SCHOOL HEALTH EDUCATION IN SRI LANKA

DR. WALTER K. PATRICK

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CONTENTS

Attanam rakkhanto param rakkhati
Param rakkhato attanam rakkhati

Protecting oneself one protects others
Protecting others one protects oneself

'Dhammapada'

SCHOOL HEALTH EDUCATION IN SRI LANKA

INTRODUCTION

Nearly 3.5 million school children spend more than one third of their working hours at school. Almost another 1/3 of their lives is spent on either going to or getting back from the 10,000 schools, and in activities related to the school, such as homework and games. A school child therefore spends nearly two thirds of the ten formative years from Grade 1 to 10 in the psychological grip, social climate and environmental milieu of the school.

The mix of students, teachers and types of schools from Pirivena to Private, and Estate to Governmental schools reflect the process of evolution of education in Sri Lanka, from a mainly religious background, and corresponds to particular needs and influences of different sectors of the population, religious groups and working classes (See Table 1).

PARENT AS TEACHER

From the earliest times in Sri Lanka traditional vocational skills were gained from parents of master craftsman through a process of apprenticeship. Observation and participation in simple tasks at home or in the workshop provided elementary skills in the trade or profession for members of a clan, the skills being caste centred and mainly related to the function of the group and the needs of the society. Within the caste or trade was some scope for diversification of skills and a hierarchy of expertise. More complex skills

of the trade were learnt by long and painful years of watching and working with the master and gathered more through informal exchanges rather than through formal precept. The vedamahatmaya, the village doctor, and the traditional healers, each had their disciples. The Guru-shishya (Teacher-Student) relationship was an accepted norm in the society, with well defined status and roles permitting and limiting treatment and cures. The development of specialisation in the traditional fields of medicine can still be observed in the practice of "Snake bite specialists", (Sarpa Veda), "Bone Specialists" etc. At present the school and organised forms of education have gradually and almost totally eroded and displaced the role of parents and the family in education. This is partly due to :

(i) The knowledge and technological explosion of the 20th century. ("Parents felt that they did not know enough").

(ii) The process of urbanisation, industrialisation and colonization of new lands led to changes in social structures from extended family units to nuclear families, ("Grandparents share in education reduced").

(iii) The increased female employment and reduction in parental time and opportunity to impart education. ("Mothers unable to provide continuity in education").

(iv) The increasing role of the state in providing minimum levels of education for all its citizens.

DEVELOPMENT OF INSTITUTIONS

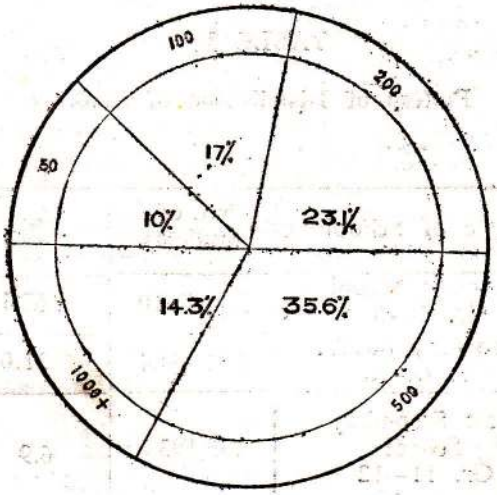
Sri Lanka was in the forefront of providing education to all its children through non fee levying schools. "Free Education" from October 1945 (1). The trend to increase educational opportunity to its growing citizens is re-emphasised in the provisions of free school text books to school children in 1980 (2). The strengthening of the role of the school in education has unfortunately relegated the role of the parent. This partnership role is vital for health behaviours which are daily recurring events. The health behaviours

TABLE 1

No. of Schools - 1980

Government	9177
Private	37
Estate	358
Pirivena	282
Total	9794

Fig. 1



Distribution of Schools by No. of Students

TABLE 2

Pupil - Teacher Ratio

Student Population	No. of Teachers *	Ratio
3,280, 839	138,488	23.6

Range in districts 19.8 to 25.9

* Excluding Pirivena Schools (1980)

TABLE 3

Pattern of Distribution of Students

Type of School	No. of Students	%
Primary School Gr. 1—5	2,054,610	62.1
Secondary School Gr. 6—10	1,026,984	31.0
Post Secondary School Gr. 11—12	199,193	6.9

initiated at home, get tested, modified and socialised at the school. The reinforcement and moulding of new behaviours become a mutual task between school and home. The impact of school health education on family behaviour depends on the degree of cooperation between the community, schools and homes (3).

Institutionalised learning had their early beginnings either in monasteries or military academies. War was a constant threat to every monarch and mastery over the mechanics and strategies of warfare were highly prized skills. At a more humane level buddhist monasteries set up to train monks paid great attention among other things, to the understanding and interpretation of scripture, the attitude to living beings, and their environment, and especially to the norms governing monk behaviour. In the training of monks the canonical aspects of learning had nine parts "navanga", and the liberal aspects of learning constituted the "five vidyas". "Cikitsavidya", medicine was one of them (4). Cleanliness both internal and external is a virtue that holds a high position in buddhist thought. One of the seven conditions necessary for fulfillment is vatthuvisadakiriya or the cleanliness of things (5). The vinaya describing monk behaviours related to health states that the monk is one who "does not allow his hair or nails to grow too long.....His belonging and lodgings should be kept clean and tidy" (6). The use of a piece of cloth to strain water (Perahankada) and the use of chewing sticks (Dahatikoora) to clean teeth demonstrates the meticulous attention paid by monks to health. The monasteries where buddhist nuns were trained paid equal emphasis as they were associated in the care of the sick (7).

In keeping with this tradition, the public was exposed to and influenced by the monks in the practice of health habits. Education and guidance of the laity was the duty of the monks (8). Laity were also afforded the opportunities to learn at monasteries. Today the Pirivena (temple) schools and the Sunday schools that derived the traditions of monastic teaching reflect the religious bias in health education.

The private schools started by Christian Missionaries had mainly two streams of influence. One from the traditional western model originating from England and France, patterned on the jesuit methodology of indoctrination and pratice, and the other from the American Missonaries reflecting the more liberal influence of the educational psychologists from Tichener, Dewey and Thorndike at the turn of the century.

AUTHORITARIAN APPROACH TO HEALTH CARE

The imposition of western traditions in health care was more or less directly transplanted without too much analysis as to the appropriateness or relevancy of some of the interventions. The construction of large mental asylums and leprosy hospitals where patients were more or less isolated is a case in point. The building of water seal latrines in the dry zone where there was a perennial shortage or water, is another example of transplanting, without roots to the culture or the resources of the people. The difficulties encountered in encouraging and educating people to take suitable health measures, made administrators, and unfortunately educators, to take an authoritarian approach to enforce health measures. The epidemics of plague, small pox, and cholera, common during the early part of this century, added the dimension of fear and a sense of urgency that supported this authoritarian stance. Fear was an essential ingredient in the relationship between ruler and subject in the colonial times and educational institutions reflected this position. This state of affairs bred a total dependency on the system for an individual's health, and deprived initiative and enterprise for solving health problems.

CURATIVE AND PREVENTIVE CARE

The Christian Missionaries who came to Ceylon had as one of their objectives to care for the sick, and they did a remarkable job with their dedication and selflessness. The tendency was to seek out and treat the illness, in which the western trained doctor or nurse was adept at, and pay less attention to the socio-cultural and environmental factors contributing to the illness. This was the unfortunate spin off

from the disease centred approach. Perhaps this happens when external agents enter into a situation and observe recurring events as crises, and try to help in the best way they know and can.

On the other hand the local tradition of 'Ayurveda, and the Buddhist way of life paid great emphasis on the ways people lived, their harmony with other beings, cleanliness, diet and how they ate, how they were to behave to be healthy, and what they had to do during and after an illness. This provided a philosophical basis for preventive care and responsibilities of the individual for health care. As an example the social custom and symbol such as the use of margosa leaves or gokkola, to indicate an infected household provided a natural quarantine and safeguard to the community. However the germ theory of disease, the identification of bacteria through the microscope and the discovery of antibiotics provided an impetus to the disease centred approach in the teaching of health. This authoritarian and knowledge based model for health teaching was the predominant pattern for health instruction for almost a hundered years.

THE PRESENT TREND

The present trend recognises the two approaches to health teaching :

1. The total health approach emphasises the physical, mental and social well being and education for such a state.

2. The problem centred approach identifies discrete illnesses and education for the management of such specific situations.

The early years of growth and development of the child provides opportunities for a more comprehensive approach. The later years in the primary and secondary grades are more suitable for using childhood experiences of illnesses or contact with health persons or institutions, as starting points in the teaching. A continuous recognition that health is a state of well being and not merely the absence of illness is a sound basis for whatever approach seems practical in a given situation.

CHANGE WINDS

There has been rapid changes in the last 10 years. An integrated curriculum for health teaching has been developed for the primary grade, under the environmental studies unit. There is more emphasis on behavioural aspects of health. At the secondary level the health science topics relate to the needs of the student and relevant health problems. There is an attempt to reduce the content, and emphasise the implications of illness and the modes of prevention.

An integrated curriculum is an excellent way of enabling the student to internalise aspects of health through a myriad of situations and stimuli. The bias of the teacher, and the lack of skill to teach health may deter and mask the effectiveness of the integrated curriculum. Also revision of the curriculum and refinement of the evaluation procedures become mandatory to establish that the change has been worthwhile. The content of student learning to match current problems and student interests needs constant revision. The parttern of illnesses shows a significant component (40%) rooted in the environment: diarrhoeal diseases. Malaria, Filaria etc. In the last decade there is an increasing incidence of accidents, heart diseases, hypertension, diabetes and cancer along with nutritional disorders. Chronic conditions need life long solutions. Snappy solutions and rule of thumb answers will not help. Adolescent problems, Menarche, Population education and Drug education are some topics of growing concern to the 12-16 age group and needs greater recognition in the curriculum.

TRAINING OF TEACHERS IN HEALTH

The curriculum, like the constitution, must be protected and safeguarded and modified when necessary. But its ultimate benefit is from application and use. Therefore the ability and skills of the teacher finally determines whether it can be translated into health actions by school children. The number of teachers at government, private and estate schools is 138, 488, which provides an apparently satisfactory student teacher ration of 23.6, which is lower than most

countries in the region. Orientation of a significant proportion of these teachers to the new curriculum was a major concern.

In service training to develop a critical mass of master teachers at the circuit level and a core group of teachers at the school level has been in progress for the last two years. The problems are particularly acute in reaching the small schools (50-200 students) and the larger schools (500-1000). The average sized school (200-500) seems the most flexible and amenable to the curriculum change.

Revision of Training College curricula to incorporate this new scheme for health teaching is in progress. The teacher educators need to gain skills in emphasising the health components in the integrated curriculum and in designing teaching learning experiences for health teachers.

CONCLUSION

This book looks at the child at entry and through school and identifies some of the abilities and interests of the child and what the child wants to know. The major health problems in childhood are discussed, with emphasis on the ability of the school system and the health care system to be able to intervene, through screening by teachers, and referral and care by primary level institutions, and hospitals. Education based on health problems detected among school children recognises these events as "teachable moments" likely to bring about changes in health behaviour.

The organisation of the curriculum content, and the preparation of the teaching-learning experiences to fit the screening, referral, and follow up of health problems of school children would be ideal. An outline is suggested. The format of teacher training at training colleges and at in service is also reviewed through reports. The skill of the teacher in combining different methods and resources are illustrated from selected case studies. This book also provides ready reference materials for teachers on identifying learning abilities of students, and suggestions for planning teaching sessions.

Almost two decades ago UNESCO (1966) expressed the trend "Todays schools seek to develop the kind of educated person who understands the basic facts about health and disease, protects and promotes his own health and that of his family and helps to improve the health of the community". The urgency is even greater in the 80's. And over two thousand years ago the Talmud expressed the many faceted aspects of the problem for teacher, parent and student.

If I am not for myself
Who will be for me?
If I am for myself alone,
What am I?
If not now - when?

THE ROOTS OF HEALTH EDUCATION

DRILL AND PHYSICAL EDUCATION TO HEALTH SCIENCE

Physical Education in the form of "Physical Training" begin in some of the larger schools in urban areas some where around 1875. In these schools physical training really began with the formation of Boys' Brigades and Volunteer Corps. The teachers in these schools who handled this type of training were called the "Drill Masters". The Drill Master came under the influence of the army authorities. By 1879 all students in these schools were regularly drilled as an aid to the maintenance of discipline, parading and improvement of physique (9).

By 1891 Physical Training and Drill had been included in the normal curriculum of every school in the island. Accordingly great emphasis was then laid on simple systematic instruction in drill to the school children. The Inspector of Schools was required to report to his superior officer on the progress made on each visit to the school. He was also expected to give general guidance to the teachers on methodology in Physical Training and Drill. Marks and even prizes were awarded at these inspections to the teachers for their progress and proficiency.

At this time the need for suitable text books in physical drill became evident as teachers in most instances had little experience and less skills, and needed to be trained. In the year 1891, a Manual of Instructions was developed and distributed among the larger schools. Some schools had carried out the instructions given in the circular very effectively.

The modern and the traditional meet in the pirivena schools. The buddhist monk views hook worm larva through the microscope.

In 1900 Chesterton's Manual had been translated into Sinhala and sent to every school. Instructions as to its use was embodied in the departmental code. Difficulties arose, as the idea of drill and physical exercise was equally foreign to teacher and pupil, yet a fair proportion of the schools exhibited creditable performances in these physical activities. In the girls' schools the idea of physical training and drill was left entirely to the discretion of the Head Mistress and met with resistance from parents who had objected to seeing their daughters taking part in any form of physical exercise in public (10).

Inexpensive games such as "Rounders" was introduced and rules of the game translated into Sinhala was sent to all the Government schools. This popular game in schools known as "Elle" brought in the dimension of exercise with enjoyment to the student.

In 1902 Drill was made compulsary in all schools, and two hours per week of Physical training and development was part of the school curriculum in 1920. The new curriculum of 1940 brought in Boxing to schools as part of the physical development movement.

As this mechanical approach to exercise and health was going on a movement of child centred and society centred educational reforms were taking place. The revival of the national religious movements Buddhist, Hindu and Muslem in the latter part of the 19th centuary marked a turning point in stimulating community participation in education (9). As a further step in the evolutionary process the rural education scheme was developed in 1931. This was known as the Handessa Scheme (11). The main objective of this scheme was to make the learning relevant to the student and to enable him to fit into the rural setting, local conditions, crafts and occupations. Health was a main component in this programme and covered personal hygiene as well as health and sanitation of the school and locality. The erection of latrines, testing of water supplies of the neighbourhood, spraying and disinfecting mosquito breeding places, and building protected wells were some of the main practical tasks for teachers and students.

During this socially active rural teaching period, the Malaria Epidemic of 1935 killing over 4,700 persons triggered off a massive school centred malaria control programme (12). The framework of the Handessa Scheme for health was ideally suited for the interventions in malaria control and served a key role in the control of malaria. In 1947, the subject itself was changed to Physical Education. Kandyan and other forms of dancing became part of the programme.

The turning point in the progress of physical education in Ceylon Schools began in 1950 with the appointment of a Medical Officer, as Education Officer in charge of Physical Education. With the development of the Programme a separate branch of Health and Physical Education was created in the Department of Education.

In 1951, 50 Physical Training Instructors (P.T.I.) were appointed to Government Central Schools and with it also began an intensive scheme of in-service training of teachers. Both men and women were appointed to the District Education Offices to surpervise and carry out the Physical Education Programme. Physical Training Instructors were also appointed to Teachers' College.

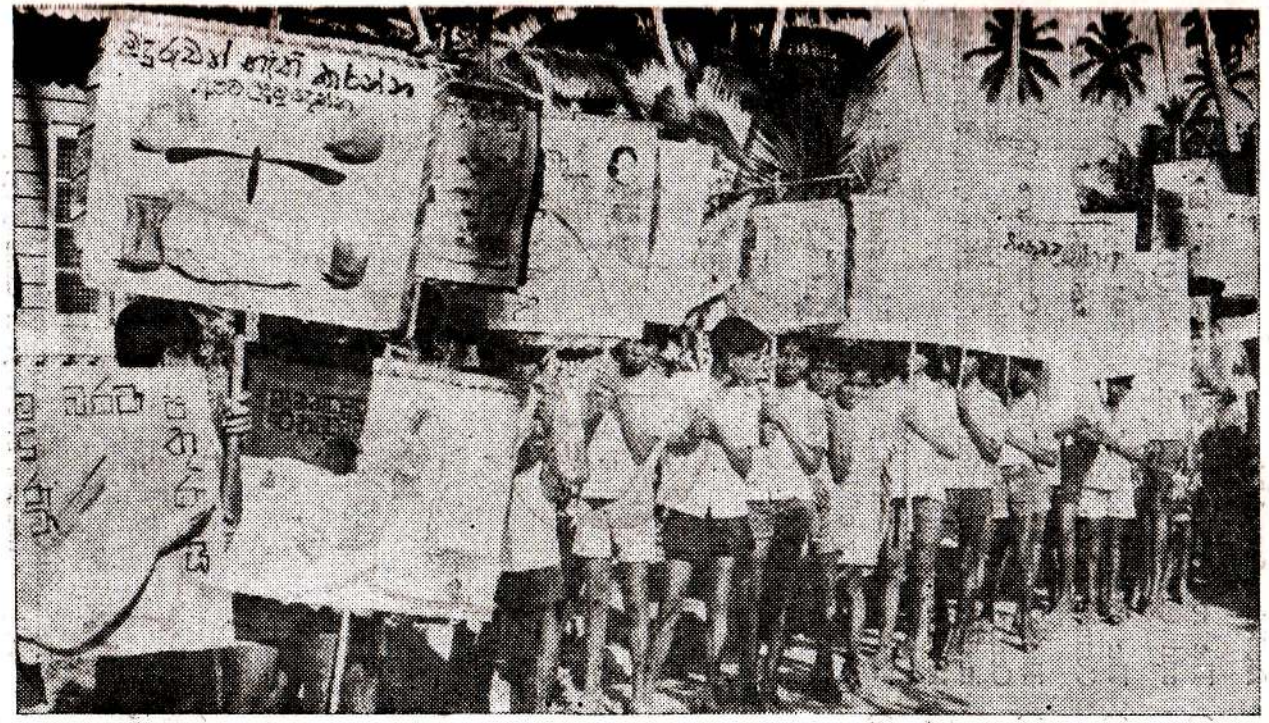
SUMMARY

Discipline and drill was the basis for physical development for more than 60 years. Games and dancing became part of physical training only around the mid 40's. Health as part of physical education is a quite a recent development from the 50's. Early morning inspection of school children for cleanliness and monitoring of health habits particularly in the primary grades was instrumental in imprinting some of the more useful practices among school children during this period (13).

DEVELOPMENTS IN HEALTH EDUCATION

The educational boom of the post independence era (1948) with the liberalisation of the authoritarian model had far reaching implications in the practice of health habits by school children. Earlier the small number of students attending schools were checked, supervised, punished and sometimes rewarded for their health related behaviours. Later on the large influx of students with the advent of free education, the lack of emphasis on health as a subject, and the lack of competencies of health teachers, all contributed to a laissez faire attitude to health teaching in schools. Emphasis was on the physical education component as part of the long tradition and heritage of drilling. Health teaching was relegated a marginal role. Concern for the health of the school child and the quality of health teaching in schools was revived by a number of developments:

(1) The school medical inspections of school children, carried out by medical officers emphasised the latent morbidity among school children (14).



Health Perahera captures health problems of the area Filaria diarrhoea and many others.

(2) The review of sanitation, water and class room facilities for children.

(3) The role of international agencies like UNESCO, WHO and UNICEF in School Health (15).

(4) The establishment of a National Joint School Health? Council of the Ministries of Education and Health.

(5) The establishment of the Curriculum Development Centre which helped the development of the curriculum in Health Education in collaboration with the Health Ministry.

(6) The organisation of a Health Education Unit in 1955 in the Ministry of Health and the development of School Health Education Unit as part of the Health Education Bureau in 1975.

Health beautiful people also have lice. Culture and tradition have ways of cleaning up.

CURRENT SITUATION

In the primary grades health is part of the environment and social studies integrated curriculum. The curriculum has been operative from 1972 at the Gr. I level and Gr.V level in 1978. A core group of teachers have been trained to use this curriculum giving emphasis to the health aspect. However the number and competency of the teachers to handle this subject needs strengthening.

At the secondary school level Gr. 6 - 10, the subject of Health Education was dealt with under hygiene, but in the present curriculum it is covered under the title Health Science. The situation at the secondary level is even more acute as the competencies to teach health at this level needs both a thorough understanding of the content, as well as skill in presenting the material so as to gain behavioural outcomes. Even students entering the fields of medicine, nursing and allied health professions, seem to avoid the study of health science.

THE HEALTH OF SRI LANKA'S SCHOOL CHILDREN

THE HEALTH OF THE SCHOOL CHILD

Children are the wealth of a nation and this valuable asset appreciates or depreciates as to how we develop them. Education is one way through which we confer value to the young ones, and enable them to become useful citizens. Another significant component of added value is how we provide for and mould the health of the nation through a build up of the social, mental and physical health of our school children. The compounded interest accrued through heatlh education among school children today will determine how we as a nation will grow, live and survive into the 21st century.

