46982

WORLD HEALTH ORGANIZATION

ORGANISATION MONDIALE DE LA SANTE

WHO/UNICEF/HED/85.6

ORIGINAL: ENGLISH

JOINT WHO/UNICEF INTERNATIONAL CONSULTATION ON HEALTH EDUCATION FOR SCHOOL-AGE CHILDREN

Geneva, 30 September - 4 October 1985

Health educ
School learners
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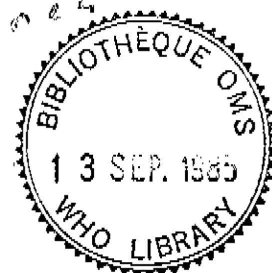

SCHOOL-BASED HEALTH EDUCATION: AN OVERLOOKED NEED

A UNESCO issue paper prepared by

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INTRODUCTION

School health education is an area of overlooked need in many developing countries. UNESCO prepared this issue paper amidst heightened concern about the effectiveness of school-based health education and services in developing countries. Concern has been generated by growing evidence that links health and nutritional status to learning ability and school achievement, by impressive increases in primary and secondary school enrolment over the last two decades (implying a corresponding need to expand and improve the quality of student health care), and by the need to take appropriate actions in support of the aims and objectives of the 1985 International Year of Youth.

This issue paper analyses the reasons for school-based health's growing importance to national development efforts; highlights epidemiological and educational trends in school-age populations; identifies target audiences (both beneficiaries and intermediary change agents) that need to be reached; describes the basic elements in a comprehensive school-based health programme; and suggests priority activities for national and international action.

School-based health education and school health services need to be viewed as interrelated programmes. Their linkage is mandated in part by the need to strengthen institutional relationships in support of school, ministries of education and health, and in part by the need to better relate school-based health activities to supportive community health services. Therefore it is hoped that both education and service delivery will be viewed as constituent parts of a new international school-based health education initiative.

WHY INVEST IN SCHOOL-BASED HEALTH PROGRAMMES IN DEVELOPING COUNTRIES

There are at least four good reasons for strengthening institutional commitments to school-based health education in developing countries: (a) because of the growing documented linkages between the health status of children and their educational achievement; (b) because of the economic development benefits that accrue as a result of educating school-age children in basic health knowledge, skills and practices; (c) because schools themselves are an important channel of communication for health education messages and distribution point for health services; and (d) because of the relationship that needs to be strengthened between in-school learning and out-of-school student/community health behaviour.

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(1) The relationship of health status and educational achievement

In a recent UNESCO monograph, E. Pollitt points out that the intellectual function during school age and the educational progress of undernourished children living in a physical environment conducive to high incidence of communicable diseases and a social environment that fails to provide opportunities for learning are at educational risk.[1] It can be expected that these children will be among those with low school achievement, those who repeat grades and those who contribute to high drop-out rates. Pollitt concludes that the nutritional status of children is a variable that in part determines school performance. "The undernourished child, the iron deficient anemic child or the child who goes to school without eating after an overnight fast does not maintain a classroom behavior conducive to optimal learning."

Nutrition is not the only aspect of health that shapes learning behaviour. The prevalence in developing countries of communicable diseases coexisting with an array of other biophysical and social environmental factors can have important developmental implications for children and affect basic learning aptitudes and attitudes. Learning disabilities also affect children who suffer from physical, emotional or psychosocial handicaps. Main-streaming the handicapped is an educational strategy whose efficacy (either to the handicapped themselves or to the rest of the classroom population) needs to be questioned.

(2) The relationship of education, health status and development

Many studies have documented the relationship of educational level to health status and, in turn, to other measures of social and economic productivity (literacy, occupation, etc.).[2-6]

Implicit in this literature is the theme that educational achievement increases the competences of individuals to make appropriate decisions regarding their own health as well as that of their families. This statement would probably be true even in the absence of a health component in school curricula. The ability to read, write and count enables people to be better informed, increases their income level and access to health services. However, it also seems reasonable to conclude that effective school-based health education would greatly strengthen existing linkages between educational achievement and health status.

(3) Schools as a channel for service distribution and information dissemination

The outreach capability of school-based networks is another important reason for both education and health planners to increase their commitment to school health programmes. The institutional school setting provides an ideal vehicle for health monitoring and referral of school-age populations. Unfortunately, many countries lack the resources and experience to organize effective school health monitoring/referral programmes.

Similarly, schools are an important (but relatively unexplored) channel of communication for primary health care and community health promotion.

