggested by the researchers.

Anne Konv and Matlic Rimpela (2002), in their study on "Well-being in schools: a conceptual model" have come out with a unique model. They noted that health and well being have mostly been separated from other aspects of school life. They developed a theoretically grounded model based on the sociological concept ofwell-being in order to facilitate planning and evaluation of school development programs.

The school well-being model is based on Allardt's sociological theory of welfare and assesses well-being as an entity in school setting. Well-being is connected with teaching and education, and with learning and achievements. Indicators of well-being are divided into four categories: School conditions (having) social relationships(loving), means for self-fulfillment (being) and health status.

Means for self-fulfillment' encompasses possibilities for each student to study according to his/her own resources and capabilities. 'Health status' is seen through

student's symptoms, diseases and illnesses. Each well-being category contains severalaspects of students' life in school. The model takes into account the important impactof students' homes and the surrounding community.

In a comparative analysis, the school well-being model's main differences arethe use of the well being concept, the definition of health and the means for self-fulfillment. The researchers finally positioned the well-being concept as one that facilitates the development of theoretically grounded subjective and objective well –being indicators.

Mc Bride, N and others (2002) have devised "An empirical model for schoolhealth promotion: the western Australian school health project model". The model used in the WASH project is loosely based on Kolbe's (1986) model "School Health Promotion Components and Outcomes" and also draws on systems theory related to school organizational change (Holder and Howard, 1992). The key components of theWASH model include: School health education-curriculum, health teaching, teacher training, resources; School physical education-curriculum, sport, daily physicalactivity; School health environment –physical environment, policies and procedures; School nutrition and food services- healthy canteen or food service, healthy fundraising, healthy food eating, incentives/competitions; School health services- access to nurse, dental hygienist, vaccinations, screenings; School counseling services- pastoralcare, counseling support ; School staff health promotion activities-healthy foodoptions, personal health information, regular physical activity, opportunities at work.

Integrated school and community health promotion activities- school links with school agencies and professionals, involvement with the local and extended community; Parental involvement-parents as helpers/organizers, training in health promotion, parents as school health promotion planners, parent group funding health promotion activity.

School health management organizational support plays a vital role in extending the time and scope of school health promotion activity (i.e, providing an adequate budget, personnel and resources to school health promotion, training staff, and the school's planning, review and evaluation processes of health promotion activities).

The model used in WASH indicates that a developmental process occurs and there is a particular interrelationship between components. The WASH project defined critical individuals as gateway personnel such as administrators, key decision makers such as administrators, school-based decision making groups, and parent

associations, key workers such as motivated school community members, parents and community organizations. They then defined process considerations including a needs assessment to see if the school wants and needs to promote school health, school community link into school health needs, school management link health into school management procedure, school health promotion, use of theories of school health promotion, an intersectional approach and a structured and participatory planning process to develop a comprehensive school health program. The researchers also make an important distinction between the similarly sounding terms school health promotion and health promoting schools, incorporating as part of their model "Management Factors" and "School Community" as well as using "Health Promotion Factors".

Mansour ME, and others (2002) conducted a study titled" Urban elementary school personnels perceptions of student health and student health needs." The objective of the study is to determine the perceptions of school personnel with regard to urban students' health and health needs as part of a planning process for development and implementation of school-linked health services. Some of the important methods adopted in this study are: A self-administered, close-ended questionnaire was given to 294 school teachers and school staff to assess school personnel perceptions' of health needs of students; priority of need for health services or programs delivered on-site or off-site, and selected factors suspected to affect implementation of new school health services. The results of this study are: A total of 72% of teachers and 77% of staff completed the survey. The most highly ranked need by school personnel was mental health, followed by violence and anger management and physical abuse and domestic violence. The most commonly requested services on-site and off-site were for physical abuse or domestic violence, mental health, and drug or other substance abuse. Only 40% of teachers and staff rated current health services as excellent or good. A total of 72% of teachers and staff had some level of discomfort with their current responsibilities regarding the health of students. Parentalinvolvement was reported to be quite low, with only 9% of teachers and staff rating itas excellent or good.