Fortunately, the school age 5 - 15 years is relatively a safe period as regards levels of mortality and serious morbidity. But if we take the large student population even a small component of illness will contribute a significant level of illness into the comunity. The social, psychological, mental and physical components have all to be developed to keep the child healthy.

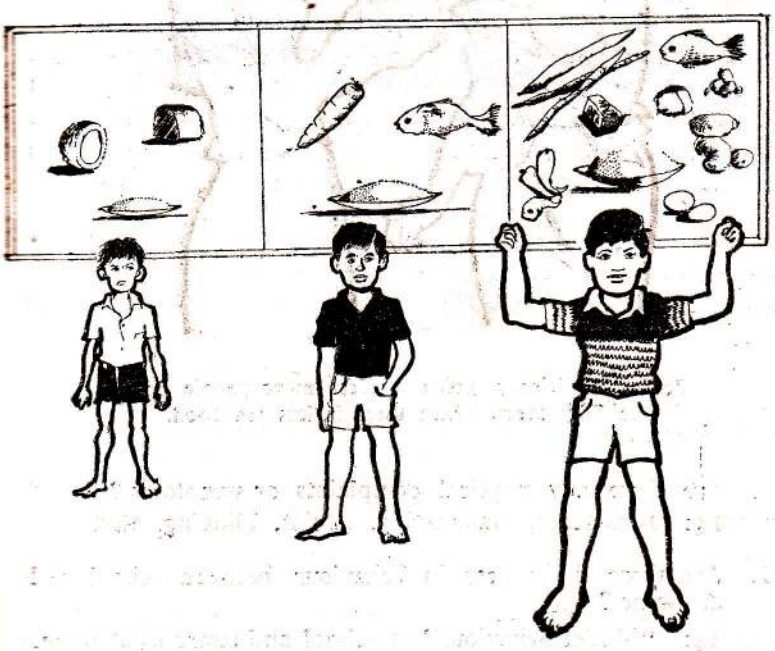
A child at school passes through important phases of development:

1. Socialisation — How to coexist.
2. Individualisation — Self identity.
3. Learning Process — How to learn.
4. Adolescence — How to cope with the body self.

AT ENTRY: THE SOCIAL AND PSYCHOLOGICAL MAKE UP

The child as she grows up relates to parents and siblings. The group grows larger with extended family members. The linkages are however clear, and the relationships are comforting. The entry into school is probably the child's first solo flight into an unknown world.

The teacher, the other members in the class, the surroundings, the chairs are all new and confusing. The perceptual capacity of the child can cope with the stimuli, as the ability to distinguish between parts of an object and organise them are already established. Right and left, and up and down, and mirror images, yet confuse a 5 year child (16).



Stunted growth and wasting of tissues, handicaps a child. Quantity and quality in nutrition are both important.

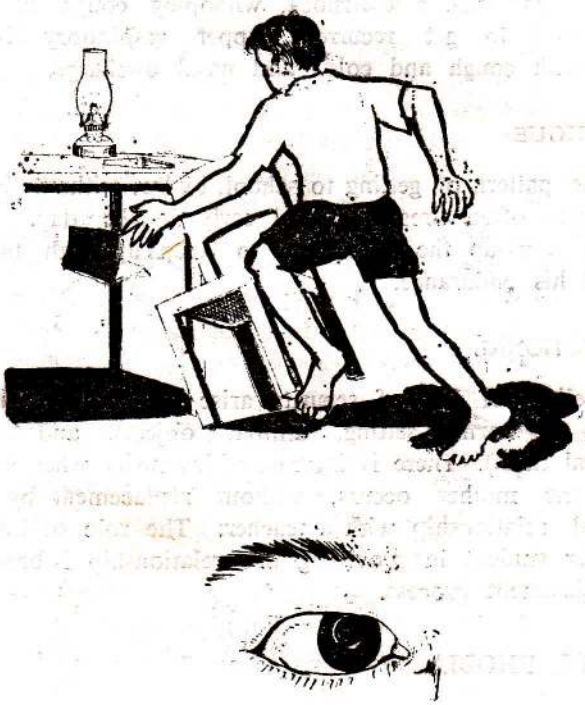
In this new situation in the school the child faces a significant change in her whole way of life (17). This can affect the child in many ways. Most children adjust rather quickly to the new environment and faces. Yet some have disturbances which may require careful handling and it may take months for the child to settle down. Three kinds of observations are useful to identify such children:

Iodine deficiency goitres affect more people in the hilly areas, where there is less sea food.

1. Are there any physical complaints or symptoms ?
   Eg: Headaches, stammering, squint, blinking, tics.

2. Are there differences in behaviour between school and at home ?
   Eg: "Model Behaviour" at school and tantrums at home.
   A discussion between parent and teacher will surface this anomaly.

3. Are there any educational difficulties ?
Eg: Child with normal intelligence and physique makes less than average overall progress and development over a long period of time.



Night blindness due to vitamin A deficiency is often missed and blamed on carelessness.

The chalky patch on the white part of the eye gives a surer clue.

This is termed "First year failure" and is to be differentiated from the short term irregularities in performance exhibited by most children in individual subjects which usually evens out. Child guidance clinics and counselling of parents resolve these learning disabilities.

THE EFFECTS OF SCHOOL ENTRY

(1) EXPOSTURE TO INFECTION is common among Gr. 0 (K.G.) children as they have moved in from a sheltered home environment to a situation where pooling of organisms occur. At risk children, who are under-nourished and whose resistance is impaired by recent illness such as diarrhoea, whooping cough or measles, tend to get recurrent upper respiratory infections with cough and colds and nasal discharge.

(2) FATIGUE

The pattern of getting to school, by bus without breakfast in a rush, often tires the child early in the day. Yet as part of a group the child tries to keep up with the others beyond his endurance.

(3) EMOTIONAL

Feelings of loss of security arise when the child is taken outside the normal setting, familiar objects, and landmarks (physical links). There is increase of insecurity when separation from the mother occurs, without replacement by a quasi-parental relationship with a teacher. The role of the teacher or older student in providing this relationship is beneficial in the adjustment process.

SCHOOL PHOBIA

The child with exaggerated fear of attending school, exhibits anxiety at going to school and complains of symptoms of head-ache, stomache ache, transient pains etc, prior to going to school and then refuses to go to school. The symptoms usually disappear with the removal of the precipitating factors of going to school. The fear of events or persons at school needs to be carefully investigated. Often it is due to an unresolved separation anxiety from the mother that is the cause, and there may be no real basis for the expressed fears at school. Once the problem has been examined and diagnosed the inter-ventions and procedures are relatively simple: working out

relations with the school, the avoidance of interest in the child's physical complaints, interviews with parents and child, and forced school attendance (18).

THE PHYSICAL CONDITION OF THE CHILD AT ENTRY

NUTRITION

The 5 year child at admission is about 100 cm. tall and 15 kg. in weight. The nutrition levels of preschool children in Sri Lanka are seriously affected. In the Nuwara Eliya district about a third of the children suffer from chronic undernutrition, and over 5% suffer from acute malnutrition. The problem of nutrition in school goers, is equally, if not more serious, At age 10 (Gr. IV) almost half the children are affected with chronic undernutrition. The study of malnutrition across the different age group (6 - 10 yrs) in all districts indicates progressive percentage increase in the affected groups at the higher age levels. (see tables 4 & 5).

The range of differences in the intensity of this problem:

(a) at different ages

(b) in different districts

may be due to a number of factors, the chief among them being: buying capacity, production of food, and availability of food, the use of types of food, preparation and distribution of the food eating habits, within the family members. If the socio-economic variables, availability of food and the purchasing power are matched, it may be possible to identify the critical variables influencing the extent of malnutrition in the areas and groups studied.

Acute undernutrition in preschoolers is about twice as prevalent in Puttalam as in some of the other similar dry zone areas—Vauniya and Hambantota. In chronic malnutrition within the same district wide disparities occur as in the estate sectors in Nuwara Eliya, the prevelance in the estate sector being about 50% more than that in the

TABLE 4
CHRONIC MALNUTRITION

District	Pre school	5 - 6 yrs	7 - 8 yrs	9 - 10 yrs	11-12 yrs
Kurunegala*	15.5	32.7	42.3	48.4	37.1
Matale*	22.1	45.5	41.7	49.3	38.7
Puttalam*	15.0	26.4	35.0	42.6	39.5
Vauniya*	22.0	25.8	31.6	41.2	41.7
N'Eliya*	34.6	59.3	56.8	69.2	43.7
Monaragala*	17.9	34.9	40.5	55.5	35.3
Hambantota **	23.8	—	—	—	—
Matara*	22.0	—	—	—	—

TABLE 5
ACUTE MALNUTRITION

District	Pre-school affected
Kurunegala *	8.3%
Matale *	4.7%
Puttalam *	10.2%
Vauniya *	4.6%
N'Eliya *	5.6%
Monaragala *	8.7%
Hambantota **	6.3%
Matara**	5.0%

* F & NPPD 80 – Six District Survey (6-59 mths.)
** F & NPPD/MRI 79 – (06 – 72 mths.)

rural sectors. Such patterns within similar socio-economic groups, indicates the need for changes in behaviour, and nutrition education of parents, preschoolers, and primary school children especially Gr. 0 to III becomes vitally important. Unfortunately specificity in the teaching or nutrition has been lacking. Generalisations and value orientations have been the main concern. Also the design of the teaching lacks sufficient cultural and environmental emphasis. Margaret Mead (19) poses this problem dramatically. The question to be asked in nutrition education is not "How do you change food habits"? but "How do food habits change ?" It is recognised that food habits change slowly and it would be necessary to identify factors bringing about such changes in—

(1) The environment

(2) The individual accepting or rejecting the foods.

(3) The food themselves.

The environmental factors cause scarcity and appeal for certain foods increase, as for dried fish and sprats. Even during the season the fluctuating prices of pumpkins makes it more desirable at the end of a season. Even present day prestigious foods like oysters were considered unsuitable to eat during Dicken's time. "Poverty and oysters seemed to go together" (20). Salmon, a french gourments delight, was shunned by even agricultural labourers and hotel employees in Lourdes around the early 20's.

It has been observed that in rural societies there is a preharvest weight drop in children (21). Storage and preservation of food then become priorities in teaching after harvest time and the cycle of teaching healh and nutrition must tally and relate to the existing farming and agricultural cycle in rural schools. It is a pointless and futile exercise to teach home gardening during drought in the dry season.

PATTERNS OF MORBIDITY & MORTALITY IN SCHOOL CHILDREN

Physical illness during the school going period is characterised mainly by the following groups of problems:

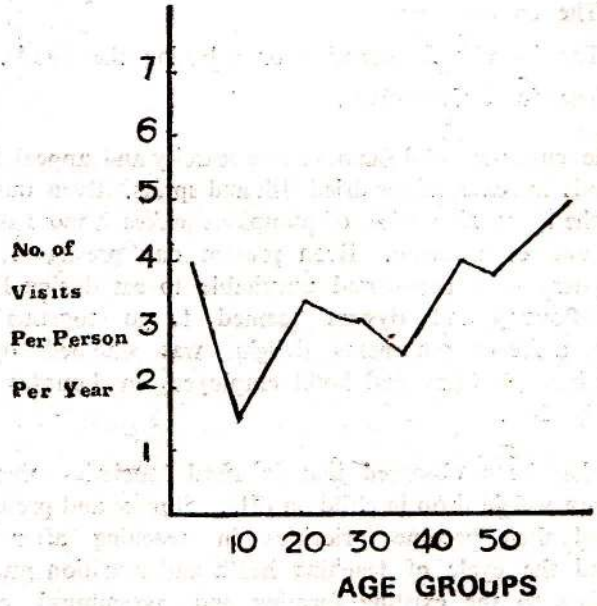


Fig 2

Report U S (P H S) 1973.

Morbidity drops dramatically but conditions may remain hidden and uncared for unless actively searched for. In Sri Lanka the pattern is similar (22).

(1) Behavioural Problems — mainly related to adaptation.

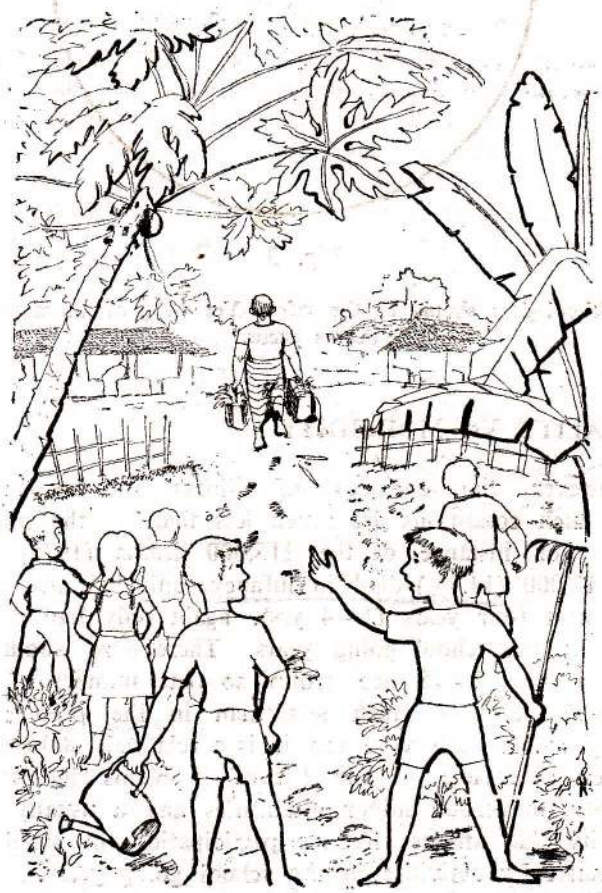
(2) Illnesses peculiar to this age group.
Upper respiratory illnesses especially throat infections (Tonsilitis, Colds & Cough) Ear Infections (Otitis)
Viral Infections: Measles, Chicken Pox, Mumps,.

(3) Serious conditions — like Rheumatic Fever & Acute Nephritis, Epilepsy (fits)

(4) Nutritional deficiencies.

(5) Skin Infections.

(6) Vision defects.



Procedure must not overcome purpose. A vendor buying products from the School garden robs the children of their efforts and chance for better nutrition.

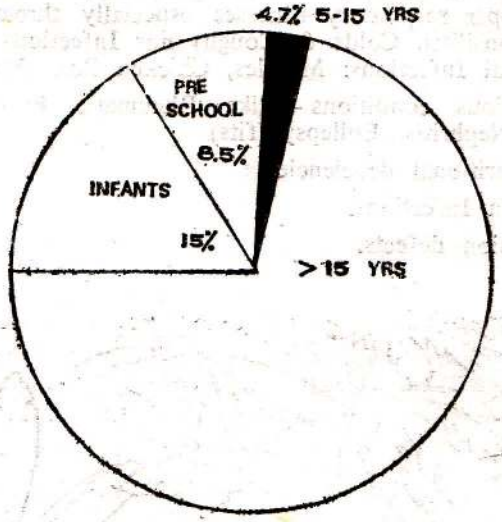


Fig. 3

School days should be the safest. Yet 4.7% of unwanted deaths occur.

MORTALITY Vs. MORBIDITY

However the episodes of illness or hospitalisation due io such conditions are mueh less than in the other age groups. For instance of the 115,000 deaths (1975) in Sri Lanka 17,000 (14.9%) died in infancy, only half that number in the next four years (1 - 4 yrs), again only half the latter number in the school going years. There were about 5,500 deaths in the 5 - 15 age group so that number of deaths in school years is much less than in the preschool and infant years. Health wise too it is a relatively stable period, However a review of the list of problems indicate high morbidity, numerous minor disabilities and a usually unseen incapacity that affects effective participation in studies and extra curricular activities in the school going years.

ABILITIES AND INTERESTS OF CHILDREN

Even though 36% of the population is under 14, society is very much organised to serve adult needs. The buses we travel in, the places we eat, the recreational centres like cinema halls we see films at, are all designed for adult sizes. Even at homes the chairs and the tables are too tall or too big for the little ones. The children are peeping over the top of a table or struggling to sit on a chair, legs dangling uncomfortably.

Primary school education recognises this anomaly and tries to provide an environment that fits the child's abliities and need. It takes off the strangeness and discomfort the child, is often exposed to, in an adult setting.

Teachers, who wish to optimise the learning of their students, try to organise the learning situations to suit the patterns of growth and development of the child. Three components have been identified in this:

(1) Physical condition.

(2) Mental traits.

(3) Socio - emotional behaviour.

Based on the observations of these characteristics, at different age groups needs of children can be outlined. Surveys carried out to find out what the child actually wants to know would give further support to the identification of learning needs of children. This simplified outline shows the relationships. (see Fig. 4)

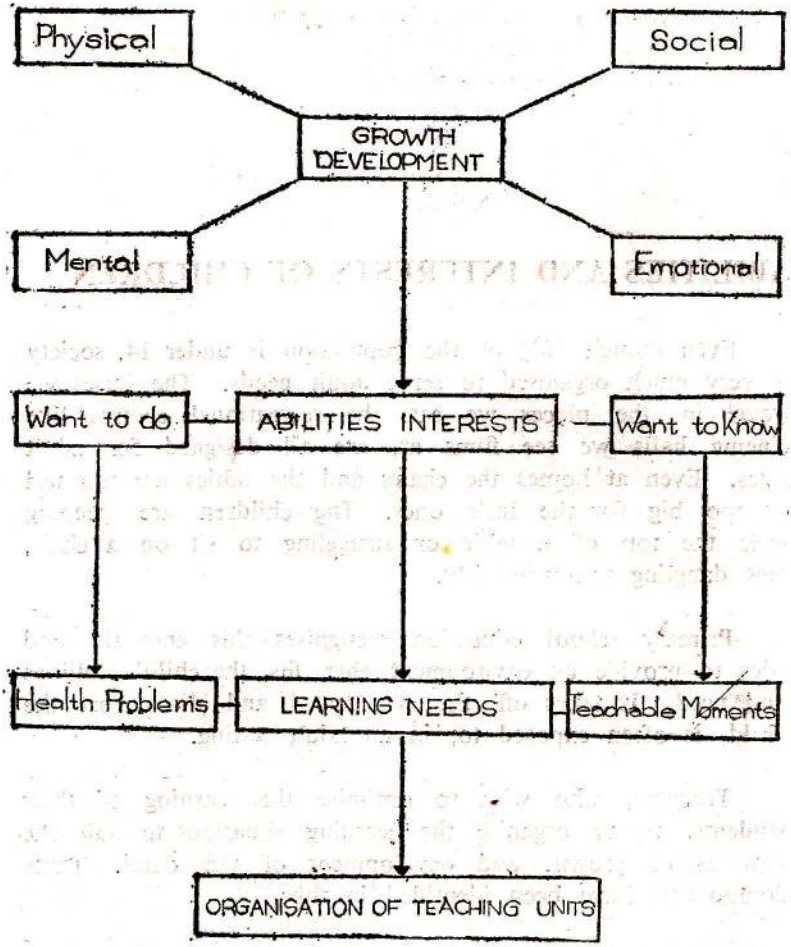


Fig. 4

MODEL FOR CURRICULUM DEVELOPMENT IN HEALTH FOR PRIMARY LEVELS.

CHILD GROWTH AND DEVELOPMENT

Grade 0 : (Kindergarten)

1. Physical Condition

Generally in good health

Nutritional levels may be low in at risk groups

* Low socio economic groups in towns: slum areas
* Small schools in rural areas.
* Estate schools children
* Children recovering from illness Measles, Chicken pox, Diarrhoea

Upper Respiratory infections, stomach upsets are common problems (23).

Child usually active, tires easily cannot sit still for long periods (10 minutes)

Enjoys movement — walking, running, dancing, climbing and use of large muscles.

Likes to manipulate large objects, mix materials and play with water.

Distant vision is good, close vision for small object less actue.

Has full set of temporary (milk) teeth - 20

2. Mental Traits

Attention span short (2 - 5 mts.)

Time relationships established—Play time, eating time, Rest time

Shows interest in home - cooking activities

Talks about events in school and outside

Begins to follow instruction

Can repeat short sequences in stories

Experiments with words — rolls over certain words

Begins to use short sentences.

Interest in dramatic play.

3 Socio-Emotional Behaviour

Self centred

Plays alone, in paralell fashion

Recognises ownership.

Begins to respect other's things

Stays with group for short spells (as interest lasts)

Seeks approval, affection and attention.

Likes to play with same age group.

Links to mother as the most important person.

NEEDS

A programme which changes activities frequently.

Experiences to permit freedom of movement (large muscles).

Activities which allows manipulation — tools, materials.

Opportunities to relive experiences through dramatic play.

Field trips for concrete experiences.

Basic information only.

Climate to promote free expression, observation.

4 Suggested Units for 1st Level students in Primary Grades (25).

Based on thieir physical condition, mental development, social and emotion characteristics emphasis for learning experiences need to be designed around these topics:

CLEANLINESS AND GROOMING

Care of hands: washing and drying

Use of handkerchief

Blowing nose, wiping, spitting

Responsibility for own clothing

POSTURE

Proper posture, sitting and standing

Frequent change of position

Posture for resting: mat or low table

DENTAL HEALTH

Recognition of differences in size and shape of teeth.

Care of teeth: Cleanliness, brushing and use of own tooth brush

Friendliness toward dentist/dental nurse.

CARE OF EYES, EARS AND NOSE

Protection of eyes, ears and nose from foreign objects.

Avoid poking objects into mouth, nose or ear.