In two African countries, community immunization promotion campaigns have used teachers as change agents. Teachers organize learning activities and classroom competitions for promoting immunization.[7] Schoolchildren go out into their homes and communities and detect younger siblings in need of basic immunizations. They then give health centre visit cards to the mothers of these young children, and those schoolchildren who motivate the most mothers to go for immunizations win the classroom competition.

(4) Linkages between in-school learning and out-of-school activities

An often discussed (but seldom acted upon) public health goal is to make school-based health education more germane to the health education needs of the community, i.e. to have children apply health-related skills learned in the classroom to real-life situations in their homes and communities. To do this effectively, supportive networks need to be established involving teachers, students, parents and health professionals. In many countries this implies working with parent/teacher associations, primary health workers and local social and religious groups.

Some excellent resource materials are now available to support school-to-family health education programmes. Teaching Aids for Low Income Countries (TALC) has developed a series of child-to-child activities that school-age children can carry out with younger siblings and friends.[8] UNESCO is developing a resource pack for nutrition/health education which is based on participatory teaching and learning.[9] Teaching methods are emphasized that provide students with opportunities to obtain both information and skills which they can apply to their daily lives. There also is a small but significant body of project-based experience to draw upon. The Uganda "Nutrition Scout" and the Indonesian "Little Doctor" programmes both involved training children at school to carry out health- and nutrition-related activities in their community.[10,11] The Jamaican School Nutrition Promotor Project is utilizing primary-school primers to teach children how to read and at the same time learn how to carry out home-related nutrition and health "tasks", e.g., conduct nutrition/health habits and practices surveys in homes and the community; identify/help care for sick and malnourished siblings or community members.[12]

WHAT IS KNOWN ABOUT THE HEALTH AND EDUCATIONAL STATUS OF SCHOOL-AGE CHILDREN

Public health efforts in developing countries have rightly focused on the urgent needs of mothers, infants and preschool children. Most current epidemiological data, such as that collected by UNICEF and the World Bank, focuses on problems of women of child-bearing age and young children in the 0-4 age-group. We know, for example, that at least 50 countries have infant mortality rates for children 0-1 years of age that exceed 100 deaths for every 1000 live births; that in many countries over 50% of all deaths occur in children under five years of age; that the percentage of children under one year who have been fully immunized is often quite low; and that the total fertility rate in many countries is often 6.1 or above.[13,14]

Regrettably, however, relatively little is known about the health status of school-age children and any conclusions can only be based on random data.

It is also known that many of the countries with high infant mortality and total fertility rates also have an important part of their eligible primary school-age population enrolled in school. Males have a higher proportional rate of enrolment (81%) in the 44 countries with the highest infant mortality rates than females (49%), but the numbers for both sexes represent impressive gains over corresponding figures for 1960-1961 (see Table 1). Secondary school enrolment is substantially lower than corresponding figures for primary school, but still reaches 54% of eligible males and 59% of females in countries with mid-level (26-50 deaths per 1000 live births) infant mortality rates. Primary school repetition rates for both sexes are significantly high (from 10% to 47%) in 42 countries, though it is difficult to disaggregate the percentage of repetition that can be attributed to health-related learning disabilities (see Table 2).

Little also is known about the current state of the art of school health education. Few country or comparative surveys have been carried out to ascertain the extent of existing requirements, the nature of curricula and materials, and the quality and coverage of teacher training programmes. What does exist, however, are innovative model programmes currently being undertaken in several places.

The NHEES (Nutrition and Health Education through the Rural School System) programme in India is an attempt to link school health education with rural primary health care.[15] Schoolchildren learn about practical ways of achieving good health and adequate nutrition. Teachers attempt to make school-age children and their families aware of local health facilities (immunization, etc.) and how they can avail of them.

In Uttar Pradesh the School Health Education Scheme provides teacher training in health, health education and health services to primary-school children. The school health services include health education, a regular physical examination of each schoolchild carried out by the primary health centre staff, referral, first aid and maintenance of a Student's Cumulative Health Record. Teachers are asked to perform record-keeping tasks based on the results of medical screening.[16]

The Indonesian "Little Doctor" programme is a decentralized effort to set up school-based health education programmes. The Ministry of the Interior, the Ministry of Education and the Ministry of Health contribute to this project which is a local government

initiative. The project provides health education to selected students. The rural health centre serves as a referral unit for the programme, which emphasizes school-age personal hygiene, nutrition and growth, and environmental sanitation.

A common concern in both India and Indonesia is the lack of sufficient teacher training. Participating teachers feel the need to strengthen teacher training in health by integrating health-related questions into examinations for both teachers and students.