The greatest healthcare need identified by these elementary school personnel was not for management of chronic or acute physical health conditions, but for mental health services and programs to meet the emotional and psychosocial needs of students. When implementing school-linked or school-based mental health services, focus needs to be placed on three areas: education of school health and educational personnel regarding common mental health issues; development of systems that improve knowledge of and connection with mental health resources

inside and outside the school, and development of systems that improve communication within the school and between the school and parents regarding health services. M. Smel and K. Shordt (2002) observed in their study on "School water and sanitation towards health and hygiene in India" that school sanitation and hygiene education (SSHE) is globally recognized as a key intervention to promote children's right to health and clean environment and to influence a generational change in health promotion behavior and attitudes.

This research shows that the four most important interventions, in the order of their possible impact, to reduce diarrhea are as follows:

- Safe disposal of excreta
- Household and personal hygiene, especially hand washing
- Quantity of water used
- Quality of water

The important lessons learnt from SSHE programs in schools as deduced by the researchers are as follows:

- Use and maintenance
- Attendance of children, particularly girls, improves when they can use good sanitation facilities
- Dirty facilities become unused facilities
- If the number of latrines is too few, then they tend not to be used
- Children and teachers
- Children are potential agents of change in their homes
- Teacher commitment is crucial
- Learning and teaching material are important.

The researchers concluded that if past experience in SSHE remains unknown or unused, then we risk repeating past mistakes or using considerable effort to learn what is already known, that is to say, re-inventing the wheel. So they urged that the wisdom of new SSHE programs be built on lessons learned from the past.

Parang N. Mehta (2002) in his study on "Asthma and the School Going Child" reported that the aim of asthma management is to give the child a life as near normal as possible. Active participation in physical activities, exercise and sports should be encouraged at school. A written asthma management plan should be prepared for the student's school, including step-by-step instructions for dealing with

emergencies.

The researcher also suggests that the older child should be involved in designing the treatment plan and time should be invested for asthma education. School staff should receive some training about recognition and initial management of exacerbations.

Adams E. Kathleen and Veda Johnson (2000), have looked deeply at an "Elementary School-based Health Clinic: Can it reduce medicaid costs? "The objective of this study was to assess the effect of the Whiteford Elementary School-Based Health Clinic (WESBHC), located in Atlanta, Georgia, U.S.A on health care costs paid by Georgia Medicaid over the 1994-1996 period. The study came out with the conclusion that the operation of a school-based health clinic (SHBC) can have effects on the child's use of services and health care expenses and given that those clinics serve all those who come for care and many of these are low income children, those savings are likely to accrue to the Medicaid program of the state. Also, as states continue to implement Medicaid-managed care for their child populations, they will need to consider the ability of the SHBCs to participate in and receive Medicaid revenues through health maintenance organization networks.

Leger (2000) did a painstaking study on "Developing indicators to enhance school health". This study examined the development of indicators used to access the processes and outcomes of school health promotion and education programs and initiatives. This study also looked at the biological, behavioral, social and contextual aspects of child and adolescent health measures. It then developed a framework for categorizing them. The variety of stakeholders who have an interest in school health is identified. A matrix is developed which maps the levels of influence the different stakeholders have in the categories of indicators. The study concluded by delineating a set of criteria designed to assist stakeholders to be more strategic in identifying realistic and practical indicators which will provide useful information in judging their inputs and improving their contribution to school health promotion and education.

Leger (1999) undertook a study titled "the opportunities and effectiveness of the health promoting primary school in improving child health- a review of the claims and evidence". Leger dwelt on the health promoting school as a recently developed concept which seeks to provide a multifaceted approach to school health. This study examines the development of the health promoting school and identifies its structural components. Findings indicate health gains for primary school students

are difficult to assess, and will most likely occur if a well-designed program is implemented which links the curriculum with other health promoting school actions, contains substantial professional development for teachers and is underpinned by a theoretical model.