Preparation for vision screening.

Desirable habits for listening.

REST AND SLEEP

Rest at School: changes in pace and activity, rest time.

Daily nap at home.

Regular bedtime and sufficient sleep at least 12 hours.

Happy thoughts at bedtime: music, stories.

FOOD AND NUTRITION

Importance of breakfast, snack at school, vegetable and fruits.

Interest in developing a taste for a variety of foods.

Importance of happy, relaxed atmosphere while eating.

PREVENTION AND CONTROL OF DISEASE

Importance of keeping hands and objects out of the mouth

Orientation to health personnel — Doctor, Nurse, Midwife (Family Health Worker) Public Health Inspector.

Preparation for health examination.

Immunisation programme.

EMOTIONAL AND SOCIAL HEALTH

Contributions to family teamwork: helping at home

Kindness to others.

Development of friendship.

Learning to take turns: wait, delayed gratification.

Learning to share : experiences and materials.

Good work habits.

Group planning.

Control of hands and feet.

Adjusting to disappointments

Courtesy : use of "please" and "thank you".

GROWTH AND DEVELOPMENT

Eating nutritious foods

Physical activity followed by rest or a quiet period.

COMMUNITY HEALTH

Individual responsibility for cleaning up

Litter collection.

Correct disposal of wastes.

Proper use of water: tap, well.

Proper use of latrines, bathroom.

School and home cooperation in health practices.

DRUG EDUCATION

What is medicine ?

What does doctor do ?

Why people take drugs ?

Poisoinous plants that may grow at home.

Keeping medicines safely.

FAMILY LIVING

Family Roles: Father, Mother, Extended Family.

Brothers and sisters: child to child care.

Proper use of toilet facilities.

SAFETY AND FIRST AID

Going to and from school safely.

Obeying the school safety patrol and the school crossing guard.

Getting in and out of a bus safely.

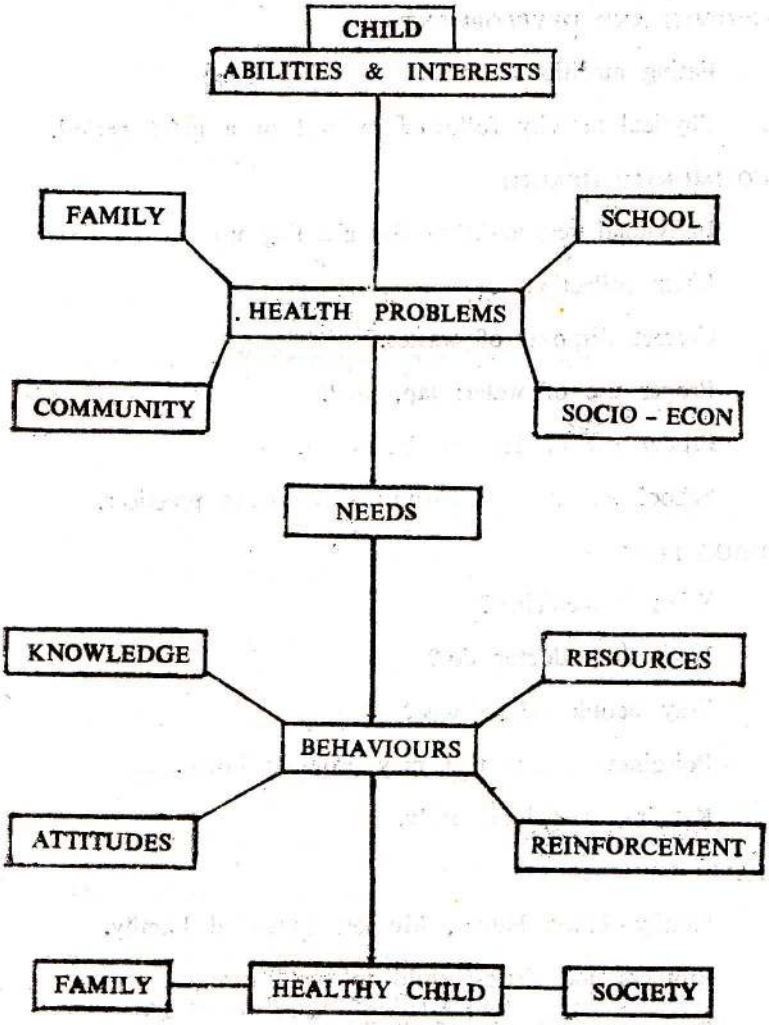


Fig. 5

Models for Organisation of teaching units based on abilities and interests.

HEALTH EDUCATION

Syllabus outline in integrated curriculum (26)

Present Primary Curriculum

Grade - 1

Unit - 1

Members of the family.

Responsibilities and the duties of members.

Helping others.

Attention regards the cleanliness of the younger. Brothers and sisters.

Unit - 2

Utensils.

Proper use of home decorations.

Unit - 3

Food

Care of food - (from flies, cockroaches)

Avoidance of undigestible and stale food.

Unit - 4

Pure water.

Water suitable for drinking purposes.

Non - pollution of water.

Unit - 5

Cleanliness of clothes.

Maintaining personal cleanliness.

Use of the toilet as a daily practice.

Cleanliness of hair, teeth, nails, skin and clothes.

Cleanliness of the school.

Keeping the classroom and the school compound clean.

Keeping the books and the other utensils clean.

What children want to know :

The notion of health in kindergarten to Gr. II (5 to 8 year olds) are related to their ability to do things:

Run, Play, eat well, and be strong.

Not to be sick is another strong notion:

"I don't want to go to hospital".

"I don't want to drink medicine"-

There is an element of fear too

"They will pull my teeth".

The concept of health is defined more in terms of illness and associations with a particularly painful event (27). A third of the children were able to identify with health personnel or institutions. One of the main worry of the children was about teeth coming off. There was surprise and happiness when new ones came up.

The Current Situation:

The intergrated curriculum in primary schools has the health components included in the environmental studies. This curriculum identifies specific behaviours that children need to adopt and the emphasis is on cleanliness. On the other hand the suggested topics derived from the growth and development pattern in children described earlier, provides a more detailed list, and relates to health as a comprehensive, many faceted thing, in terms of enjoyment, fun, and play activity. The dilemma of whether to choose a specific problem centred approach or a holistic developmental approach

is in some ways demonstrated in this analysis. It is not so much an either or position but to recognise what is practical and relevant. In early primary education it is commonly agreed by educational psychologists that a developmental approach is more in keeping with the needs and capacities of the child.

A summary of the growth and developmental needs relevant to primary and secondary grades is provided so as to highlight some of the learning needs. This may serve as a useful tool for the analysis of the present curriculum and organise teaching learning activities to suit the abilities and needs of students. Also when modification or revision of the curriculum is planned this could serve as a basis. Studies on student health related behaviours would also be necessary to support changes in any planned curriculum change. The model described in Fig. 5 interates these various elements.

1. PHYSICAL CHARACTERISTICS

Grade I (6 yrs.)	Grade II (7 yrs.)	Grade III (8 yrs.)
More susceptible to illness	Less illness than at six Fewer cold	General good health Builds up immunity to communicable diseases
Motor control coordination poor	Coordination better Uses smaller muscles Likes to repeat activities	Coordination improved
Far sighted	Far sighted Tries focussing closer	Able to focus at near objects and at distant ones
Constantly active	Calmed down Works in fits and starts Bursts of energy	Physical energy seems unlimited Works or plays to exhausation
Teeth begin to fall	Drops teeth 1st permanent molars appear	Dental defects appear
Uneven physical growth Rapid growth of legs (height) Curve of spine begins to resemble adult	Slow steady growth	Rapid growth of legs and arms again

Grade I (6 yrs.)	Grade II (7 yrs.)	Grade III (8 yrs.)
Girls show more mature skeletal development than boys	Boys catch up	Boys overtake girls
Out of breath easily Lung capacity small Rapid heart beat	Improved Lung capacity	Heart rate slower.
IMPLICATIONS FOR TEACHERS: STUDENT BEHAVIOUR		
Avoid: over exertion	**Control:** Short period of work	**Control:** Exhaustion,Economise
Practice: Combing hair, tying shoe lace	**Combine:** Large & small Muscle activity, sewing still clumsy	**Activity:** Sewing activity better Coordination & near vision improved.
Check: Posture	**Care:** Permanent Teeth. Improve practices.	**Dental Care:** Caries/Oral sepsis
Guide: Establish Right or left handedness	**Concept:** Putting pieces together: Development	**Concept:** Function & ability
Focus: On Thumb sucking results on teeth	**Precaution:** Accidents.	**Complete:** Immunisations before drop out.
Immunisation: Assessment	**Complete:** Missed immunisation	

2. MENTAL TRAITS

Grade I (6 yrs.)	Grade II (7 yrs.)	Grade III (8 yrs.)
Some increase in attention span	Increase attention span	Concentration span more (15-20 mts)
Begins to distinguish between Facts & make believe		Differentiates fact from fiction
Can relate to time by now: morning evening sleep time	Time relationships clearer Parts of day and hours	Can read time accurately Importance of punctuality.
Loves dramatic play	Interest in dramatic work	Good story teller.
Interested in activity not result	Still process oriented	Wants some results in games
Formulates sentence & relates ideas	Takes time to think	
Identified symbols	Demonstrates some abstract thinking	Tries to define problems clearly
Can read pictures	Choses action words	Logical pattern in thinking shown
Confused in making choices	Describes events more clearly	
	Recognises own capabilities	Capacity to accept criticism seen
	Expects too much of self relates to past experience & background	Ability for some self evaluation.

Grade I (6 yrs.)	Grade II (7 yrs.)	Grade III (8 yrs.)
IMPLICATIONS FOR TEACHING		
Fear: Don't exaggerate problems	**Individualisation:** Own comb, brush, cup, glass	**Cause – Effect:** Relationships between worms, mosquitoes and illness
Relate: Timing for health activities Morning – brush, wash, clean up etc.	**Role play:** Health activities (Dramatise)	**Reinforcement habits:** Provide reason for action
Cause – Effect: Relationships Need **not** be over stressed.	**Collect:** Childs experiences on health.	**Analyse** what child can do: gardening, collect empty tins, coconut shell, etc.
Tag on: Attractiveness-colour, smell etc., to desired health habit as choices are difficult.		

3. SOCIO—EMOTIONAL FACTORS

Grade I (6 yrs.)	Grade II (7 yrs.)	Grade III (8 yrs.)
Very self centred & demanding	Works alone or in group	Choses special friends
Not very cooperative	Participation good	Group behaviours established
Rebels at organised games		Member of gang
Loves praise	Resents direct correction	Competitive spirit
	Stage of assimilation	Responds to encouragement & praise
	Assumes responsibilities	
	Adores teacher	
Does not accept blame or criticism	Less dependent on mother	
Does not accept punishment	Jealous of brothers & sisters	
Expects others to conform		
Does not accept younger sibling	Wants everything to be perfect	Reaches out beyond own abilities
	"Eraser stage."	
	Keen observer	
	Tends to worry	
		Has fears — real & imaginary

IMPLICATIONS FOR TEACHERS

Grade I (6 yrs.)	Grade II (7 yrs.)	Grade III (8 yrs.)
Individual attention	Encourage group activity	Works well in group
Develop group norms (small groups) 3 - 4	Draw pictures of "healthy" persons	Modify influences (health) in gang or group behaviours.
Change leadership often—give centre of stage to each child.	Observe health problems-home school.	Give responsibilities
Employ Rewards more than punishment		Group tasks for school/class environment
Pupil reacher planning for trust & rapport.		
Small group games on health (not diseases)	Teacher role model Withold rewards-encouragement etc. if correction needed.	Encourage independence Keep connection open.

Grade IV (9 yrs.)

1. PHYSICAL CONDITION

Enjoys exhibiting motor skills
Twists and turns in seat (Restless Stage)
Even growth in height and weight

IMPLICATIONS FOR TEACHERS:
Sketches models for health (latrine)

2. MENTAL TRAIT

Makes plans
Interests deepen.
How & why of things ?
Searches materials (digs up)

IMPLICATIONS FOR TEACHER:
Explain reason for health habits
Recognition early symptoms of illness

Grade V (10 yrs.)

PHYSICAL CONDITION
Increase in manual strength
Eye hand coordination well developed
Uneven growth of different parts of body

Nutritional needs how best to obtain.
Once a week collection of greens for individual/ kola kenda at school.

MENTAL TRAIT
Critical thinking & generalization exhibited
Experiments and Explores objects.
Retention better.
Utilises efforts more effectively – (interested in results)

IMPLICATIONS FOR TEACHER:
Effects of bad posture.
Causation of disease.
Reasons for Immunisation.

Grade V (9 yrs.)

3. SOCIO—EMOTIONAL FACTOR

Plays and works well with others
Participation in gangs, ability to evaluate
Relaxation through interests, hobbies, action.
Exhibits independence

IMPLICATIONS FOR TEACHER:

Adjustments easier
Participation in problem solving
Stimulate interest and hobbies related to health

Grade V (10 yrs.)

SOCIO—EMOTIONAL FACTOR

Matches skills
Loves Competition
Seeks approval
Tries to impress
May show antagonism to opposite sex
Self conscious.

IMPLICATIONS FOR TEACHER:

Importance of cooperation
Self discipline vs. destructive competition
Example to others (younger)
Utilise in child to child care.

GROWTH & DEVELOPMENT

Pre adolescent period

Grade VI (11 yrs.)

PHYSICAL CONDITION

Overanxious about health
Physically active
Lacks judgement–over extends
Uneven growth–Hip gets larger
Pubescent changes begin:
Deposit of fat, Public axillary, Facial hair begin to appear as very fine downy growths

MENTAL TRAITS

Loves adventure stories
Concept about time nearly adult
Group work productive connects ideas, association of events and memory

Grade VII (12 yrs.)

PHYSICAL CONDITION

Tires easily but wants to go on
Resists falling asleep.
Period of rapid growth
Hungry all the time-eats well
Awkward, may have poorer coordination
Girl's sexually more mature.
Boy's stronger and faster, changes in voice
Enlargment of testes, pubic hair becomes darker
Enlargement of breast in males, may affect one side only.
Development of breasts in females

MENTAL TRAITS

Fantasy, Day dreaming,
Reads stories "most" of the time
Desire to learn
Attention span increases

Grade VIII (13 yrs.)

PHYSICAL CONDITION

Active, wants to be occupied
Exhausted.

May have loss of apetite
Skin—pimples, acne

Girl's grow taller (pre puberty)
Sexual tension increases
Pubic and axillary hair present
Menarche
Fat accumulation in girls continue
Muscular growth in boys.

MENTAL TRAITS

Resists authority
"All or None" feeling, curious about self, worried.

Child to Child Programmes within the school.

Planning in small groups, then for discussion with teacher.

Grade VI (11 yrs.)	Grade VII (12 yrs.)	Grade VIII (13 yrs.)
	Conscious of sex	
	Likes to imitate adults	
	Likes to practice,	
SOCIAL AND EMOTIONAL:		
Team spirit	Group acceptance vital	Moody and restless
Interest in social activities	Peer group pressure	Girls become interested in boys
Status becomes established	Emotions easily aroused	Permanent friendships within same sex
Stands for justice and fair play	Some try to show off	Shy, self conscious
Obedience and respect	Awareness of changes in body	Lacks self confidence
Frustration as conflict between Dependence and Independence	Self examination	
Wants help, does not like to be told what to do	Spends more time at the mirror	

Innovativeness and Creativity in making things helps adolescents overcome shyness - they open up into fuller beings.

Implications for Teaching:

Recognise the differencies in maturity between boys and girls.
Boys lag by about 2 yrs. Individual differencies among boys, and among girls of some age before and after pubuty should be recognised.
In prepubescent period, children are curious about their bodies.
They are shy and anxious. Communication and reassurance is therefore essential.
Self consciousness about body growth, hair, breasts Acne can be reduced by explanation.
Over-reaction and punitive discipline.
Discuss independence and responsibility for clothes, food, friends, leisure activities.
Prone to nutritional disorders as needs and apetite do not often match, advice of deck essential.
Being awkward in the show off stage, accidents are commonest at this age to their intense physical activity and emotional strivings (28).
Recognition of the sequential stages necessary for healthy adolescence (Erikson) (29),
1. Identification 2. Intimacy and Empathy 3. Generationtry and 4. Integration
Identification with appropriate models to plan future in education and vocation. Those who had earlier problems in identification will have a repetition of such anxieties.
Personal intimacy involves sharing of feelings, and has more than sexual arousal. It requires empathy, the ability to know how others feel and respond to it with understanding.
Generativity refers to the ability to produce something useful for others (society) in return for reasonable benefits.
The final stage of growth postulated by Erickson is that of integration, where there is acceptance of others at their own value, for example, love of parents, free of the wish that they would have been different, more admirable, less prone to weakness.

Post Pubescent period – Adolescent (30)

Gr. 9 and 10: (14 & 15 yrs.)

Physical Condition

Boys catch up and grow as tall and heavier. Axillary hair appears.

No emissions occur.

Secondary sex characteristics established:

Female Pelvis, Axillary hair more clear.

Menstruation still irregular

Skin conditions common.

Mental Trait:

Can Reason well.

Argumentative Expresses different point of view.

Aware of own positions on issues.

Imitates hero/heroine.

Socio – Emotional Factors

Sometimes outbursts of emotion.

Not in control nor can explain it.

Interested in talking with person of opposite sex.

Concerned about physical attractiveness.

Spends lot of time on combing, dressing etc.

Fear of failure, rejection.

IMPLICATIONS FOR TEACHING:

Counsellor and facilitator role in teaching.
Tolerance is important to teach tolerance and how to get on with others.
Supports self confidence; promotes individuality.
Explore values as compromise.

The shyness is over and responsibility begins: Picking up the pieces, cleaning up the mess.

The time of waiting is over, dig and dig to find new ways of living.

HEALTH PROBLEMS IN SCHOOL CHILDREN

Even though school children are less prone to serious illnesses they still have 6-7 respiratory illnesses per year (31).

The illnesses for which they seek treatment are tonsilitis, diarrhoeas, and upper respiratory infections associated with fever, cough and colds. Acute Nephritis (swelling of face and difficulty in passing urine) and Rheumatic fever are also serious illnesses during schooling. Scabies, and tooth aches are the more troublesome complaints though less dangerous.

Many of the problems in childhood remain masked, as children often ignore or are ignorant of the consequences of seemingly minor ailments which may develop into serious health problems. Some of these problems usually identified at medical screening of school children are:

1. Dental Caries & Gingivitis
2. Malnutrition (a) underweight
   (b) stunting
3. Pediculosis (Lice)
4. Anaemia (Lack of Haemoglobin)
5. Skin conditions
   (a) Mosaic skin
   (b) Phrynoderma
   (c) Scabies
   (d) Fungal Infections
6. Vitamin deficiencies
   (a) Bitot spots
   (b) Angular stomatitis

7. Infections (a) Otitis Media
(b) Tonsilitis

8. Sensory defects (a) Vision
(b) Hearing

9. Behaviour disorders : Blinking, Tico, Truancy, Tantrums

10. Intelligence

11. Speech—Stammering

Demonstration of dental plaque—a sticky patch of germs on the teeth -by using a vegetable dye. Beet root stain or food dyes can also be used.

Scabies parasite burrows under the skin and lays eggs. The young hatch out and spread the scratch.

MALNUTRITION

This is detected by comparing heights and weights of such children with normal children of the same age.

When a child is malnourished he exhibits one or more of these defects:

(1) **Anaemia :** is the commonest. This is identified by symptoms of breathlessness in the child. The colour is pale especially the inside of the mouth (mucosa) and the conjunctiva. When examining the conjuctiva too much pressure or pull on the inside of the eyelids may make it look pale. Blood tests will confirm the clinical observation. This is expressed as haemoglobin percentage or as the number of grams of haemoglobin per 100 ml. of blood.

(2) **Glossitis:** The appearance of red smooth tongue (B deficiency)

(3) **Angular Stomatitis :** Corners of the mouth are cracked and raw. (B deficiency)

(4) **Bitot Spot:** The child might complain of night blindness i.e. difficulty in reading or seeing at dusk.

How to detect these health problems

Malnutrition is classified as:

1. Acute Under-nutrition
2. Chronic Malnutrition

The characteristic features, in acute undernutrition are that there is not enough nutritional requirements for normal growth and development and this shortfall is of such a severe nature that muscle and fat tissues are broken down to supply the minimum metabolic (energy) requirements.

Symptoms are : Child is tired and breathless on effort and appears inactive.

Skin is wrinkled and can be pinched, or puckered (old man's skin) as there is loss of subcutaneous fat and elasticity. This is referred to as **wasting.** If there is associated swelling then this can be masked by the fluid leaking into the tissues to cause ocdema. The child's weight will be lower than expected (wt./age).

In chronic malnutrition there is stunting i.e. the growth in height has been retarded, like in plants, when nutrition has been inadequate. The height for age is inappropriate. (Ht./age).

Assessment of Health Problems

The assessment of health problems involves some simple procedures:

1. Examination of specific areas of the body:
   What to examine. eg. skin
   How to examine. eg. Pinch skin

2. Comparison with the normal: Identify key elements in comparison. eg. Smooth elastic vs. Wrinkled loose

3. Detect Discrepancy based on :

   (i) Variations from normal: Is it abnormal ? Slight or moderate

   (ii) Degree of variability: Serious severe Abnormality ?