The UNRWA/UNESCO Department of Education in Amman has developed, in collaboration with the Department of Health, an in-service teacher training programme.1/ Participating teachers are trained to become "health tutors" and are asked to organize local school health committees. The health tutors work with the committees (composed of students, teachers, parents, community health workers, etc.) to design health promotion projects that link in-school with out-of-school learning. The "health tutors" then organize classroom health activities aimed at getting students to act as implementers for the projects.

The Jamaica School Nutrition Promoter Project, directed by the Ministry of Education, is an attempt to integrate nutrition and health-related education into language arts curricula. Nutrition stories are used for primary-school readers and based on the assumption that students will be able to improve their nutritional health understanding at the same time as they are strengthening their language skills. A set of home-based nutrition/health-related tasks is also given to students at the end of each reading lesson.

TARGET AUDIENCES

The limited knowledge that does exist regarding epidemiological and educational trends in school-age populations, together with observational and anecdotal evidence, enables planners to identify a wide range of target audiences that need to be reached (either in whole or in part) by most school health programmes. The following chart identifies relevant constituencies, what they need to know and how they should be addressed (see the chart on the following page).

ELEMENTS IN A COMPREHENSIVE APPROACH

A comprehensive approach to school health involves three elements - health education, school health services, and school facilities' design and operation. It is worth describing the salient characteristics of each element as a background for discussion and further study.

(1) Health education

In its highest form, school-based health education offers students an opportunity to learn practical skills that help prevent, detect and treat real-life health problems (though quite often the teaching objectives and content of school health education are anything but practical and skill-oriented). Health education in schools utilizes the transmission of information and the teaching of effective and practical skills to promote improved health behaviour among students and their families. Effective school health education draws on a wide range of teaching-learning methods (lecture, discussion, demonstration, role-playing and simulation, experiential learning). Its building blocks are effective health education teacher-training programmes, relevant curricula and teaching support materials, linkages with parents and the community, and sanctions (in the form of standards or testing/examination requirements) from educational authorities.

(2) School health services

School health services must be targeted to the appropriate health needs of school-age populations. Available services are also contingent upon existing material and technical resources. Most school health services are centred around screening and record-keeping procedures. Sometimes corrective/remedial treatment is offered on site. In other instances a referral mechanism is instituted. Often health professionals (doctors and nurses) receive special training (degrees or certificates) that better enables them to design and administer school health service programmes. Sometimes health professionals are permanently assigned to a school or cluster of schools. In many countries, however, health professionals integrate school health responsibilities into a broader job description. In addition to their school-based screening and treatment tasks, health professionals often back-stop teachers in

CHART. TARGET AUDIENCES FOR SCHOOL HEALTH

Target audience	Educational goal	Information emphasis	Educational strategy
Beneficiaries:			
Primary-school students	Basic health knowledge and skills	Prevention, detection and treatment of community health problems	Classroom learning emphasizing health practices and school-to-home activities
Secondary-school students	Basic health knowledge, skills and related analytical and decision-making skills	Prevention, detection and treatment (and understanding the causes) of community health care problems	Classroom learning, emphasizing health practices, school-to-home activities and health-related decision-making and affective skills
Change agents:			
Teachers	Competency in design and implementation of school-based health education	Basic health knowledge and skills, relevant teaching and learning methodologies	Pre-service and in-service teacher training and curriculum development
Parents/ community members	Awareness of role as health educator to provide children with reinforcement for what is learned about health in school	Community health care problems, school health curricula goals	Sensitization workshops at PTA and other community meetings, parent/teacher consultations, leaflets, flyers and other support materials
Health professionals	Increased participation in school-based health problems	Prevention, detection and treatment of health problems of school-based populations, health screening and information systems management	Establishment of degree and/or certificate programmes in school health
Education decision-makers	Increased investment in school health education and school environmental construction programmes	Importance of health status to learning, role of school in health promotion	Sensitization workshops, technical consultations, cost-benefit analysis of school health expenditures
Health decision-makers	Increased investment in school health services	Importance of health status to learning, epidemiology of school-age populations, role of school health services	Sensitization and training workshops, technical consultations, cost-benefit analysis of school health expenditures

classroom learning activities. Overall administrative responsibility for school health service programmes usually resides with the ministry of health (which often designates a special unit to handle this responsibility). However, some aspects of school health services, e.g., school-meal (lunch/breakfast) programmes or special programmes for handicapped children, may be organized through the ministry of education.