The researcher came out with a few suggestions that teachers and other school personnel need guidance, professional development and resources to embrace school health promotion through action and there is a need to bring substantial changes in schools and their personnel to practice school health. The health promoting primary school, which shows great promise, will gain momentum of it on its own and used more intensively by teachers and schools.

The education sectors in different countries will need to reassess their core business of facilitating learning to include intervening more comprehensively in non-classroom based initiatives which are focused on health gains. Moon, A.M., and others (1999) looked at "Helping schools to become health – promoting environments-an evaluation of the Wessex Healthy Schools Awards." The researchers conducted an evaluation as an external agent of the Wessex healthy school Award (WHSA) scheme in England.

As part of the conclusion the researchers cited a number of factors which facilitate effective school health education, which include: Involving parents in their child's health education; Involving the wider community; Providing a comprehensive, cross-curricular program throughout a child's schooling; combining health education with other health promoting initiatives in schools and providing a variety of teaching methods and strategies which actively involve students in their learning and focuses on them as individuals and identifies their present needs.

Partnership for Child Development (PCD, 1999) conducted a study titled "School Health & Nutrition: A Situation Analysis", in order to guide the design and evaluation of school-based health and nutrition programs. A situation analysis can be detailed and comprehensive, but the most appropriate initial approach is usually a low-cost, rapid survey that supplies the preliminary answers necessary for intelligent efforts to develop or strengthen school nutrition and health programs. The approach outlined in this study is not exhaustive; there are likely to be particular sources and types of information that are relevant to a given country or situation.

According to this study, a situation analysis gathers information sufficient for a report that identifies the priority health and nutrition problems of school age children; quantifies school participation (enrolment, absenteeism, repetition, and

drop-out rates) and identifies the major causes of absence from school; identifies practicable, sustainable interventions that are likely to most improve children's health, nutrition, school attendance and educational achievement; identifies major gaps in, and problems with, existing school nutrition and health services, and suggests remedies; informs efforts to monitor and evaluate school nutrition and health services and identifies issues requiring further investigation.

The study emphasizes that the process of information gathering also provides an opportunity to establish partnerships among school and health personnel, parents, school-age children, NGOs and other relevant groups and organizations. Such relationships are an immense help to programs furthering school health and nutrition services. The information for a situation analysis may come from an assessment of existing information, interviews with key informants, focus group discussions, and other assessment techniques. Further technical assessment will be required before anynew program can arise from the initial assessment report. In particular, more refinedtargeting of interventions will undoubtedly require more specific analyses, includingbiomedical surveys. Given the context of advocacy in which any situation analysis is written, it should present its information in an interesting and accessible manner and use a variety of data to give depth and emphasis. For example, a comparison of the share of household income spent on smoking and alcohol with the share spent on thehealthcare of school-age children might add force to the picture drawn by the report.

Nyandindi Ursuline and others (1998) conducted an experimental study on "Impact of oral health education on primary school children before and after teacher's training in Tanzania." Oral health education is part of the primary school curriculum in Tanzania. However, most of the teachers responsible for it lack training and motivation for the task. Their oral health education sessions are deficient in content and in methods, only addressing oral hygiene by lectures. Thus, modified oral health education was designed and teacher training workshops were carried out in one district by a dental team in liaison with school administrators. After training, the teachers taught a variety of oral health issues and pupils actively studied the concepts and practical skills for dietary choices and tooth brushing. This report describes the impact of oral health education given by teachers before and after they had been trained in the workshops. The impact of the sessions was assessed as changes in the pupils' oral health knowledge, attitudes and practices. The group that received modified oral health education had better knowledge of oral health, reported reduced consumption of sugary foods and increased tooth brushing frequency, and had better 'mswaki' (chewing-stick) making skills and slightly

improved oral hygiene; in comparison with the referents. The group with conventional oral health education had somewhat better oral health knowledge but their practices were no better than the referents. The results emphasize the need for providing training, guidance and feedback to implementers of oral health education programs.