4. Refer for expert advice.

No child is diagnosed as having a particular condition or defect. There is only a reasonable suspicion of a problem based on the physical and clinical observations. The reasons, the causes the interpretations need professional skill. However using the examination, comparison, discrepancy technique quite a few simple and obvious conditions needing urgent care can be detected and referred for treatment.

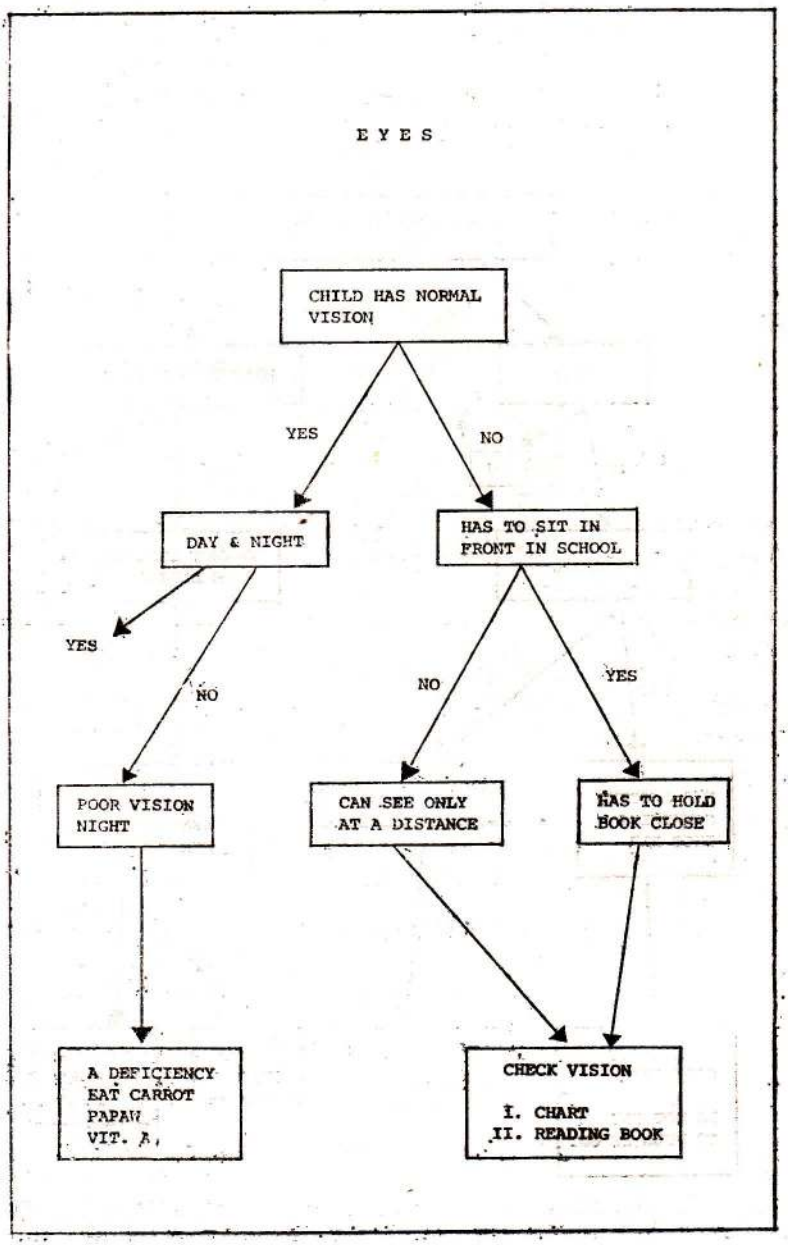
Studies based on the efficacy of screening procedures by para-professionals and teachers for simple conditions indicate:—

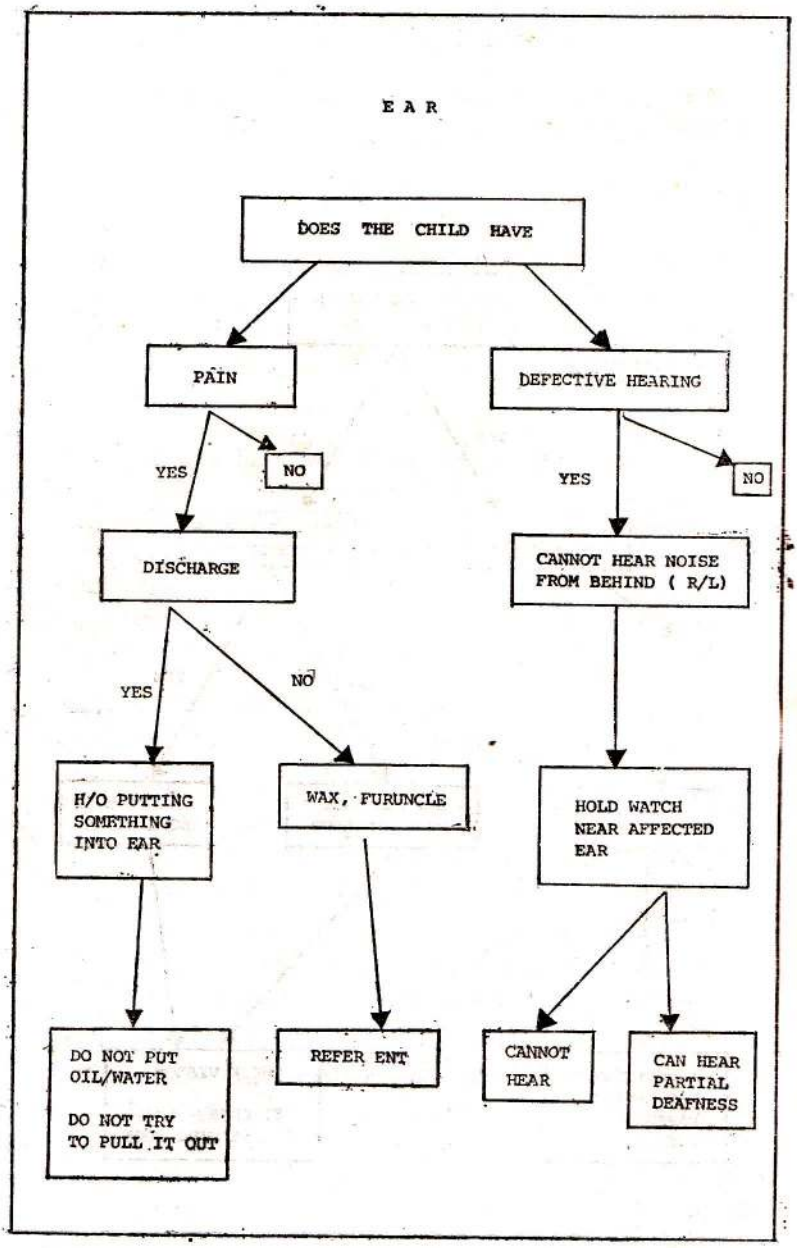
1. high degree of false positives in conditions needing fair clinical skill.
   i.e. quite a few normals are labelled as having bitot spots, phyrnodrma, mosaic skin.

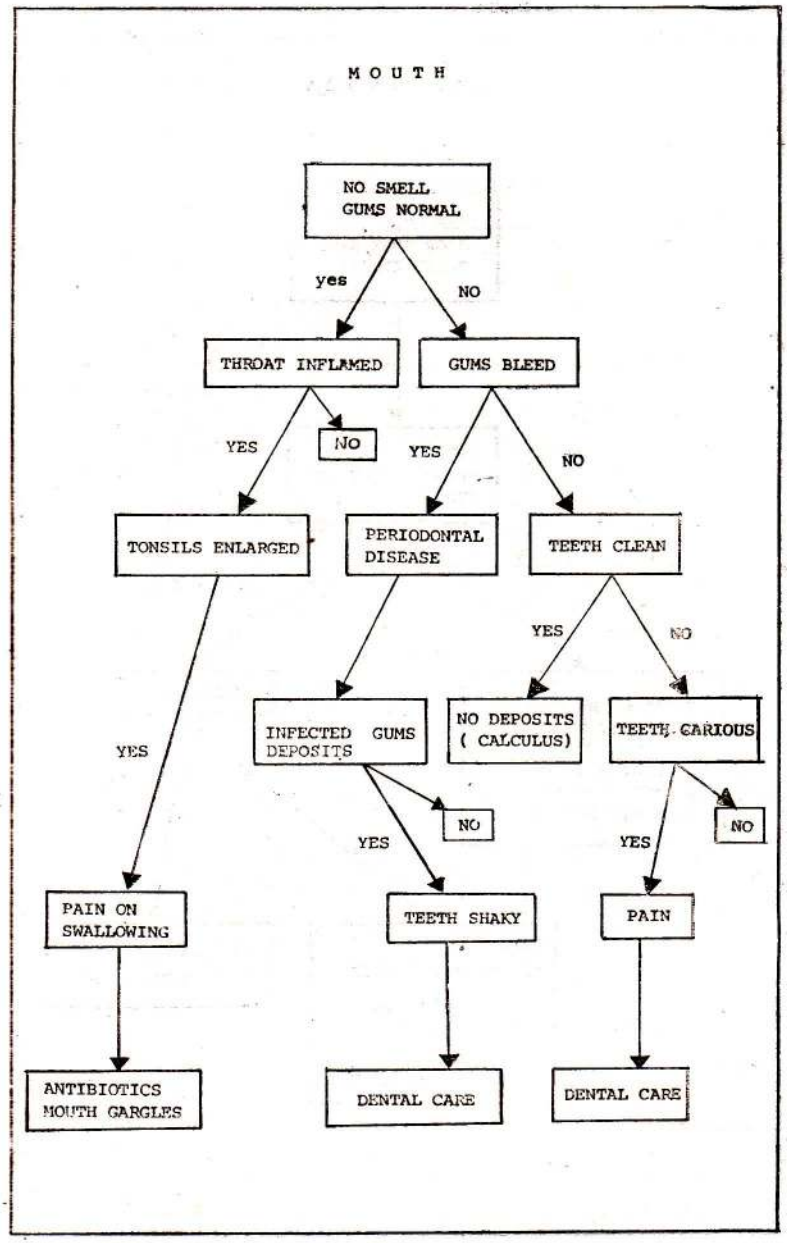
2. a high degree of corelation 65 - 70% between the expert opinion of doctors and teachers on malnutrition (based on heights and weights) Anaemia, vision defects etc.

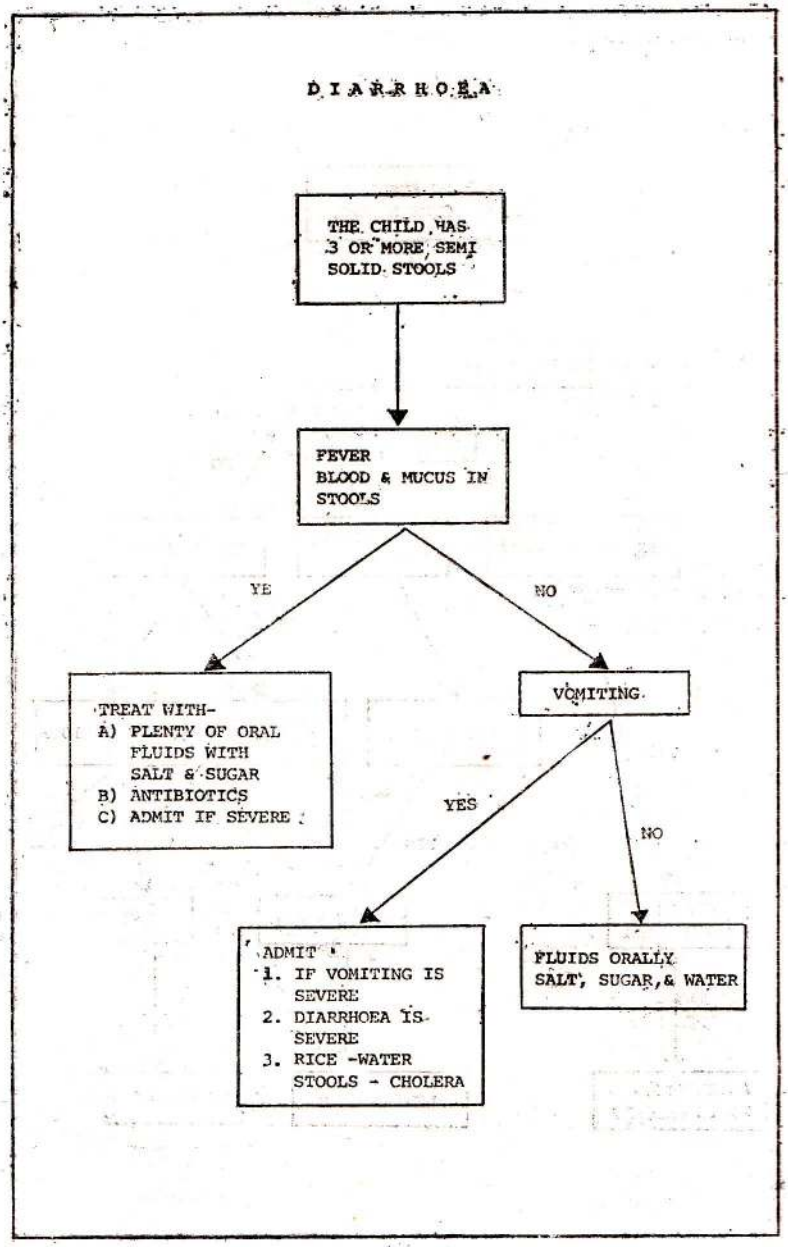
3. positive case findings of children with behaviour disorders and learning disabilities due to the extended period of observation of the children by teachers under various stimuli and settings i.e. cases missed in a routine school medical inspection can be picked up.

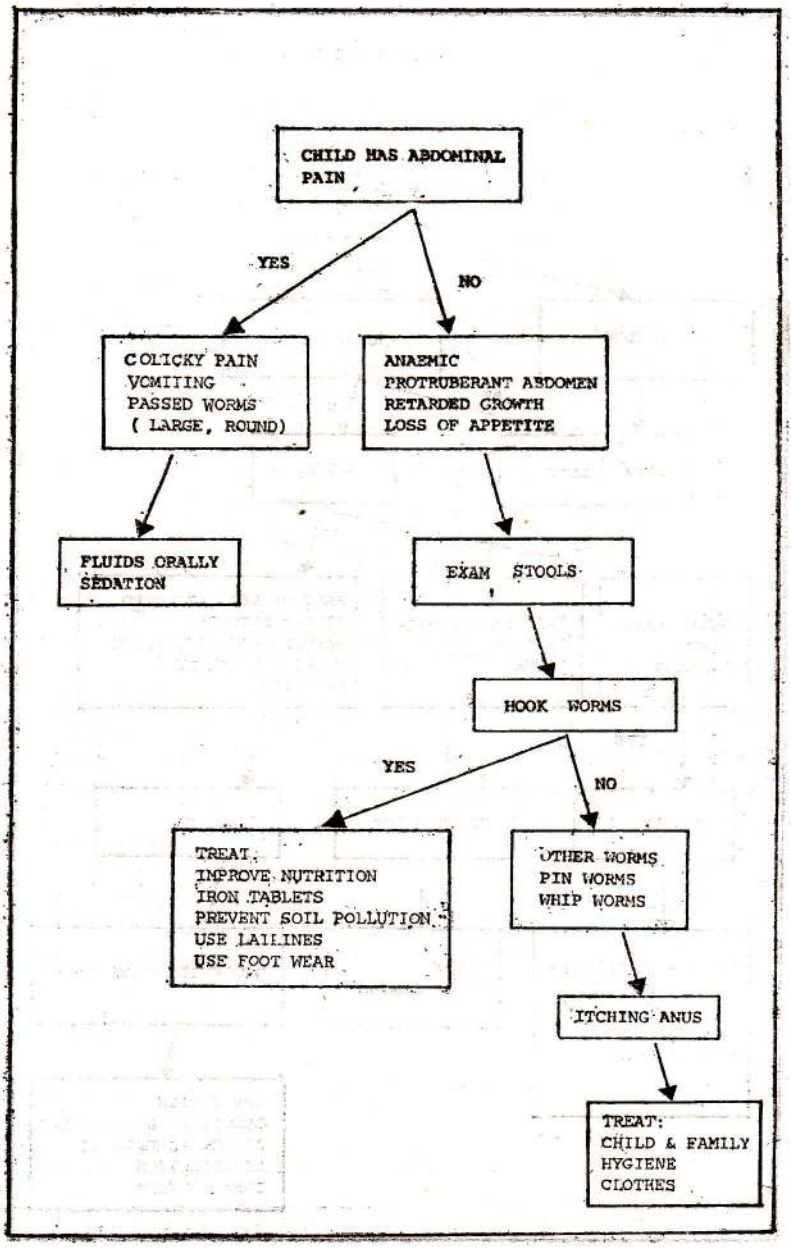
SCREENING DIAGRAMS

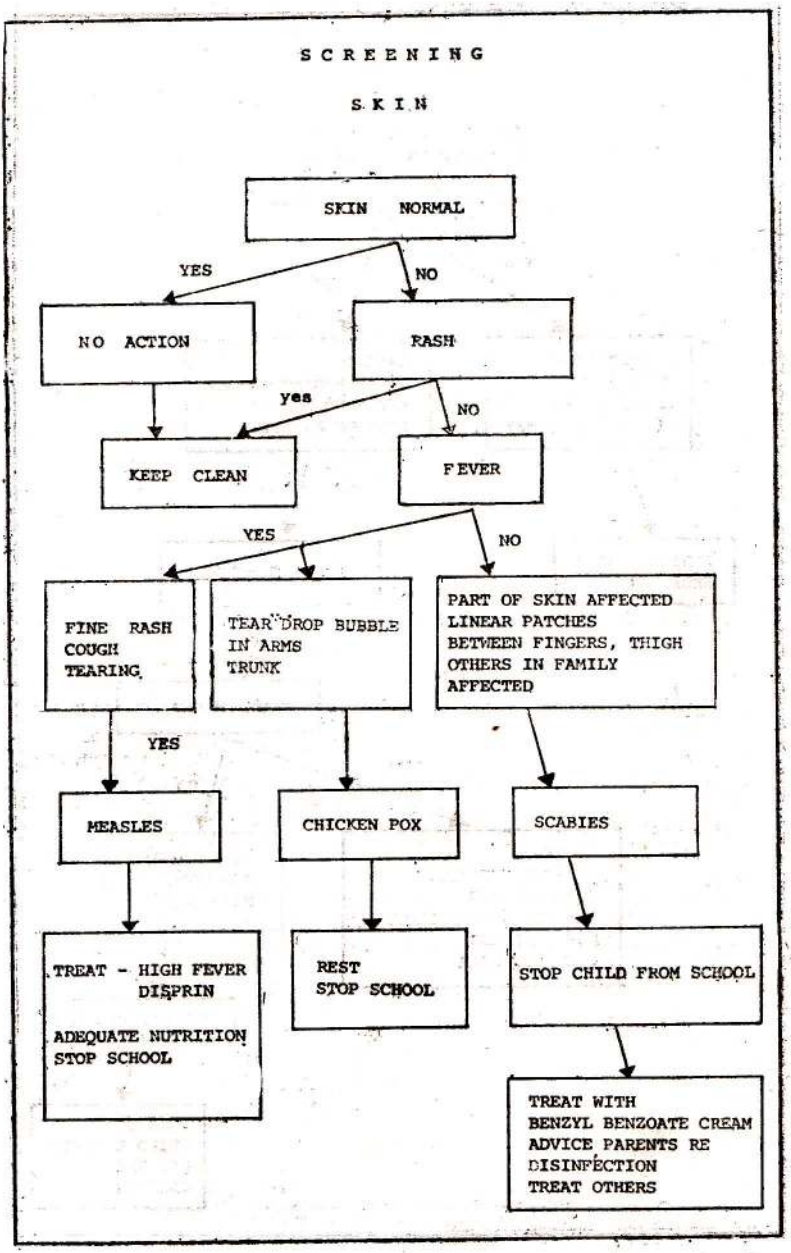


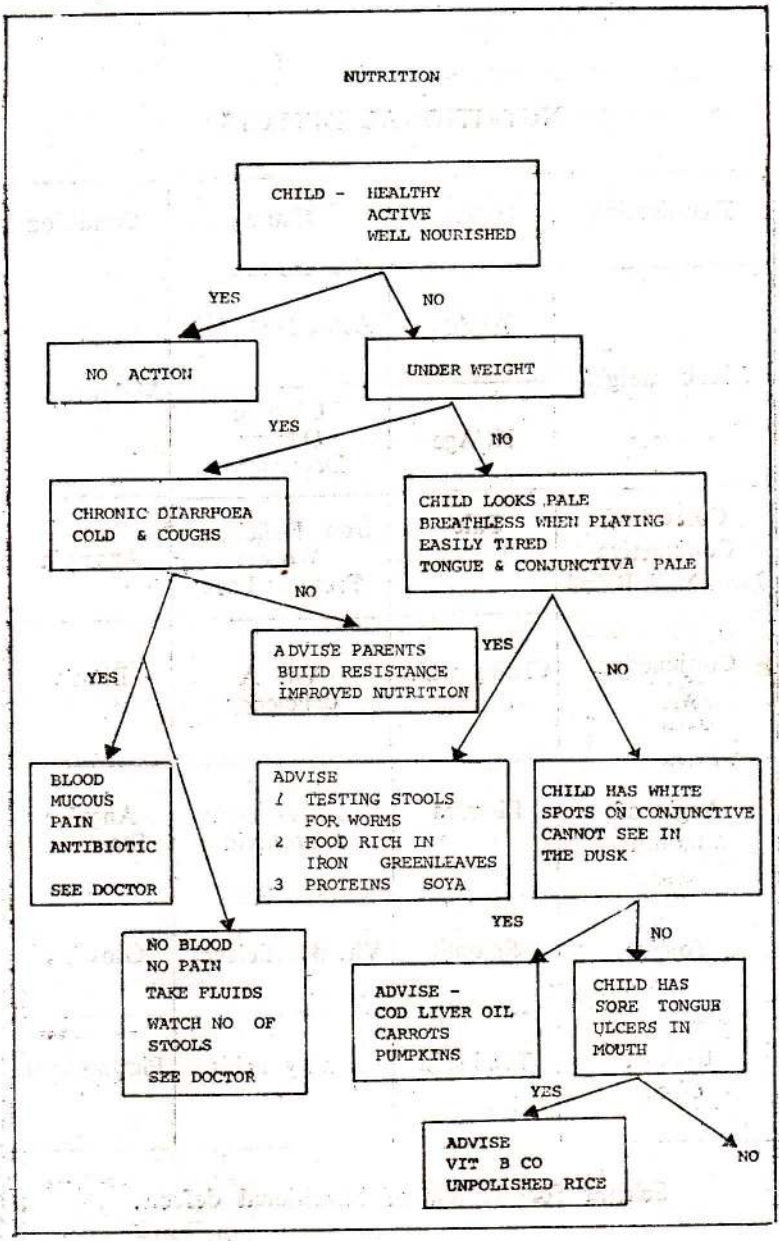












Refer to circular on screening issued by Ministers.
School Medical Examination Chart (Form) appendices
Modified forms for use appendices.