(3) School facilities, design and operation

The choice of a site for a school, the planning of school grounds and the construction of the school building are public responsibilities. Health and education authorities set and maintain appropriate standards which are defined in national or state regulations. Local school officials are concerned with the maintenance of a hygienic environment in whatever school buildings are provided. Design and operational factors which affect learning include safe drinking-water, hygienic latrines and hand-washing facilities, lighting, heating, ventilation, and refuse disposal.

A STRATEGY FOR ACTION

The following are activities which could be considered for inclusion in a future strategy for action for school health education.

(1) Survey research to better document the health status of school-age children and the state of the art of school health education

Both health and education planners cannot begin to adequately address issues in school health until there is better epidemiological data on the health status of school-age populations. What do we know about mortality and morbidity rates in school-age children? What is the incidence of critical nutritional problems (protein-energy malnutrition, iron deficiency anaemia, vitamin A and iodine deficiency) that have been correlated to cognitive development and school performance? What estimates can be made regarding the percentage of primary-school enrolees suffering from physical, emotional or psychological handicaps? Are dental caries as great a problem among primary school-age children in developing countries as in industrialized nations? These are a few of the many questions that could be answered through basic epidemiological research.

(2) Improved administrative and financial support for school health programmes

Improved school health is a joint responsibility of the education and health sectors. Thus it would seem appropriate to promote greater interministerial cooperation between the education and health ministries. One model that might be copied is the UNRWA School Health Education Programme which is collaboratively operated by both the department of education and the department of health.

National level cooperation between education and health sectors needs to be duplicated at the local level. Primary-school principals and teachers, many of whom are overwhelmed by below-standard environmental conditions, poor pay, and high teacher/student ratios, need to be supported where possible by local health professionals. Considerable attention ought also to be devoted to harnessing the resources of local voluntary organizations like parent/teacher associations, social and religious groups, and voluntary organizations, in support of school health activities.

Finally, increased financial support is essential if school-based health programmes are to be improved. It is hard to find a line item for school health activities in most ministry of health or ministry of education budgets. There is a need to increase expenditures for both pre- and in-service teacher training, teaching and learning materials, school health services, and school facilities that affect the learning environment (e.g., lighting, sanitary facilities, etc.).

(3) School health achievement test

One strategy for increasing national and local level commitment to school health would be the development of an international standard or set of classroom goals that teachers could seek to achieve. One way of formulating such a standard would be a simple health behaviour skill test that could be used as a basis for incorporating health subject matter into the primary school leaver examination system.

The achievement test should be geared towards the learning of skills that can be used to solve local health and nutrition problems. An example would be detection of diarrhoeal diseases and treatment using oral rehydration packets or simple sugar-salt or home-based solutions; knowledge of appropriate infant- and young-child feeding practices and skills in preparing appropriate locally-based weaning foods; detection of clinical signs of vitamin A deficiency as well as the knowledge and skill to administer appropriate dietary biomedical treatment; and knowledge and skill in the use of prophylactics to prevent malaria.

(4) Improved training programmes

Opportunities abound for innovative school health training programmes. On the education side there is a need for improvement in the quality of teacher training. Improvement should be targeted towards towards both pre- and in-service training, and towards development of curricula that link in-school learning with out-of-school health learning activities. Innovative approaches to interdisciplinary and community-based curriculum and learning materials development need to be explored. The new UNESCO Classroom Sourcebook for Nutrition/Health Teaching-Learning would be an excellent resource for training courses, in-service workshops and classroom teaching.[18] Another important focus should be to improve the teaching of affective skills, an important element linked to changing health lifestyle. For example, the decision of an adolescent to smoke is probably related more to skills of self-understanding dealing with peer pressure and decision-making than to skills of understanding the dangers and risks of smoking.

On the health side there is a need to provide training in the organization and management of basic school services and in school environmental construction. Many developing countries lack first-hand experience in designing, staffing and supervising school health service programmes. Similarly, there is a need to upgrade the physical facilities in many existing schools and ensure that new school construction adheres to educationally oriented environmental standards. National and regional training programmes in both of these areas are badly needed.

CONCLUSION

Twenty years ago UNESCO sponsored with the World Health Organization the first international consultation on school health education. The principal result of that meeting was an impressive UNESCO sourcebook, Planning for Education in Schools. The sourcebook provides detailed guidelines for planning health education programmes in primary and secondary schools and in teacher training institutions. Regrettably, with a few notable exceptions, little has been done at either the national or international level to operationalize these guidelines. Investment in school health, by either the education or health sector, has remained minimal. Most countries remain confronted by resource constraints, i.e., lack of funds, materials, trained teachers, high student/teacher ratios, poor school health environmental conditions and embryonic school health organizational structures.