Awate R V and others (1997) did a study on "prevalence of nutritional deficiency disorders among rural primary school children (5-15 years)". This study emphasized that the school as a portal of personalized healthcare is an important concept. Significant number of school age children is in need of adequate sources of healthcare and nearly one-fifth of the population of every country comprised these children. Nutritional disorders account for the majority of morbidity, mortality and dropouts among them. This study recommended the key strategies of dietary modification, improvement of school sanitation and personal hygiene, strengthening school health services and awareness building.

Kalikinayi V and others (1997) undertook a study on "Visual impairment in school children in southern India". This study was done to determine the prevalence of visual impairment due to refractive errors and ocular diseases in lower middle class school children of Hyderabad, India. This study concluded that vision screening of school children in Hyderabad could be useful in detecting correctable causes of decreased vision, especially refractive errors, and in minimizing long term permanent visual disability.

The World Health Organization (1997) conducted a case study on "School in a hot dry climate: Rajasthan, India", which reveals that conventional primary-school buildings in Rajasthan are poor and potentially health-threatening environments. Teachers and students are able to cope with cold, poor light and overcrowding by using a variety of open and semi-open teaching spaces. Village education committees have been formed and village-based funds established for the repair and maintenance of school buildings. The Lok Jumbhish program, with its emphasis on maintenance and repairs, construction of boundary walls and the creation of 'gardens of learning', is registering an impact on the primary school building program of the Rajasthan government.

Navar S and others (1990) analyzed the role of the " primary school teacher as a primary health care worker" in a study that set the objective of evaluating the efficiency of school teachers' role vis-à-vis CHVs in imparting health education to school children. From the results, it was evident that primary school children who

were imparted health education by their teachers were better with respect to personal hygiene and infective conditions, indicating teachers' superiority over the CHVs in imparting health education to school children.

Desai S, and others (1989) in their research study titled "School eye health appraisal" note that considering the fact that 30% of India's blind lose their sight before the age of 20 years and many of them are under five when they become blind, the importance of early detection and treatment of ocular diseases and visual impairment in young children is obvious. In fact, an effective blindness prevention programme must have as a key component, the screening of children. School going children therefore form an important large target group which is easy to approach and also adaptable to the health education imparted.

The national school eye health appraisal programme was implemented in 1984 with the aim of prevention of blindness by early detection and treatment of visual defects and eye health problems in school going and anganwadi children with components of health education and teacher orientation. This study describes the salient features of the programme and the results of the researchers' pilot study todetermine the ocular morbidity pattern in school going children of Jodhpur.

The six researchers emphasize that school children form an important large target group which must be screened adequately for early detection of eye diseases and prevention of blindness. A total approach in a school eye health programme must include teacher orientation and health education of children in addition to screening for eye diseases. The ocular morbidity pattern in 5135 school children of Jodhpur is discussed in this study and it is hoped that it will be an indicator to all eye care agencies to help plan their priorities in the delivery of school based eye care.

Devdas P Rajammal (1986) undertook a study on "Integration of nutrition andhealth education in the primary schools of Tamil Nadu". The study was conducted tofind out the feasibility of imparting nutrition and health education theory as integrated curricular approach and to assess its impact on the health and nutritional status of children. The impressive results have lead to the launching of nutrition and health education project in the primary schools throughout India. What was remarkable about the findings was that there was considerable improvement in nutrition health and environmental sanitation practices of children, improvement in nutritional and health status of children after six months of imparting nutrition education and development of positive attributes of children towards eating food, illness, nutrition and health.

Mahapatra B and others (1985) have undertaken a study on “Health and Nutrition education in primary schools (Govt. in Hyderabad)”. This study found that a huge majority of teachers did not know that school lunch program can help students learn the value of food for good health and growth. The lack of teaching aids was identified as the weakest link in the teaching of health and nutrition. Also, the need for good books and syllabi for proper coverage of health and nutrition was noted with concern.

Conclusion:

This study has broadly dealt with most of the literature available in the area of school health environment, school health services and health education. The available literature indicated that more coordinated efforts are required to focus on school health to ensure a healthy India.