NUTRITIONAL DEFECTS

Examination	Observe	Cause	Condition
Check weight	Wt/Age	Acute Diet def.	Malnutrition
	Ht/Age	Chronic Dietary Deprivation	
Colour of Conjunctiva Lips, Nail, Blood	Pale	Iron Deficiency Worms Protein Lack	Anaemia
Conjunctiva	Chalky white deposit	Vit. A deficiency	Bitot's spots
Angle of mouth	Fissures	Vit. B deficiency Riboflavin	Angular Stomatitis
Tongue	Smooth	Vit. B deficiency	Glossitis
Back of elbow	Toad skin	Faulty acids	Phrynoderma

Scheme for Review of Nutritional defects.

ORAL HEALTH PROBLEMS

Site Examined	Observations	Clinical condition
Cutting grinding Surfaces of teeth	Dark spots on teeth Fissures Cavities, food particles collect, Pain later on	Dental caries
Rub gum margin Exam – crevices between teeth Observe roots	Bleeding gums Calculus-deposits Pockets—pyarrhoea Shaky teeth	Periodontal diseases
Close-mouth Observe alignment Upper/lower jaw	Protruding teeth Extra teeth Displaced tooth Cannot bite properly	Orthodontic defects Malocclusion

School Medical Inspections:

School Medical Inspections are carried out by School Medical Officer, Medical Officers of Health and District Medical Officers. The Assistant Medical Practitioners, Public Health Inspectors, Public Health Nurses & Midwives (Family Health Workers) assist in these procedures.

Role of Teachers:

Teachers play a significant role in the school medical inspections especially in:

1. Observation
2. History taking
3. Screening for specific problems
4. Referral
5. First-Aid and Simple Care
6. Follow up.
7. Counselling
8. Discussion with parents
9. Review of special problems with health staff
10. Organising Health Education Sessions

School Medical Officer examines child and trains Public Health Inspectors in school medical inspection.

Teacher inspects the cleanliness of school children in a daily morning inspection.

The Medical Examination is carried out in Grade 1, 4 and 7 and is essentially a:

(i) Screening procedure for serious but latent illnesses.

(ii) Clinical diagnostic and treatment process for simple ailments and dificiencies.

(iii) Identification and referral procedure for conditions affecting learning: Behavioural disorders, vision, hearing etc.

The examination of school children and its results are given in table below:

No. of Schools	No. Exam. Schools	% of Exam.	No. of children	No. Exam.	% Exam.	No. defective at Exam.	% defective at Exam.
8,585	2,517	29.3	2,625,241	204,147	7.7%	113,877	55.8%

SCHOOL HEALTH EXAMINATION—Dept. of Health (1971)

The water borne illnesses like typhoid and infective hepatitis affect primarily school going age groups, 61.5%, & 47.3% of the cases reported being in this group vide table:

Age Groups	Hepatitis % of all cases	Typhoid % of all cases
0 - 4	13.1	5.8
5 - 9	32.9	17.0
10 - 14	18.9	15.9
15 - 19	9.7	14.4

Source: Epidemiology unit (71).

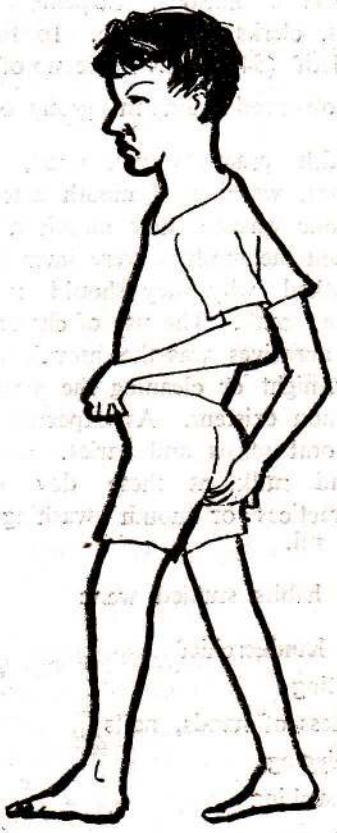
A recent survey (1980) carried in the 103 M. O. H. areas in 127 randomly selected rural and urban schools reflects the present position:

	Rural	Urban
No. of children examined	7,595	4,896
Vit. A def.	768 (10.1%)	407 (8.3%)
Vit. B def.	211	198
Speech problems	08	07
Hearing defects	28	15
Vision defects	37	20
* Ht. below standard	122	79
* Wt. below standard	188	128
Dental caries	2,215 (29%)	1,509 (30.6%)
Gum diseases	154	73
No. assessed as in poor Health	369 (4.8%)	330 (6.7%)

* Not done in all children.
The nutritional surveys done by F & NPPD/MRI assesses this problem.
Poor health assessed as more than two defects/chronic illness.

In a careful assessment of dental caries the extent of the problem in Grade VII reaches 25%.

School dental nurse demonstrates to parents Oral health problems in children.



Worms come out of the anal canal and irritate causing intense scratching from finger to mouth the person is reinfected. From clothes and contact others are infected.

Study of Preschoolers:

120 preschoolers 3 to 5 years in 6 day care centres was studied in the M. O. H. area Agalawatta, over a one year period as to their perceptions of health. The parents were in the working class group with an average income between Rs. 300 to 500/–. 58% of the mothers were working either full time or part time especially as rubber tappers or in the fields. The occupations of the fathers were mainly as agricultural labourers (69%). 8 % worked as casual labourers, 14%

as semi skilled workers, masons, carpenters etc. and 9% as government servants, clerks, peons etc. In this working class group more than half (54%) was made up of nuclear families. The following was observed among this group of preschoolers:

1. Dental health practices were poor, only 6.6% used tooth brushes, washing of mouth after food, was seen in 23%, none washed their mouth after eating sweets. In fact when the mothers were interviewed few of them curiously asked why they should remove the "sweet taste" in the mouth. The use of charcoal, tooth powders and other abrasives was the prevalent practice. Tooth brushing at night or cleaning the mouth after the night meal was non existent. As expected there was a high degree of oral sepsis and caries. Children were given biscuits and milk at these day care centres but brushing practices or mouth washing practices at the centre was nil.

2. The health habits studied were:

   Use of handkerchief
   Nail biting
   Cleanliness of hands, nails
   Nose digging
   Finger sucking
   Spitting
   Illness behaviour - wiping nasal discharge
   coughing

The behaviours were assessed as positive, neutral or negative. The analysis showed that children in non nuclear families and smaller families (less than 2 children) showed less negative behaviours. It was observed that behaviours among 3 to 5 year olds in most of the behaviours did not change in the period observed. Two observations of selected groups were made once in 3 months. The social melieu of the day care centre did not provide opportunities to learn health habits. The creche attendants were trained and long term follow up on changes in behaviour of preschoolers will be reviewed.

Similar projects are possible in the primary grades for the behaviours listed earlier as well as those listed below:

Cleanliness of books, clothes etc.
Hair without lice
Eating behaviour - chewing, washing mouth
Brushing behaviour
Posture
Road crossing
Getting in & out of bus
Putting things into Mouth, Nose, Eyes, Ears.

The School Health Services

The School Health Services include:

1. Inspection of sanitary facilities in schools
2. Recommendations for adequate space, light & ventilation for students
3. School medical inspection
4. Referral to appropriate Institution & Treatment.
5. Supervision & assistance to schools of handicapped children
6. Immunisation at schools: BCG, Tetanus Toxoid & Boosters (D. T.)

The B. C. G. Vaccine for the control of tuberculosis is administered to children who have had no previous vaccination i. e. without a B. C. G. scar and to those as a booster about 5 years after the 1st dose. The B. C. G. Immunisation figures at schools is shown in Table.

	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total No. of Schools	9375	9390	9387	9386	9244	9411	9452	4868	5108
No. covered	7528	6742	5719	7292	7231	6921	5354	293496	170416
%covered	80.2	71.8	60.9	77.7	75.6	62.9	56.6		

Source : Suptd. Anti TB Campaign.

PROBLEMS IN PROVIDING HEALTH CARE TO SCHOOL CHILDREN

1. Coverage of Schools & Children:

Less than 30% of schools are examined
Only 7.7% of the school children are examined.

2. Sanitation and Water supplies:

Large number of schools have problems in adequate water supplies, and adequate and properly maintained latrines. A sample in one district showed that 64% of schools had inadequate facilities (32). This reflects the serious needs in two out of three schools.

3. Referral:

Of the children examined and referred for treatment more than half (53%) either do not take any care or do not take appropriate care. Continued care is taken by a very small group (8%) (33).

4. Treatment:

Vision defects take quite a long time for correction. The supply of free spectacles is only available for a very limited number.

Dental care is provided through the school dental clinics and this seems to be one of the services that reaches a significant number of school children. There are 175 school dental clinics with 375 School Dental Nurses. Specialised care is provided at clinics for children for Eye, Ear and Throat conditions and behavioural disorders.

5. Preventive Care:

This is mainly provided by peripheral health workers through health education programmes. The Public Health Nurse, Inspector & Midwife are the key persons in this activity. The Health Educator at the divisional level and at the Medical Officer of Health Offices, assist in designing programmes as well as training personnel for health education. The manpower available for this activity is very limited.

TEACH US WHAT WE WANT

Children are often able to articulate their needs in a number of ways:

(1) By Direct Questioning on subjects of a general nature (non threatening subjects).
e.g. What foods have proteins ?

(2) Embarrassing statements are sometimes avoided;
e.g. I cannot afford to eat eggs, what else can I eat?
Young ones are sometimes embarrasingly frank.

(3) Face saving statements like "I do not like eggs, therefore I eat soya and beans". are often made.

The questions the Gr. I to V ask are often related to their developmental stages:

Gr. I to Gr. III (5 - 8 yrs.)

The 5 yr. old asks questions about babies, and where they come from. They also ask about teeth, falling of teeth, new teeth, what to do with shaky teeth. There is both fear and joy about what is happenning to their teeth. The Gr. II child wants to please the teacher and is very careful about observing rules:

"I washed my hands teacher".

"I could not bring my handkerchief".

"Because my mother could not find it".

"How does one get a cold".

"Why do they have to give us injections" (about immunisation)

"What happens if we bite our fingernails".

"If a medicine is bitter is it strong".

"I like my medicine sweet".

Gr. IV & V

My heart beats fast after I run. why?

If a dog bites what should I do?

How does medicine help you?

My father smokes. I like to watch him smoke.
(Implied question is smoking alright?)

Why should you wear glasses?

Most people don't wear.

The questions have a sense of frustration about the unreasonableness of adult rules:

The water in my bottle is over, can I drink some from the well?

Can I eat food from the vendors: Ice Cream, Veralu Achcharu etc.

The questions by students in the early primary grades are exploratory. They want answers so that they can relate the events and objects to immediate experiences.

In Gr. IV and V questions are repeated by children until they are satisfied, often to the irritation of their elders. They want a clearer answer. When answers are given they would keep on asking, why? The attempt is to relate events and objects to past experience and associations. This tendency is exhibited to a greater degree in the 11 to 13 age group i. e. in Gr. VI to VII but more in keeping with their course of studies.

Gr. VII — Gr. XII

The Period of Adolescence dawns with:

(1) Body consciousness, care and attention

Questions: How does one get pimples?

(2) Sexual attraction and urges.
(3) Rapid body growth with hunger and ravenous apetite.
(4) Swings of mood – loneliness and exuberance.

Some Special Needs:

1. NEEDS OF SMALL CHILDREN

The rate of development in children is uneven in physical, mental and social aspects. Hereditary and environmental factors play a significant role in their development. Children in grade I and II (5 & 6 year olds) may vary considerably in their learning abilities and interactions. When partially handicapped children are also in the class the need for individualised attention becomes critical. The teacher – parent discussion to support the child helps to lessen these discrepancies, and make realistic expectations on the child's performances. Attention needs to be paid to the following by the teacher:

1. Control of infections in class at school
2. Prevention of accidents at school,
   Burns, Scalds and Cuts at home.
3. Travel in buses
4. Road crossing
5. Small injuries and treatment
6. Safe drinking water (cups and water bottles)
7. Oral hygiene and tooth brushing

The school dental nurse needs to be incorporated into this programme.

A low cost First-Aid kit for the class generated from community resources would be a suitable intervention to focus on health activities.

2. ACCIDENTS

Accidents form the major cause of deaths in childhood in the developed countries and this pattern is being replicated in Sri Lanka (see Fig. 6).

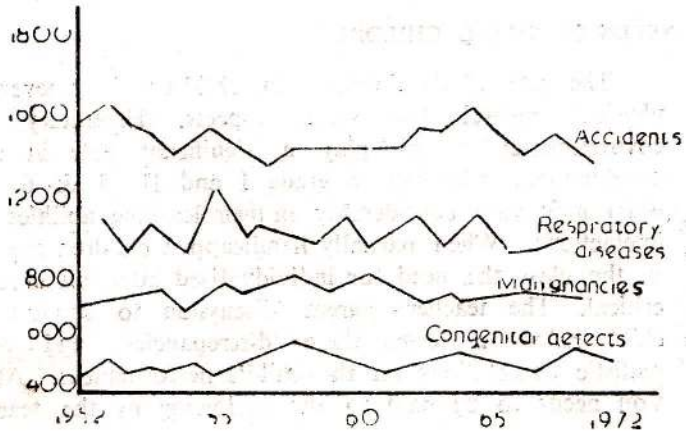
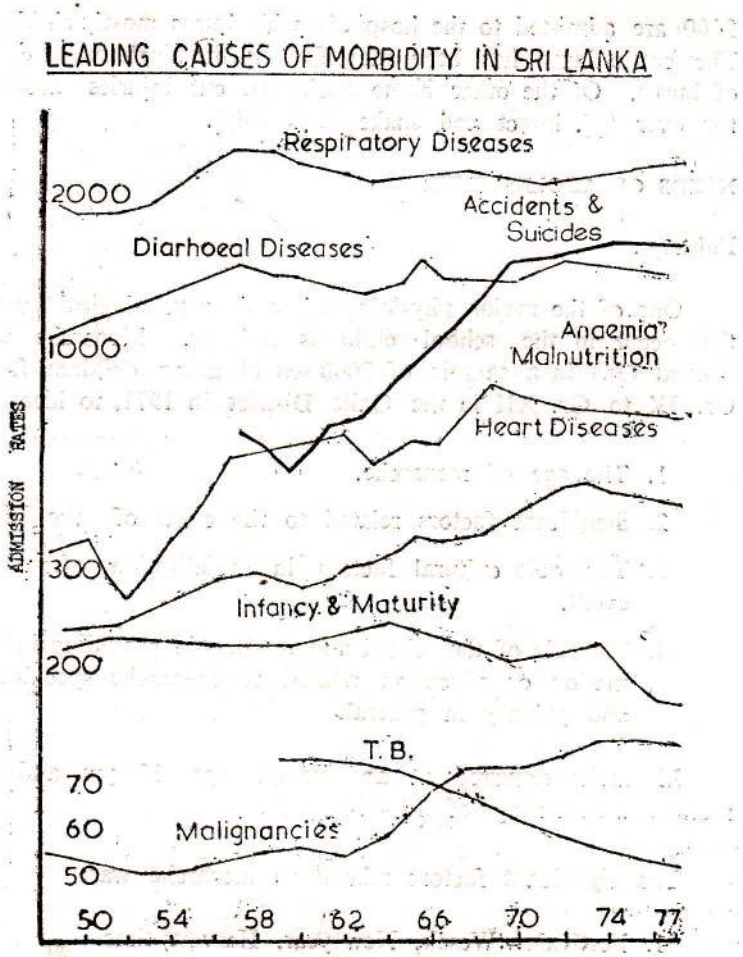


Fig. 6

The pattern of childhood deaths by causes.

The need to be taught how to ride a bicyle, especially in the observance of road rules becomes evident when one watches school children riding abreast, racing on the road, and cutting across lanes of traffic. It is so evident that it is not learnt under supervision, and careful riding habits are not established as a routine. Part of the problem is that cycling starts around age 10 when physical ability to use an adult bicycle is limited. At the same time the learning itself is an act of bravado and identification with adults. The result is uncontrolled behaviour!

There has been a rapid increase of cyclists including girl cyclists in the last 3 – 4 years, noticed particularly in the provinces. Support for learning activities by the use of smaller student bicycles, and the teaching of road rules at schools would modify these exuberant behaviours and save the tragic and fatal consequences.



Epidemiology Unit – courtesy Dr. S. Sivayoham

Fig. 7

Home accidents:

On an average about 350 people die of burns every year (see table).

Year	1976	1977	1978	1979
No. of deaths	376	363	349	336
No. of admissions	9030	9051	9384	9002

Source: Epidemiology Unit Records.

9000 are admitted to the hospitals with burns mostly children. The bottle lamp has been identified as the single major cause of burns. Of the other home accidents, cut injuries account for over 6%, insect and snake bites 9.4%.

NEEDS OF ADOLESCENTS:

Puberty :

One of the major physiological and psychological events that occur in the school child is puberty. Menarche was studied (34) in a sample of 2000 school going children from Gr. IV to Gr. XII in the Galle District in 1971, to identify:

1. The age of menarche.
2. Significant factors related to the onset of the event
3. The socio-cultural factors in socialisation after the event.
4. The role of the school and teachers in providing information or education related to menarche specifically and puberty in general.

Menarche occurred at an average age 13 yrs. and 10 months with a range of 12 – 14 years.

The significant factors related to menarche was:

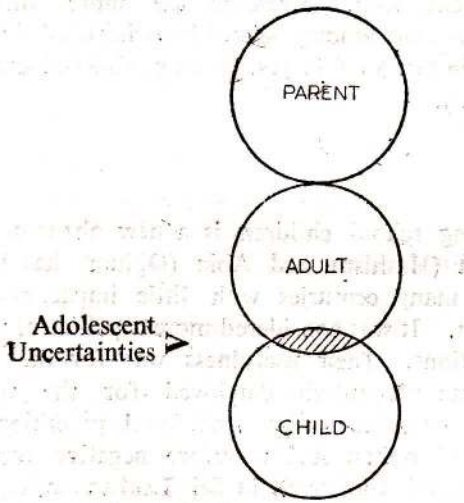
1. Festivals – Wesak, New year, Harvest time.
2. Peak of drought period and sudden onset of rains.

The Peaks of incidence of menarche was in April and May, November and December being about three times the rates experienced in the other months. The socio - cultural practices related to menarche are very significant and it leaves an indelible imprint on the child and family. The event is recorded with great accuracy as astrologers are consulted, and expectations of the girls sex related behaviour and marriage profiles are built up.

The information received from parents and teachers about personal hygiene and precautions and practices related to puberty reached only 44% of those who had reached menarche. The information itself provided was often inadequate and incorrect as to personal hygiene, and activities permitted. The source of the information was mainly from parents (73.2%), and others 19%, and only 7.8% was contributed by the teachers.

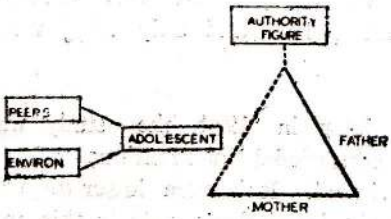
Ten years later in 1981 the study was repeated and analysis of the educational interventions after menarche and puberty was reviewed. It is even lower (6%) and the school plays a particularly insignificant role in this matter.

The search for identity goes on through pre-puberty and adolescence:



ADOLESCENT PERCEPTIONS

The child whose ties are with the mother and father suddenly grows up and find strong links with peers and outsiders, significant others.