Now, however, there is reason to accelerate our commitment to school health. Increasing enrolments at both the primary and secondary school level imply that the educational focus in many countries will start to shift - from expanded outreach to improving the quality of learning. The growing evidence linking health (and nutritional) status with learning ability and educational achievement (see page 2) further underscores the need for improved school health education and health services in developing countries.

TABLE 1. GROSS ENROLMENT RATIOS IN THE FIRST AND SECOND LEVELS OF EDUCATION IN COUNTRIES GROUPED ACCORDING TO IMR IN 1960 AND 1979-1981

Group of countries	No. of countries	Range in infant mortality rate aged 0-1 year		Gross enrolment ratio first level				Gross enrolment ratio second level	
				1960		1979-1981		1979-1981	
		1960	1981	M	F	M	F	M	F
Very high infant mortality countries	44	150-250	110-210	41	16	81	49	16	8
High infant mortality countries	29	90-170	60-100	68	45	105	91	21	23
Middle infant mortality countries	28	35-110	26-50	100	94	101	104	54	50
Low infant mortality countries	29	11-70	7-21	105	103	100	101	82	84

Source: The State of the World's Children 1984, UNICEF
UNESCO Statistical Yearbooks.

TABLE 2. PERCENTAGE OF REPEATERS IN PRIMARY EDUCATION, BOTH SEXES (LATEST YEAR AVAILABLE)

	Below 5%		5%-9.9%		10%-14.9%		15%-19.9%		20%-24.9%		25%-29.9%		30% and over	
Africa	Ghana	2	Botswana	5	Algeria	10	Benin	18	Guinea	22	Burundi	29	Angola	36
	Seychelles	0	Egypt	8	Gambia	13	Djibouti	19	Madagascar	24	Cape Verde	28	Central African Republic	35
	Sudan	0	Kenya	5	Liberia	12	Ivory Coast	19	Reunion	22	Comoros	25	Chad	38
	United Republic of Tanzania	1	Libya	9	Mauritania	14	Lesotho	16	Tunisia	20	Congo	28	Gabon	35
	Zambia	2			Niger	14	Malawi	11	Zaire	20	Guinea-Bissau	28	Sao Tome and Principe	47
					Rwanda	14	Senegal	16			Mali	27	Togo	37
					Swaziland	12	Sierra Leone	15			Morocco	29	United Republic of Cameroon	30
					Uganda	10	Upper Volta	16			Mozambique	29		
Latin America	Antigua	2	Costa Rica	7	Grenada	11	Dominican Republic	18	Haiti	21	Suriname	26		
	Jamaica	4	Cuba	7	Mexico	10	Guadeloupe	17	Brazil	20				
			El Salvador	9	Panama	12	Guatemala	15						
			Argentina	8	Chile	13	Honduras	16						
			Guyana	8	Ecuador	13	Martinique	17						
					Paraguay	14	Nicaragua	15						
					Venezuela	10	St Pierre and Miquelon	16						
							Colombia	17						
							French Guiana	15						
							Peru	19						
							Uruguay	15						
Asia	Hong Kong	4	Afghanistan	5	Bhutan	13	Iraq	16	Burma	21				
	Cyprus	0	Indonesia	9	Brunei	13			India	21				
	Japan	0	Iran	9	Qatar	10								
	Jordan	2	Kuwait	6	Saudi Arabia	14								
	Korea, Republic of	0	Oman	9	Sri Lanka	11								
	Malaysia	0	Syrian Arab Republic	8	Thailand	10								
	Mongolia	2	United Arab Emirates	9										
	Philippines	2												
	Singapore	4												
Oceania	Fiji	4	Solomon Islands	5			New Caledonia	16						
	Kiribati	4	Tonga	9										
	Norfolk Island	1												

TABLE 2. PERCENTAGE OF REPEATERS IN PRIMARY EDUCATION, BOTH SEXES (LATEST YEAR AVAILABLE) (continued)

	Below 5%		5%-9.9%		10%-14.9%	15%-19.9%		20%-24.9%	25%-29.9%	30% and over
Europe and USSR	Bulgaria	2	Austria	6		Belgium	19			
	Czechoslovakia	1	France	9		Portugal	17			
	Federal Republic of Germany	2	Spain	6						
	Greece	1								
	Hungary	2								
	Italy	1								
	Malta	3								
	Netherlands	2								
	Poland	3								
	Switzerland	2								
	Yugoslavia	2								
	USSR	0								

Source: UNESCO Statistical Yearbook, 1983.

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