GROWING LINKS OF ADOLESCENT

During this period of uncertainty and when new affiliations are being built experimentation in new behaviours also begins, smoking behaviour starts as early as Gr. IV (9 yrs.) in some of the urban slum areas (35). Even in the more affluent districts smoking behaviour amoug school boys initiated in the pre-adolescent period in Gr. VI (11 yrs.) and established during puberty (13 - 14 yrs.).

Drug Abuse:

Drug abuse among school children is a new phenomenon in Sri Lanka. Ganja (Hashish) and Abin (Opium) has been available locally for many centuries with little impact among the younger generation. It was considered more a palliative used in medicinal preparations. Their usefulness was for the sick and the aged and was particularly emyloyed for the treatment of rheumatic complaints by traditional practitioners. Drugs like hashish and opium had therefore negative connotations to the young and adolescent in Sri Lankan society up to the mid sixties. The Hippie cult of the 60's promoted hero-worship of cult figures associated with the use of drugs and life styles ridiculing the existing standards of clothes, conformity and institutions of westernised society. As the

movemcnt spread across the United States and Europe, the less threatening behaviours like clothes, hair styles, music tastes, were picked up by Sri Lankans living abroad. The influence of tourists and foreigners in the late sixties brought in the hippie traditions. The political and social unrest of the early 70's which exploded into the Insurrection during the Sinhala New Year of 1971 unsettled the social order and provided a fertile ground for the germination of the hippie cult (36). This cult was seen as a rejection of western values and formed a sympathetic audience which identified with such a movement. The crack down on the insurgents during 1971, reduced mechanisms of formal protest, and increased insidious antisocial acts and self directed behaviours in drug abuse. Ten years later this form of social protest has been picked up again by adolescents and young adults. The use of drugs like Ganja and Opium have gained value as a means of identifying with visitors enjoying the use of narcotics. Narcotics use which had a low value in society in the 50's had evolved into a status seeking behaviour. The use of narcotic drugs among school children, recently from higher socio-economic groups have also been found. This reflects the shift in the perceived value in the use of drugs.

School dropouts on the other hand and others having problems of adjustment at school or home especially near resort areas have been identified in activities such as boy prostitution (37). The association of drug abuse in such adolescent persons has also been identified.

The drug education programme at schools has to be developed with emphasis on:

1. Coordinated efforts between the community, school and agencies assisting in the control and treatment of drug users-law enforcement agencies and counselling centres and Psychiatric Units.

2. Identification of at risk groups of students as a first step and start interventions with them.

3. Developing general curriculum for the other grades on a supportive basis.

For items 2 & 3, an indepth investigation of the problem on an observation interview and informal basis would be necessary. This is more likely to be productive, than a formal survey which will not reveal adequate information on this secretive subject to plan an intervention strategy.

4. Identifying schools in near tourist resorts and other areas where the problem has surfaced as pilot programmes.

5. Teacher training and a counsellor system. This would increase the competence in teaching as well as create a group of persons interested in assisting the students in less formal ways.

My health depends on our family health, and those arround us. Their well - being depends on what I do. The students pull and push their ideas.

6. Peer groups with links to religious, and voluntary organisations so as to develop informal channels to the sources of supply and situations where narcotics are used. They will influence non-use behaviour, as well as support rehabilitation efforts.

7. The preparation and use of teaching materials and aids, for drug education.

8. The selection and modification of available materials — films, video tapes etc.

Self Breast Examination:

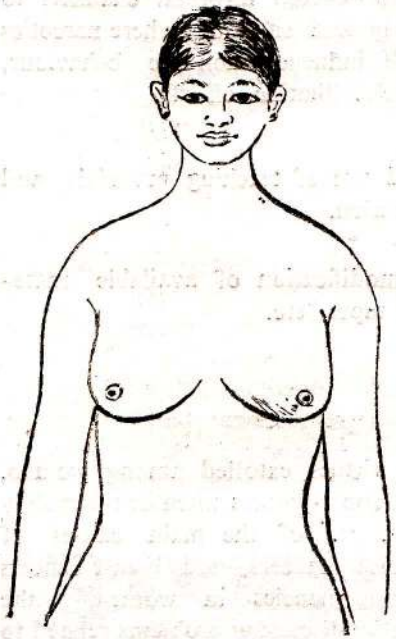
Modesty and shyness are virtues extolled among women, and sometimes has very tragic consequences when irresponsibily over emphasised. For example one of the main causes of delay in seeking care for cervical cancers, and breast cancers which are the commonest malignancies in women, is the feeling of shyness women have in diseussing problems related to these organs. Even discussion among colleagues is often put off as it is considered a "delicate" subject. This problem of misdirected modesty can to some extent be overcome by creating a level of public awareness through mass media. Such an open discussion would reduce the stigma and "taboo" attached to such topics. The other aspect is to direct the topic to the large body of female teachers (65%), and to the upper grade females about to leave school. Behavioural consequences can be taught to them.

(i) Ability to carry out self breast examination.

(ii) Ability to advise persons with complaints what to do & where to seek care.

(iii) Ability to recognise the symptoms of cervical cancer and advise for referral.

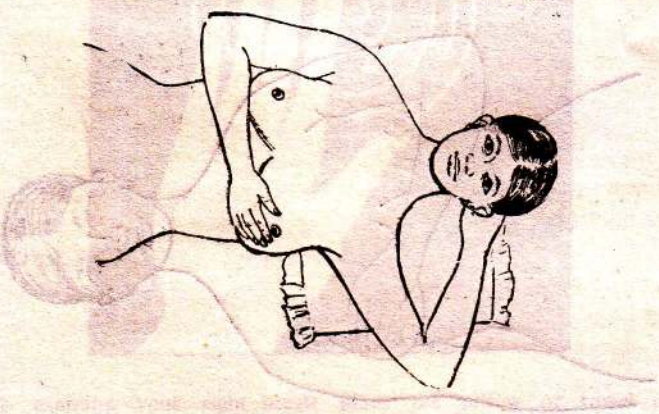
SELF BREAST EXAMINATION



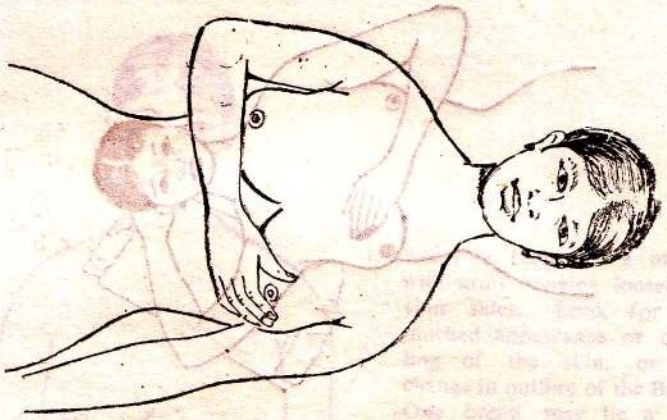
1. Stand in front of a mirror with arms hanging loosely at your sides. Look for any pinched appearance or dimpling of the skin, or any change in outline of the Breast. One breast may lie a little lower than the other; this is quite normal.

2. Raise yonr arms above your head and go on looking at your breasts, turning a little from side to side so as to see the breasts from all angles. Look for any changes since last month.

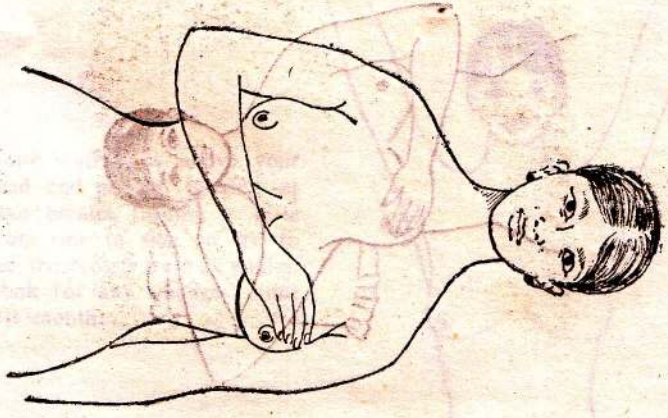
3. Lying down on your bed place a small pillow or folded towel under your left shoulder. Consider the breast as made up of 4 quarters of a circle. Start from upper part and examine in a circular fashion moving from the breast bone towards the nipple.



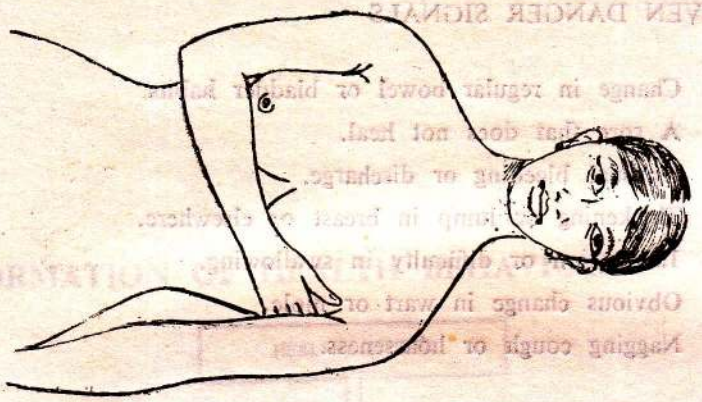
4. In the same way examine the lower, inner quarter, again starting from the breast - bone and from the ribs below the breast.



5. Bring your left arm down to your side and again starting well out from the ribs below and at the side of the breast, examine the lower outer quarter of the breast.



6. With your left arm still at your side, move your fingers as shown in the sketch along the upper, outer quarter.



7. Complete examination & feel along the upper & outer quarter right into the quarter towards the armpit.

8. To examine your right breast place the pillow or towel under your right shoulder and put your right hand under your head.

Using your left hand follow the same procedure as before. Remembter to bring your right arm down to your side when you examine he outerhalf of the breast. Examine the breast in a circular fashion as before.

SEVEN DANGER SIGNALS

Change in regular bowel or bladder habits.
A sore that does not heal.
Unusual bleeding or discharge.
Thickening or lump in breast or elsewhere.
Indigestion or difficulty in swallowing.
Obvious change in wart or mole.
Nagging cough or hoarseness.

If you have a warning signal see your Doctor. Delay may cost a life - Yours !!!

FORMATION OF HEALTH BEHAVIOURS

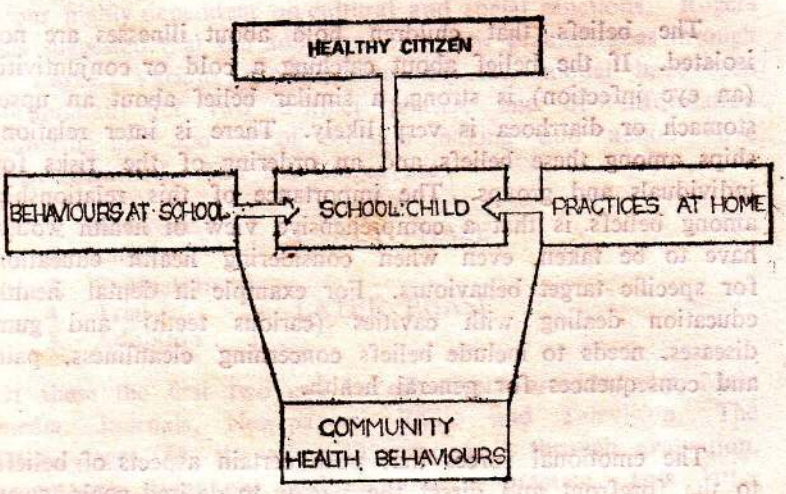


Fig : 8

Child's behaviour reflects the total influences of the environment modifying inherited traits.

The formation of health behaviour is quite a complex process and the patterns of evolution of such practices have been studied in some detail among preschoolers and school children. The precise mechanisms have been identified to some extent in discrete and simple behaviours like tooth brushing, smoking and even more complex conditions like drug taking.

The chance of being exposed to and falling ill is referred to as perceived vulnerability. The likelihood of taking actions to such an event or illness depends among other things on the strength of the perceived vulnerability.

Among children it was observed that perceived vulnerability was found to increase and develop mentally until age 14 and then decrease. Female had significantly higher scores than males. The socialisation process that confers on females, the responsibilities associated with child rearing and care in illness, also permits women to express their concerns about there body and illnesses more readily and openly than males. This may explain the higher level of "at risk" feeling that females exhibit to illness.

The beliefs that children hold about illnesses are not isolated. If the belief about catching a cold or conjuntivitis (an eye infection) is strong, a similar belief about an upset stomach or diarrhoea is very likely. There is inter relationships among these beliefs and an ordering of the risks for individuals and groups. The importance of this relationship among beliefs is that a comprehensive view of health would have to be taken, even when considering health education for specific target behaviours. For example in dental health education dealing with cavities (carious teeth) and gum diseases, needs to include beliefs concerning cleanliness, pain and consequences for general health.

The emotional forces that push certain aspects of beliefs to the forefront and direct the person to desired goals, away from unpleasant situations, or against odds are termed motives. Certain ends seem more important than others, and based on these priorities, actions are initiated. The study of health motivation in children indicates a significant linear decrease with age. The younger group of children those 9 years or younger, show slight preference for health over other motives like appearance or beauty. As age increases other competing interests like "looks" attractiveness to the opposite sex, esteem by peers, become much stronger motivating factors. When socio-economic status and health motivation was assessed it is observed that children aged 8 to 11 years in the lower socio-economic group have a significantly higher level of motivation (based on Mouth Appearance, Pictures: MAP studies) than those children of a higher socio-economic level.

At the adult level the study of family planning practices illustrates the process of adoption of an innovation or new idea. As content of the idea relates to sex and family planning it becomes a partly restricted communication. The social control for the-

1. Free flow of communication
2. Preservation of values on Procreation

Promiscuicity makes the acceptance and adoption of this behaviour highly dependent on cultural and social sanctions. Rogers has suggested that the adoption of a new practice goes through 5 stages. Various modifications of this model have been formulated but two distinct phases, one of information gathering and another of decision making and action have been identified. The five stages are:-

1. Awareness 2. Interest	EARLY PHASE
3. Evaluation 4. Trial 5. Adoption	LATER PHASE

Of these the first two can be effectively provided by Mass media: Journals, Newspapers, Radio and Television. The later stages in the adoption process is through evaluation, acceptance, trying out, and adopting a practice. This latter stage is usually through interpersonal contact and influence.

Some socially sanctioned adult behaviours are taboo for teenagers and school children. e.g. smoking, alcohol, driving etc. Cultural and social sanction, at the family level and at the school level are critical factors in the stage of adoption i. e. age of students and the rate of adoption. However the initiation of these behaviours are in the school going years. Factors associated with the formation of smoking behaviour has been grouped under these stages :

1. The initiation
2. The development/establishment
3. The maintenance
4. The cessation or hazard-reduction

These stages may be equally applicable to other health related behaviours like alcohol use, sex behaviour, eating habits, drug abuse, physical risk taking and accident behaviour.

Initiation of Behaviour

The initiation of the behaviour is usually exploratory and occurs especially in the young. It is largely dependent on:

1. **Opportunity:**

   The greater the availability the more the opportunity. Smoking is commoner among children of parents who are regular smokers.

   Two thirds of adult smokers had parents who smoked.

2. **Curiosity:**

   There is curiosity about the after effects of smoking aud a search for satisfaction.

3. **Self Expression-Conformity or Rebellion:**

   Conformity to peer group pressure, parental or teacher influence is a factor in initiating this behaviour. Rebellion against smoking rules, or adoption as status symbol in a group.

Establishment of Behaviour

Three groups of factors operate in establishing the smoking habit in adolescents:

1. **Cost benefit balance:**

   (a) Harm to smoker - cough, smell, expense

   (b) Harm to others - smoke, irritation, cough

   (c) Benefits to smoker- pleasure, reduction of tension, ability to concentrate.

2. Stereotyping or Image of the Smoker:

When a teenager identifies with the person who smokes particular kinds of cigarettes, the role of advertising media in reinforcing the behaviours initiated is observed. Similarly significant persons in the teenagers life – teacher, parent, peer may directly or indirectly reinforce the smoking behaviour.

3. Psychological factors:

Conflict between individual needs and societal demand, as well as the adolescent's need to be in control rather than be controlled contribute to the establishment of the behaviour. This reflects the dependency-independence conflict of the adolescent.

Opportunity to drink safe water, organisation, and reinforcement of behaviour by smile of the teacher, helps stabilise children's behaviour and form habits.

Maintenance Behaviour:

The behaviour pattern may show

1. habituation

or 2. dependence

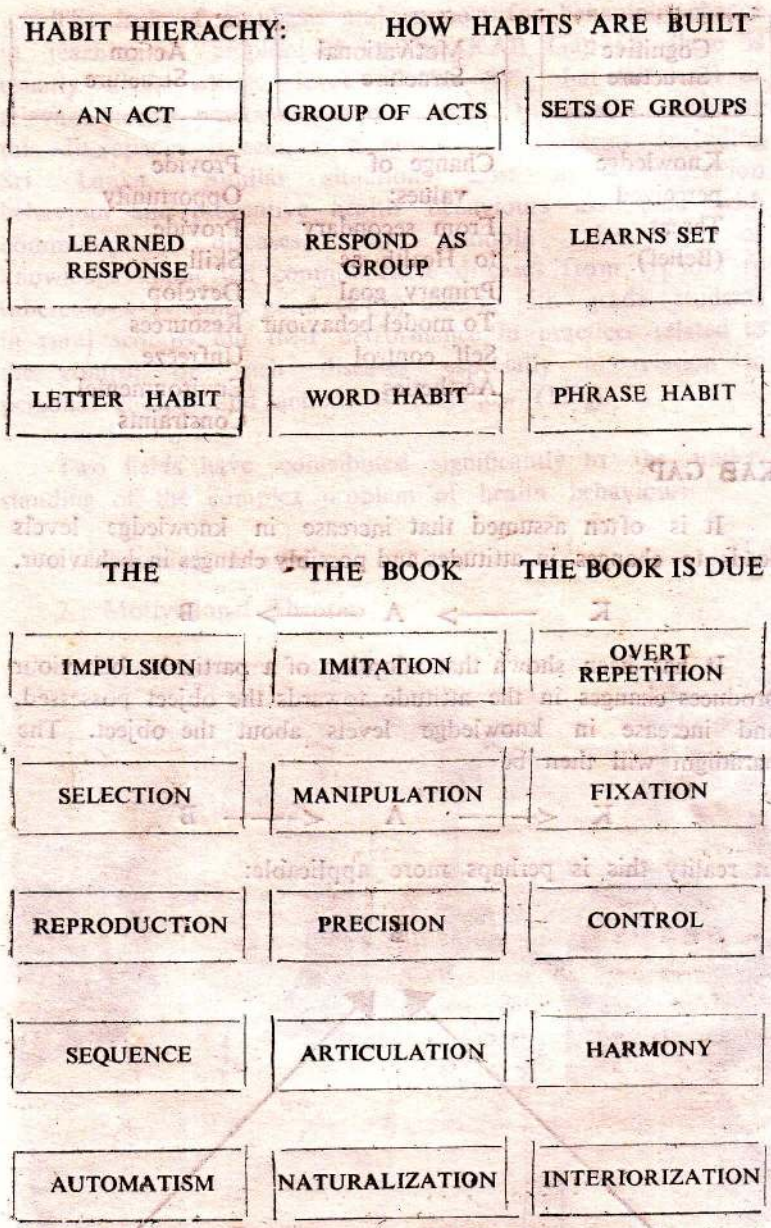
In habituation there is repetition with little or no affective components. Dependence shows an increasing desire and need for the effects produced by the behaviour.

	Habituation	Addition Dependence
1.	No compulsion	Compulsion +
2.	Little or no tendency to increase dose	Tending to increase dose
3.	Some degree of psychic dependence	Psychic and physical dependence
	No physical dependence Therefore no abstinence syndrome	Abstinence syndrome +
4.	Detrimental effect —	Detrimental effect on individual & society.

Cessation or Risk Reduction Behaviour:

In order to reduce the frequency of the risk producing behaviour with an ultimate goal of stopping such behaviour (eg. drug use, smoking, alcohol use) it would be necessary to bring about changes in one or more of the contributing social, cultural, psychological and cognitive factors. The situation and environmental factors promoting such a change would have to be supported. Those retarding the change have to be neutralised.

The intervention planned would have to identify the stage to which the behaviour has progressed i.e. whether at Initiation Establishment or maintenance phase, and identify the critical components among these :



Process of Psychomotor Skill Development
After R. H. Dave, International Conference of Educational Testing.

Cognitive Structure	Motivational Structure	Action Structure
Knowledge perceived Threat (Belief)	Change of values: From secondary to Health as Primary goal To model behaviour Self control Aesthetics	Provide Opportunity Provide Skill Develop Resources Unfreeze Environmentel Constraints

KAB GAP

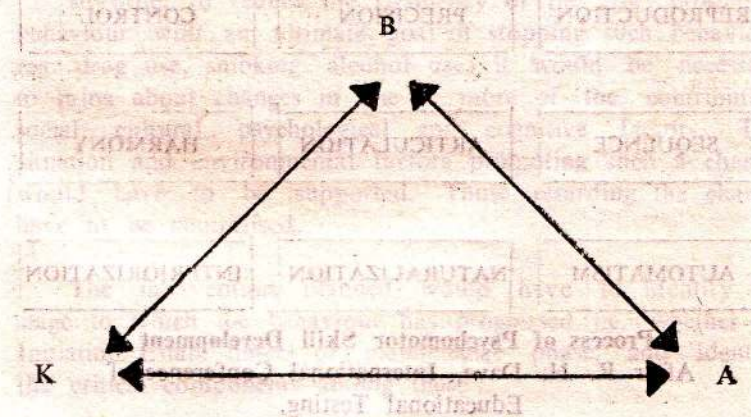
It is often assumed that increase in knowledge levels leads to changes in attitudes and possibly changes in behaviour.

K ——> A ——> B

It has been shown that adoption of a particular behaviour produces changes in the attitude towards the object possessed, and increase in knowledge levels about the object. The paradigm will then be

K <—— A <—— B

In reality this is perhaps more applicable:



The lack of emphasis and support for behaviour change in teaching is emphasised by the KAB Gap i.e. there is usually a knowledge level of 70 – 80% but the level of relevant health practice is about 30%. In family planning this discrepancy is seen in a number of countries including Sri Lanka. Similar situations exist in immunisation behaviour and preventive health behaviours associated with communicable diseases. For example the level of knowledge about ten communicable diseases from typhoid to tuberculosis is quite good (84%) among 5th grade students in rural schools but their performance in practices related to the control of such diseases especially in relation to personal choices and actions is very low (12%).

Two fields have contributed significantly to the understanding of the complex problem of health behaviour:

1. Learning theories
2. Motivational Theories

Child learns to clean teeth with dahatikooru.

To summarise the main points in these fields would not be possible, however examples to illustrate some of the significant developments is given. Learning theories emphasise various aspects of the process. The psychological definition of learning refers to:

And brushes happily conformity to School norms.

"Learning in contrast with maturation, is a change in a living individual which is not heralded by his genetic inheritance. It may be a change in insights, behaviour, or motivation, or a combination of these" (Bigge 1964)

In the education sense Eaton states (1938):

"When a man has learned anything he is for a time at least, changed in his readiness to deal with this or that in his environment. He has become, with respect to certain things, events, meanings, as the case may be, differently sensitive, differently percipient, differently disposed as to the forms of his responsive behaviour, whether in action, in understanding or in feeling".

As observed there is considerable similarity in these two definitions of educationists, and psychologists, and learning is defined as a change in behaviour in the cognitive (knowledge) affective (feelings) and psychomotor (skill) domains, in keeping with the purposes of instruction. Any change in behaviour intended or otherwise would be effects of the learning experience.

There is a distinction between instinctual (animal) behavior and human behaviour characterised by rational choices in man originally enunciated by Plato and differentiated and referred by psysiologists and psychologists in the following centuries. The "association of ideas" postulated by John Locke, was developed by Thorndike in the early part of the 20th century into the theory of connectionism which has its basic principle, the law of effect. This law holds that behaviour is primarily influenced by its effects. If an act is followed by satisfaction, those acts are increased. The connections between the situation and the act are strengthened. "Satisfying" effects strengthen connection and "Annoyers" or dissatisfiers weaken the connection.

Reflex behaviour

Some behaviours are natural to a particular species. They are inherent or inherited and are called inborn or unconditioned reflexes. The sucking reflex in babies can be evoked by the stimulation of the lip area. Physiological experiments carried out in animals have demonstrated the relationships between stimuli and the consequent observable active responses.

Sight of meat ——→ Salivation in dog
Smell of meat ——→ Salivation

Noxious stimuli like pain, high pitched noises etc. have also their results in inhibitary reactions. The constriction of blood vessels, and the release of certain substances like histaumines occurs in such situations. Even in the plant world one observes how children are fascinated by the folding of the leaves in "Touch me nots" (mimosa pudica) when the leaves are touched with a certain degree of pressure.

Conditioned Reflex

Pavlov's classical experiments on "sham feeding" of dogs, demonstrated that an associated stimulus can replace the original stimulus in bringing about the desired change (Stimulus substitution).

	Food	——>	Salivation in Dog
Bell	+ Food	——>	Salivation
	Bell	——>	Salivation

Smell, sight and other associated stimuli can bring about similar changes.

Operant Conditioning

Skinner's theory of operant conditioning for explaining behaviour is an elaboration of Thorndikes law of effect, and concerns mainly external conditions and observable changes in behaviour. "Operant conditioning emphasises the fact that the behaviour operates upon the environment to generate consequences". The experimental animal makes a number of spontaneous activities one of which is rewarded or reinforced. For example one investigator decided to let a cat escape when ever it scratched its ear, in later experiments ear scratching was not long in coming. In another cat licking was reinforced. Similarly a chicken that pecked its feathers was released from the box. The chicken would "whirl his head around and poke into his feathers as soon as it was dropped into the box".

The environmental factors in learning, ordering of situations, and patterns of reinforcement at fixed intervals, (every 10 mts./every other day), at fixed ratios, (reinforcement after 10th response), or at variable intervals or variable ratios, become important factors, enhancing the rate of learning and retention of behaviour.

Gestalt Concept

Man's behaviour is sometimes determined by his emotional feelings, needs or drives and at other times by the stimuli around him. Stimuli elicit behaviour or reinforce responses

but these do not explain fully how people experience situations and cope with the environment. Learning is not seen merely as association between stimuli and responses but as changes that occur in how one views his situation. When faced with problems, a series of vain efforts to solve them, is followed by rest and reflection, when suddenly the solution pops out. This "Aha!" experience referred to as insight is said to be due to perceptual reorganisation.

Conformity and rebellion: Two drink, one holds back. Individual cups at school are used to drink "Kola Kande" a vegetable soup, after the CARE biscuits.

Information theories

These conceive man as:

(1) Information gatherer, selectively screening through his perceptual framework.

(2) An active processor of information.

The amount of information that reaches through the senses is indicated:

Visual
Auditory
Sensory
Touch
Taste

The need to organise teaching to corelate to these information gathering stimuli is obvious. The provision of multi – sensory experiences for the younger children such as different bright colours, play materials, are based on this premise. Increased use of visual aids in lecture sessions for older children opens up new channels for learning.

The computer program itself can be treated as a type of learning theory. Programmed instruction requires a series of student responses leading to a terminal behaviour. There are 4 essential parts to a frame which is a unit of subject matter:

1. The stimulus and stimulus content.
2. The cues or prompts necessary to produce a reliable response.
3. The response the stimulus evokes.
4. Enrichment material to make it more readable and interesting or materials which recall previous information to facilitate student response.

The reinforcement of correct responses, and student involvement in the stepwise procedure, ensures effectiveness in learning through programmed instruction.

Motivational Theories and Health Behaviour:

Why children behave the way they do, and what makes them do certain things in preference to others, and how to get them to conform to idealised patterns of behaviour has been and is a perpetual field for investigation.

There has been a body of knowledge and research which has been built up and the main conclusion of this can be summarised as follows:

(1) Infant behaviour is a response to physical needs, and is conditioned by the parents, and immediate family members but critically by the **mother.**

(2) The preschool child has and exhibits learned behaviour reflecting family norms and child rearing practices in the community.

(3) The school child:

The most significant person to the child is the mother. The shift to mother substitute i.e. the teacher takes place usually in Grade II. Socialisation and peer group influence on the child begins to operate as soon as individualised or self - centred behaviour declines and group behaviour pattern gets established (Gr. III & IV).

The support by the teacher for group ideals and the reduction of the negative effects in the group would shape behaviour positively. Thereby values are built up for health. In other words individual responsibility for health is altered to group responsibility for common health goals. Rewards are also designed in such a way as to reward the group rather than individuals. Health behaviour is seen as an idealised state worth striving for.

(4) Peer Group Pressures:

Peer group pressures to modify behaviours related to smoking, drug abuse, risk taking behaviours begin at the pre-adolescent "gang stage" and the experimenting stage of adolescence. The features of loneliness, defiance, and dependence in adolescence lead to sudden swings in mood and rapid changes in behaviour.

Peer group pressure brings them to the basins. Imitation and repetition leads to automatic behaviour and habits.

Change in health related behaviours are dependent on mainly 4 groups of variables and theories on behaviour change have emphasised one or the other or all of them. These groups of variables or determinants of health behaviour can be categorised into:

1. Beliefs based on knowledge, experience or perceptions of true or false information.
2. Values and the feelings attached to the importance of attaining a desired object or protecting against a disliked condition.
3. Actions. The complexity and effort required to carry out these actions limit the actions.
4. Environmental factors including social, cultural and situational influence the actions concerned.

Mathews has simplified some of the variables and suggests the probabilities that a desired action will take place, depends on:

(1) The perceived probability that the action will lead to a certain goal

(2) The perceived importance of that goal in relation to others

(3) The perceived effort or resources needed for the action

$$P = i\ p\ (i - e)$$

P = Probability that action will be taken

p = perceived probability that action will lead to a certain goal

i = perceived importance of goal in relation to others

e = Perceived fraction of total available resources required for action.

THE TEACHING OF HEALTH

"The role of the teacher is obviously important and fundamental in any health service. In areas with extremely limited health facilities, the teacher may be one of the few persons in the community, besides the parents, interested in the child's health. While a programme which depends on the teacher to carry the whole burden cannot be as productive as one with a nurse and physician, there is obviously much that can be done. Conversely, in a highly developed service the role of the teacher, while no longer unique, is still as important to the child's welfare as ever, and there is no substitute for the knowledge gained from the teacher's continued classroom observation". (WHO)

The teaching of health is very much like the teaching of any other subject in a number of ways. There is the content or what is to be taught. The similarity becomes obvious when the significance of teaching is analysed. Learning obviously is more important than teaching. This is perhaps more so with health teaching. Let us look at proposition (1) where teaching is the cause and learning the effect:

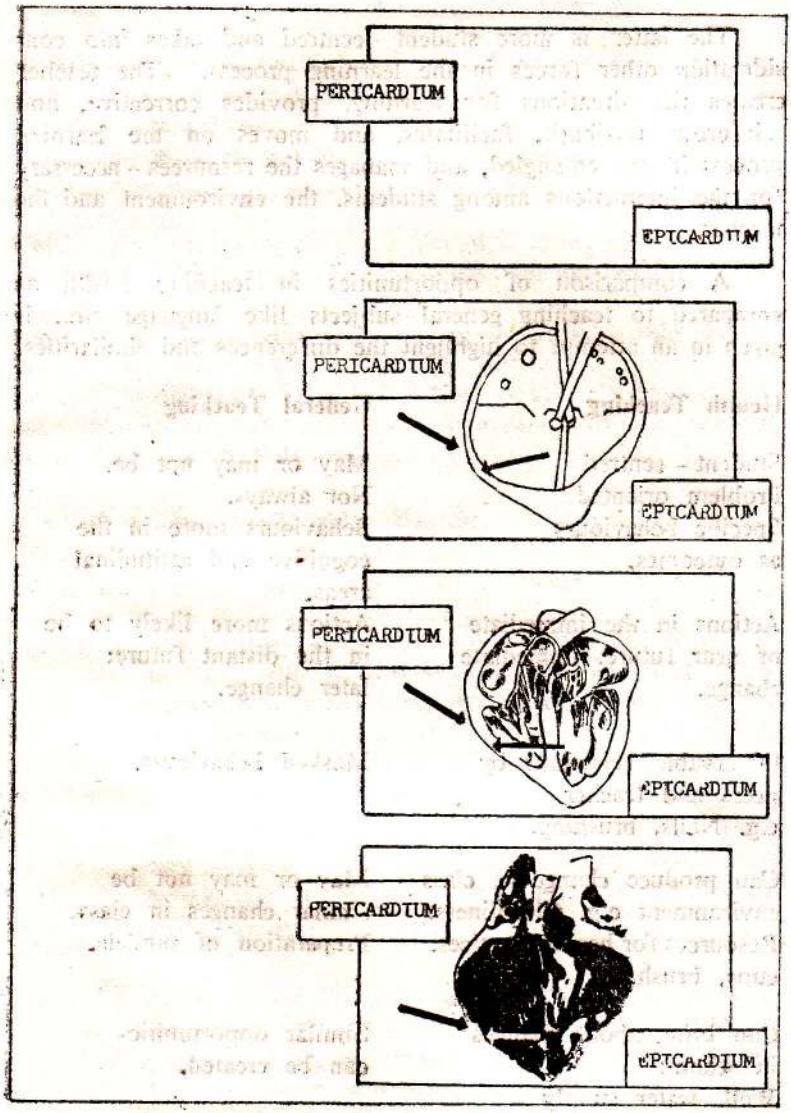
Proposition (1):

Teacher ——————> Teaching (Cause) ——————> Learning

This proposition is teacher centred and assumes that the student is a passive learner, an empty vessel.

Proposition (2):

Teacher
V
Significant others ——————> Learning experiences ——————> Changed behaviour
A
Student



Three types of visual varying in detail and realism. The first is linear and abstract, the 2nd detailed and shaded, and the third is a photograph. Learning of students through the 1st & 2nd drawings were equally effective, but significantly more than the picture, and the oral presentation indicated at the top. The oral presentation and the photographs (top & bottom) were equal in their effect. More visuals, and more realism does not mean more learning.
(after Francis Dwyer, 1967)

The latter is more student - centred and takes into consideration other forces in the learning process. The teacher creates the situations for learning, provides corrective, and reinforcer feedback, facilitates, and moves on the learning process if gets entangled, and manages the resources - necessary for the interactions among students, the environment and the teacher.

A comparison of opportunities in teaching health as compared to teaching general subjects like language etc., is given in an attempt to highlight the differences and similarities.

Health Teaching	**General Teaching**
Student - centred.	May or may not be.
Problem oriented.	Not always.
Specific behaviours as outcomes.	Behaviours more in the cognitive and attitudinal areas.
Actions in the immediate or near future: immediate change.	Actions more likely to be in the distant future: later change.
Observable behaviour by peers and teacher e.g. Nails, brushing.	Masked behaviours.
Can produce change in class environment e.g. Cleanliness. Resources for health practices; cups, brush.	May or may not be similar changes in class. Preparation of models.
Can bring about changes in school: Well, water supply Canteen, vendors of food	Similar opportunities can be created.
Group activity can be easily designed for health teaching: e.g. School gardening for nutrition education.	May not be possible.

Health Teaching	General Teaching
Games for teaching health: to illustrate concepts or emphasise behaviour	Could be designed for lower grades
Family involvement through health related home assignments/projects	More difficult to adopt this mechanism
Community health projects along with PTA, voluntary organisation	Possible to organise visits and tours on school related projects
Requires use of visuals, models and demonstrations	Use of visuals, enhances the learninig
Student participation in creativity and bringing about change can be harnessed	Not so easy to employ this technique to all the subjects

Some Principles for Teaching Health:

These are briefly summarised:

1. Learner should be active rather than a passive onlooker. Student involvement by designing prior observation, survey, report or experience into the class session would ensure student participation. The usual premise that concept or theory should be taught before field work or assignments are given need not be ritualistically carried out. The converse may also be done i. e. to generate the concepts or theory from experience. This may give a feeling of reality to what they learn.

2. Repetition and overlearning to practise a habit is necessary. However in doing so care should be taken to avoid monotony. Simple tasks and behaviours in health are neither attractive nor challenging to students. The need to design experiences to make them so, are important.

3. Variety in learning situations, methods, (visuals, field trips), and teachers (e.g. health staff) provide stimulus and novelty in learning.

4. Reinforcement and Rewards in learning may be graded so that rewards are internalised i. e. for their own satisfaction. Also rewards for group achievements than individual performances shapes the behaviour through selective mutual reinforcement.

5. Authoritarian models for teaching health may have negative side effects as observed in the high rate of non compliance (80%) of patients to doctors' instructions.

   A facilitator model may be more helpful in bringing about individual changes in behaviour.

6. Group learning through modification of each others behaviour is a useful technique.

7. Individualise the learners needs in specific health problems and identify the "teachable moments." For example during a cold (use of a handkerchief), after an attack of malaria (use of prophylactic drugs, and to get house sprayed). In adults this is clearly seen in the large number of persons who stop smoking after a heart attack.

8. Identify the students, talents and experience to influence others behaviour, as well as the handicaps in learning.

9. Assist the students to develop school health and community health projects on a contractual learning arrangement. The student group analyses the problem, designs plans, and carries out interventions.

10. Continuous evaluations of a non-threatening kind, and simple rewards are preferable to incentives and threats. The excessive use of fear messages in trying to scare people to change their health behaviour has serious counter - productive results.

11. The Health Teacher is under constant review as a role model particularly as regards the behaviours discussed with students. Lack of credibility would

lead to pretense behaviour by students, similar to "yes yes" verbal agreement when persons of high authority give instructions to staff. Result is agreement without conviction and very little action.

12. Recognise the cultural bias in actions related to health and use them to form favourable habits.

(b) Avoid conflict with standards held by parents and family about health matters and particularly avoid ridicule, as defence mechanisms would hinder any change. Perhaps dialogue with parents on how to deal with child's health problem may open up avenues for change.

13. The use of the "concern for the other" or "loved other concept" may be employed when a person is unwilling to give up a harmful practice like smoking or other risk taking behaviours e.g. crossing roads dangerously. Here a health related action is taken for the love of another person. Father for the sake of the child, the pregnant woman for the sake of the unborn baby, the older student for the younger ones or for the sake of the mother.

14. Stimulation of curiosity and interest improves the quality of learning and encourages the student to researeh and find answers. However this has to be guided and supported particularly in drug education, sex education etc.

Formal Versus Informal:

Learning health habits and behaviours is highly culture oriented and based on early socialisation processes. Paulo Freire in describing the formal system of traditional teaching as oppressive, highlights the following:

1. The teacher teaches and the students are taught.
2. The teacher knows everything and the students know nothing.

3. The teacher thinks and students are thought about.
4. The teacher talks and the students listen – meekly.
5. The teacher disciplines and the students are disciplined.
6. The teacher chooses and enforces his choice, and the students comply.
7. The teacher acts and the students have the illusion of acting through the action of the teacher.
8. The teacher chooses the programme content, and the students (who were not consulted) adapt to it.
9. The teacher confuses the authority of knowledge with his own professional authority, which he sets in opposition to the freedom of students.
10. The teacher is the subject of the learning process, while the pupils are mere objects.

Formal learning can be made interesting by changing the methods, or changing the teacher. A midwife teaches students on preparation of visuals for health exhibition.

Our formal system of education has tended to move away from these ten commandments in a number of ways, and adult education programmes have recognised and moved towards a person centred, shared, and exchange type of learning situations. In health education this is particularly significant, for ultimately it is the individual who controls his own health behaviour. The supervision of such acts can only be temporary and marginal.

Informally the child learns by bringing the latrine plate home, how important a latrine is for his health.

Expressed Versus Implied:

Directive teaching expects outcomes and exhortation becomes a method of teaching health quickly through a series of **don'ts**, and **do's.** The student may perceive this as something the teacher has to do: get it out of his or her system, without any real meaning. Then the whole exercise becomes a mutual game, one of delivery of content by the teacher, and listening without intent by the student. The purpose is somehow

lost in the ritualistic procedures. Perhaps this is why it is so important that teachers validate the things they say about health. The climate and value given to the teaching of health in schools plays a critical role in this process. Support from the principal and others essential. Otherwise the teacher becomes isolated and is lost in this massive and critical endeavour.

Precept versus Practice:

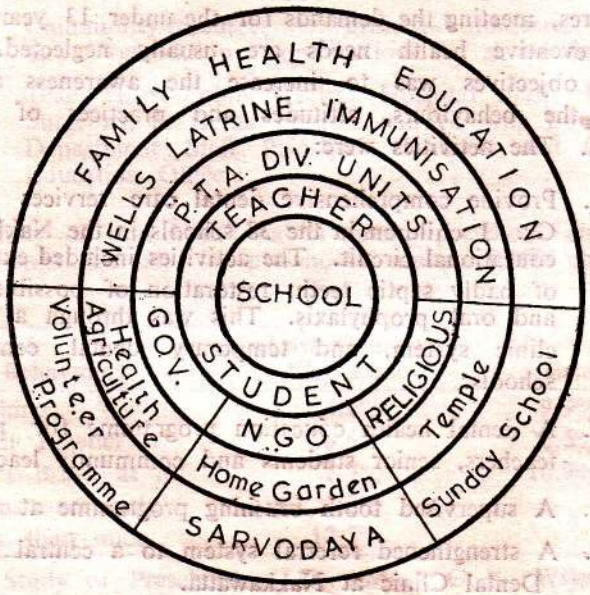
It is sometimes naive to say that teachers are role models to their students but nevertheless very true, as parents who observe school generated changes in the behaviour of their children often realise. A child's belief in teachers and the school is very high, until destroyed. The disillusionment starts when there is discrepancy between precept and practice. It is therefore essential to start health education activities with simple achievable targets and develop behaviours on a stepwise basis. The climate provided by, and the behaviour of significant groups: parents, older students, teachers and administrators, are necessary ingredients for bringing about change.

COMMUNITY HEALTH PROJECTS

There is a rich experience in community health projects conducted in collaboration with schools. The projects were either :-

1. Comprehensive programmes: Total Health Approach or
2. Specific Programmes on

Nutrition
Dental Health
Environmental Health
Immunisation



Model for Community School Relations

Programmes that have a comprehensive approach were multisectorally linked and had a strong base with community groups and voluntary organisations. The organisational linkages were complex and the build up phase was slow, the take off time for visible effects was almost an year in most of the projects. This tended to dampen the enthusiasm and efforts of the students and teachers as the school calendar and the relationships are built on a one year cycle.

The short term specific projects were extremely successful in concentrating all efforts on a few problems and making a significant impact on them.

A few example will illustrate these experiences and provide models for development. The case studies also provide objectives and lists of activities which may be useful.

1. Dental Health Projects

There are 175 School Dental Clinics with 375 Dental Nurses in Sri Lanka. They mainly cater to dental health problems and spend almost 80% of their work time in curative procedures, meeting the demands for the under 13 years olds. The preventive health needs are usually neglected. The project objectives was to increase the awareness and to change the behaviours, attitudes and practices of school children. The activities were:

1. Provide comprehensive dental care services to all Gr. I children in the 38 schools in the Nakkawatte educational circuit. The activities included extraction of badly septic teeth, restoration of possible teeth, and oral prophylaxis. This was through a mobile clinic system, and temporary dental centre at schools.
2. A dental health education programme for parents, teachers, senior students and community leaders.
3. A supervised tooth brushing programme at school.
4. A strengthened referral system to a central School Dental Clinic at Nakkawatta.

The assessment of the problem is shown below:

TABLE 6

No. of Schools	Total No. of Children Gr. I	Total No. examined	No. with Tooth Decay	No. with calculus
38	1,696	1,511 (88%)	971 (57%)	1,418 (82%)

The interventions carried out over a 3 month period was:

TABLE 7

Extractions	Temporary Dressings	Oral Prophylaxis
135	437	1,108

The process was as significant as the achievements:

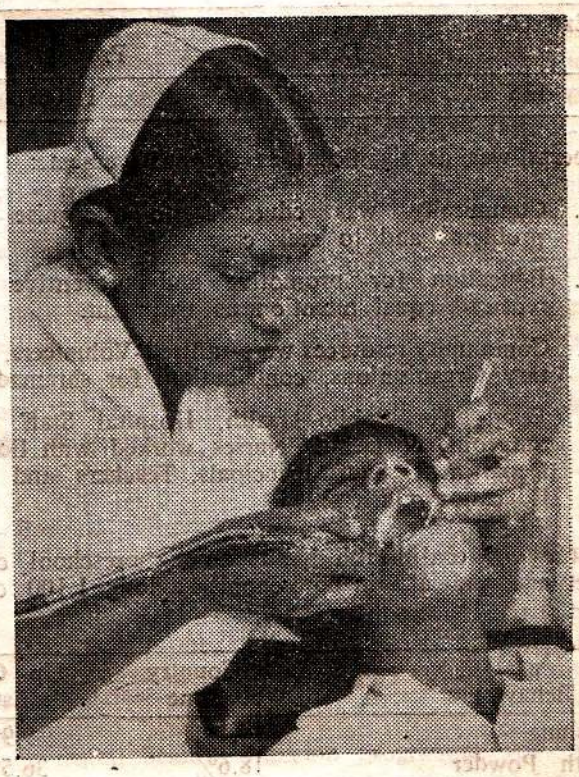
1. Community was educated to recognise dental problems and to seek care early.
2. Education for promotive and preventive aspects received equal attention as treatment.
3. Community resources were utilised–Volunteers, Voluntary Organisations, contributions for shramadana.
4. Team effort–Public Health, Hospital Staff, Dental Surgeons, & Dental Nurses worked with Education Department Staff, Principals, Teachers and Circuit Education Officers.

A study of oral health habits among preschool children by Wijetunga et, al, in preschools among 1,100 children revealed:

Behaviours	Low Country Wet Zone	Up Country Estates
Brushing	14.1%	9.9%
Tooth Powder	18.6%	36.5%
Don't Brush at all	2.7%	16.9%
Cleans once only	28.3%	–
More than once	12.5%	–

Source: Study of Preschoolers, Dr. (Mrs.) G. K. Wijetunga, Health Education Bureau.

This suggests that almost 9 out of 10 children coming to school need to learn fundamental habits and behaviours in dental health. The intervention programme started through specially trained preschool teachers, Creche Workers, Plantation Family Welfare Supervisors in 1980, indicates that there is an overall shift in the behaviours towards positive health practices. These workers could be strategically linked to the school dental health system.



Health workers fill, clean and cover up, the health problems consequent to poor health habits, or help start new habits for children.

Teachers visit homes to find out how their students live. Such visits improve the dialogue and gets mutual support for the child's learning.

Integrated School Community Health Projects

Moonamaldeniya, a Medical Officer of Health area was selected for this project and 38 schools in the Nakkawatte Circuit within the M.O.H. area was identified. Villages adjoining the schools were demarcated.

The basic information of the project is given below:

No. of Schools	School Population	Villages selected	No. of houses selected	Population of villages
38	7,602	47	3,251	15,708

The main objective of the programme was to initiate, plan, implement and evaluate an integrated school health education programme. Specifically the objectives outlined were :

1. To identify health education opportunities in a school.
2. To prepare a list of health problems faced by School Children in Sri Lanka.
3. To list the behaviour changes to be adopted by School Children in order to overcome the identified problems.
4. Prepare a list of existing and potential resources.
5. To prepare parctical health education programme to be implemented in primary classes.

Planning community health activities with students is an essential step.

6. List steps in planning a Community Health Education Programme.

7. State the criteria in selecting village volunteers.

8. Guidance to the training of volunteers.

9. Guidance to the keeping of records and the procedures to evaluate the programme.

10. Identify facts favourable to sustain the programme.

11. Identify the community resources that help to strengthen the School Health Education Programme.

12. List steps in planning an integrated School-Community Health Education Programme.

13. List barriers to establish close coordination between the school and the community.

14. List community resources that can be utilised to overcome the above barriers.

Activities :

Selection of an area close to school 200 – 300 houses.

Selection of Village Health Volunteers.

One Volunteer for every 15 houses.

Principal/Teacher to select counterparts at School to work with village volunteers.

Training of Village Health Volunteers and students together.

Survey of village & school to identify health problems, practices and attitudes.

Training based on health problems of area.

Multiple interventions on cleaning of wells for safer water supply, improved sanitation by improving latrines and building new latrines etc. were carried out.

The results are summarised:

Activities	Percentage before Project	Coverage after Project
Immunisation B.C.G.	56	76
Hookworm treatment (Schools)	6	36
School Medical Inspection (Schools)	42	100
Correction of Defects	24	63
Midday Meal in Schools (Kola Kenda)	0	58
Oral Health Care	44	99
Supply of safe water at School	21	84
Repaired and maintained sanitary facilities	28	64

The results after a year indicate dramatic improvements in some, small gains in others.

Urban School Project

About 1,000 students mainly from shanty dwellers attend this school. There is vice and violence in the area, the houses are overcrowded, and it is a socio-economically underpriviledged area having a floating population of more than 8,000 at the outskirts of Colombo. A random survey of 125 students showed that 80% come to school without breakfast, 75% did not have an adequate mid day meal, 60% without a proper dinner. The main meal was made up of 4 ozs. bread and 2 ozs. rice and a cup of plain tea. The school drop out rate was 28% per year. There was daily absenteeism of 200 (about 29%). This was due to inadequate food, uncleanliness and illness, lack of clothes, and other behavioural problems. To alleviate these problems a self help feeding programme was developed. The activities carried out were:

1. Assessment of nutritional status of children.
2. Agriculture, school and home gardens project.

3. Protein feeding programme from voluntary organisations and supplementary feeding programmes with Triposha supplied by CARE was started.

4. Kola Kenda (Rice & Vegetable soup) was prepared and distributed by parents.

The absenteeism dropped from 27% to 16%, and in the lower grades to 5%. Teachers took part in improving cleanliness, recording heights and weights of the children and assessing food intakes and requirements. The preparation of food was done by parents and senior students. The teachers supervised and discussed the values of food eaten. Each class had a plot of land and a students team cultivated and valued the products and optimally used the available food. The children were discouraged to waste money on sweets and encouraged to consume wholesome foods. The participation of Sarvodaya, the major voluntary movement in Sri Lanka has immensely helped in the nutrition project at the school.

Summary

The Community School Health Projects has a dramatic influence on :

1. Student behaviour.

2. Teacher attitudes and behaviour.

3. Community Commitment.

The school is very much the centre of learning and therefore a focus of change, provided it takes innovative and challenging approaches to solve problems and generate resources.

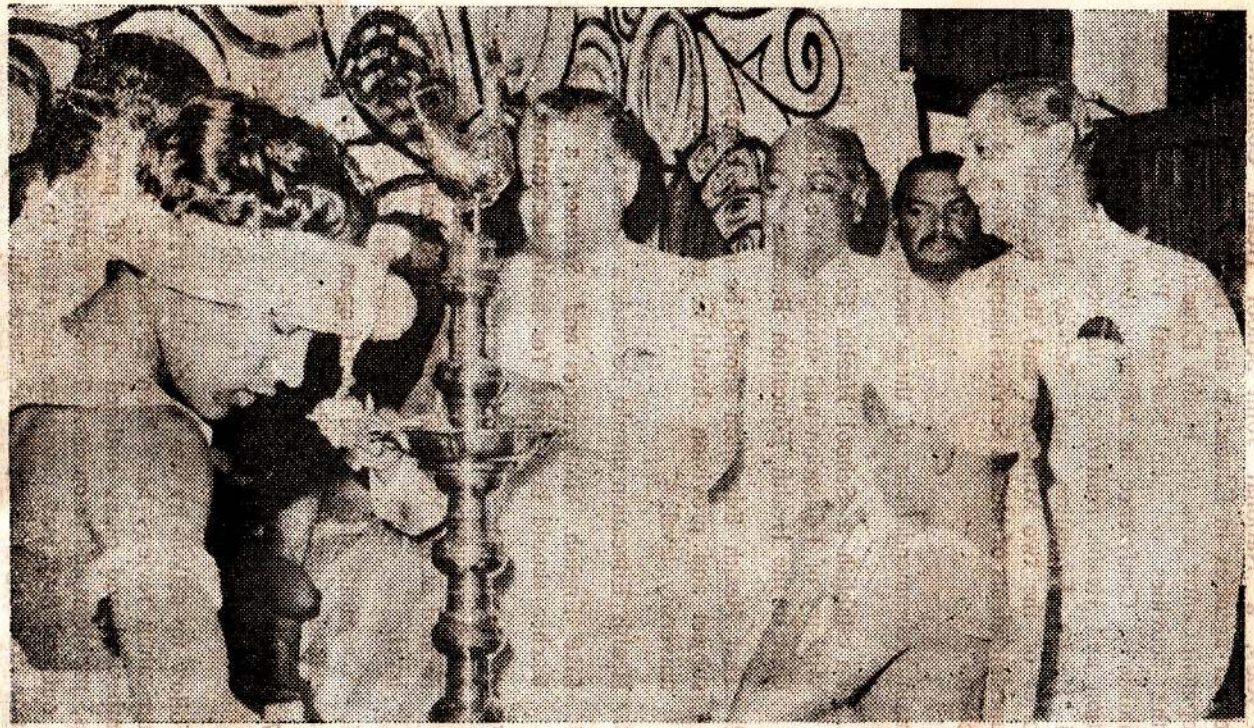
ORGANISATION OF SCHOOL HEALTH SERVICES

Who is responsible for the health of the school child? The parent is obviously responsible, but as the school is the environment for the student for a third of their lives, there is a significant part to be played by the school and the teacher who is the temporary guardian. The health department having the expertise and service facilities has also a major contribution to make, in preserving the health of the child. So it is a joint responsibility of the Education and Health Ministries to care for the child.

At the Regional Level the officers responsible are :

Education Services	Health Services
Regional Director	Superintendent of Health Services
Circuit Education Officer	Medical Officer/D.M.O.
Principal	School Medical Officer
Health Teacher	Public Health Inspector
	Public Health Nurse
	Public Health Midwife

The teacher is the crucial person in teaching health behaviour. The health services personnel like the Assistant Medical Practitioner or Doctor supports and reinforces the activities of the teacher. The teacher and Principal support the treatment and follow up procedures initiated by the health personnel. There is mutual and reciprocal reinforcement and support for activities. Based on these realities there has been for over



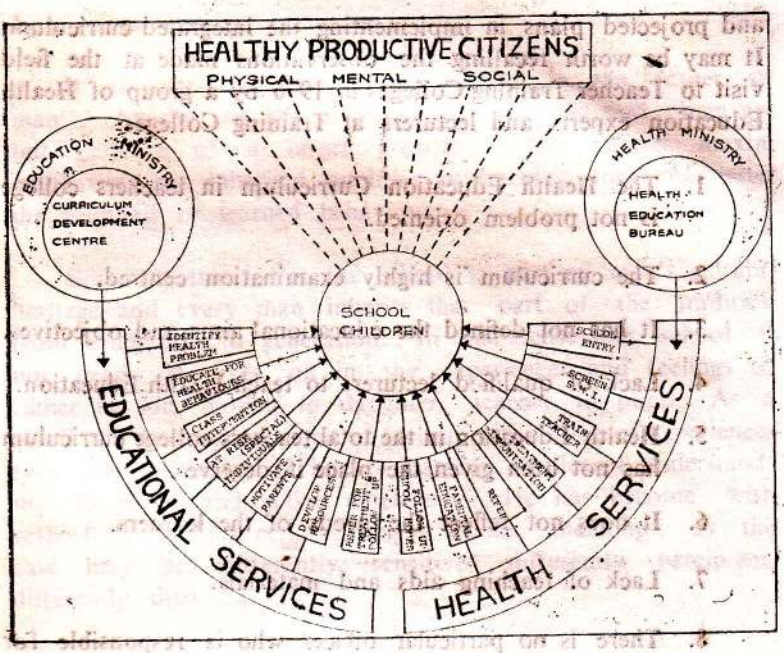
Policy for School Health Education : Educational Services Minister, Hon. Lionel Jayatileke, lights the lamp at the inaugural policy sessions between the two Ministries in Jan '80. Watched by Hon. D. Attygalle, Minister for Ayurveda , Secretary of Health, Mr. B. C. Perera and Hon. Gamani Jayasuriya, Minister of Health.

twenty years, a National Joint School Health Committee. The central agencies in Education and Health, the Curriculum Development Centre and the Health Education Bureau coordinate the activities of the National Programmes. At the Interministerial Conference in January 1980 the Ministers of Education and Health reaffirmed the need to strengthen the School Health Education and Service Programmes. The Secretaries of the two Ministries and the Regional Directors and Superintendents of Health Services mapped out a programme for action.

The main recommendations of these meetings were:

1. To establish a School Health Education Unit in the Ministry of Education and strengthen the School Health Unit in the Health Education Bureau.
2. That Health Education should be made a compulsory subject and provision should be made to teach it at university level.
3. Health Education should be made a separate subject.
4. Like English, Mathematics and Science, a separate teacher should be trained for health education.
5. A coordinating committee to implement the new school health education programme in schools should be formed at the National, Regional, Circuit and School level.
6. A separate day should be set apart in all hospitals to attend to school children.
7. Teachers should be trained in screening for defects and assist in referral and follow up.

Follow up actions by way of circulars, training programmes, and curriculum reviews have been carried out. These need to be synthesised and plans outlined in terms of previous experiences, problems and resources. Two key organisational factors stand out and they may determine the extent to which health education teaching is likely to be successful. They are curriculum development for health and teacher training.



Curriculum Development:

Curriculm development for health would require evaluation of the integrated primary curriculum for the teaching of health and modify it in terms of the findings. Emphasis on the total health of the child and the abilities and interests of children at different ages and developmental stages would be necessary. The workshops and field work at Horana and Hikkaduwa in 1975 and 1976 formed the basis for the development of the health education curriculum. In a similar way the in – service training programmes currently being conducted for health teachers could identify the problems in the new curriculum so that suitable revisions can be made.

Teacher Training Colleges:

The training of teacher educators or lecturers at the training colleges for health requires further analysis and serious efforts to bridge the gap between existing conditions

and projected plans in implementing the integrated curriculum. It may be worth recalling the observations made at the field visit to Teacher Training Colleges in 1976 by a group of Health Education experts and lecturers at Training Colleges.

1. The Health Education Curriculum in teachers college is not problem oriented.
2. The curriculum is highly examination centred.
3. It has not defined the educational aims and objectives.
4. Lack of qualified lecturers to teach Health Education.
5. Health Education in the total teachers college curriculum has not been given the place it deserves.
6. It does not reflect the needs of the learners.
7. Lack of teaching aids and materials.
8. There is no particular officer who is responsible for implementing this programme.
9. Lack of modern and upto date texts in health education.
10. No proper in service training programme for the Lecturers in Health Education.
11. Inadequate support from Health Department to the Training Colleges.

The situation has changed very little in the training colleges as regards health teaching. A recent seminar for Lecturers held at Sarvodaya Centre in March '81 highlighted the same problems observed five years ago. The recommendations at this seminar included the need for better training, books and resource materials. The development of practice schools for teaching health based on Community Health Projects was strongly recommended. The revision of the curriculum in health for Training Colleges is an urgent necessity in order to keep pace with development in School Health Education.

Conclusion:

It is often said that the "child is the father of man". Another equally strongly held view is that "men are but children of a larger growth". The former maxim emphasises the inherited qualities in learning, and the latter the acquired or learned behaviours.

Both are true. Yet the school is part of man's cultural heritage and every man inherits that part of the tradition from generation to generation. In that sense the school is not dead. It lives on in the experiences and feelings of father to son, mother to daughter, teacher to pupil. As a chunk of knowledge, a bit of feeling, and a slice of experiences falls into the pond of human learning, ripples of understanding, happiness and action catch on. "He has become, with respect to (health) certain things, events, meanings, as the case may be, differently sensitive, differently percipient, differently disposed.....".

A GUIDE TO THE ASSESSMENT OF PROTEIN-ENERGY UNDERNUTRITION IN CHILDREN

Nutritional status is an important determinant of the physical growth of children. The nutritional adequacy of the *food intake has a direct and major influence on the nutri*tional status of a child. Therefore, growth in height and weight over time of children, may be used as an indicator of their nutritional status.

The accompanying tables may be used as a guide to the diagnosis of Protein–Energy Undernutrition in school children. Two categories of the condition, re 'acute' and 'chronic' may be identified with their help. It may be noted that a small proportion of children in a community may fall into both categories.

It is important to recognize that the dietary deficiencies leading to growth deficits are not restricted to proteins and energy (calories), energy and protein deficiencies, however, are the major dietary deficiencies, that contribute towards poor physical growth and hence the term "Protein - Energy Undernutrition".

+ Ref: Adapted from WHO document WHO/FAP/79. 1 (Geneva) 1979

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GIRLS

Age (Yr.)	Height (cm.) below which the child may be considered to be chronically under-nourished (or stunted).	Weight (kg.) below which the child may be considered to be acutely undernourished (or wasted).
5.0	97.6	11.8
5.5	100.0	12.3
6.0	103.1	13.0
6.5	105.5	13.5
7.0	108.5	14.2
7.5	110.7	14.9
8.0	113.8	15.7
8.5	115.9	16.2
9.0	119.0	17.1
9.5	121.2	17.8
10.0	124.5	19.0
10.5	126.8	20.1
11.0	130.3	21.4
11.5	132.8	23.0
12.0	136.4	24.6

BOYS

5.0	99.0	12.3
5.5	101.8	13.0
6.0	104.9	13.8
6.5	107.1	14.2
7.0	109.5	14.8
7.5	112.0	15.5
8.0	114.3	16.0
8.5	116.6	16.9
9.0	119.0	17.5
9.5	121.3	18.1
10.0	123.8	19.1
10.5	126.3	19.8
11.0	129.0	21.0
11.5	131.8	22.2
12.0	134.7	23.7

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ERRATA

Page/Line	Incorrect word or words	Correct word or words
Page 20 – Picture Caption	– Health	– Healthy
,, 35 – Line 19	– actue	– acute
,, 42 – Line 17	– worry	– worries
,, 52 – column 1 – Line 10	– Public	– Pubic
,, 63 – Line 22	– ocdema	– oedema
,, 64 – Line 25	– phyrnodrma	– phrynoderma
,, 71 – Foot note to diagram	– Ministers	– Ministry
,, 81 – Line 9	– embarrasingly	– embarrassingly
,, 91 – Line 16	– disessing	– discussing
,, 95 – Line 7	– he	– the
,, 97 – Last line but one	– actions	– action
,, 98 – Line 7	– there	– their
,, 101 – Picture Caption	– helps stabilise	– help stabilise
,, 106 – Line 3	– is	– are
,, 106 – Line 11	– (Bigge 1964)	– (Biggs 1964)
,, 107 – Line 11	– psysiologists	– physiologists
– Line 34	– histaumines	– histamines
,, 108 – Line 20	– in later	– In later

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This book emphasises the role of the school and the teacher in the formation of health habits and suggests mechanisms for the formation of healthy behaviours.

The functions of health personnel in reinforcing the behaviours of teachers and parents through integrated school –community health projects are discussed. Perhaps its greatest strength lies in the concept of a joint responsibility of the Ministries of Education and Health to safeguard the health and wealth of our children.

"School Health Education in Sri Lanka" is produced with the collaboration of the Curriculum Development Centre, Ministry of Education and the Health Education Bureau, Ministry of Health. UNICEF has been and is playing a significant role in the collaborative efforts between organisations and peoples, and support for the production of this book is an indication of that commitment.

Dr. Walter K. Patrick is a medical graduate of the University of Sri Lanka and obtained the MPH from the University of Michigan, Ann Arbor, USA.

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