Teaching and Learning of Health Knowledge at Schools

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SUMMARY

The present epidemics of consumption of drugs, narcotics and smoking and other forms of poor life style among students at schools has received serious concern. In Finland the legislation of education has recently been renewed. The background has been the poor knowledge of students in matters related to physical, mental and social health. Health science (health knowledge) has been adopted as an obligatory subject at all school levels. Biology teachers and the teachers of physical education will take care of the teaching. The present teachers will receive continuing education (5 credits), and the future teachers of biology need a program of 35 credits to be able to give health knowledge lessons. The new program will consist of human biology (anatomy, physiology and metabolism), bacteriology and immunology, nutrition, ergonomics, physical exercise sciences, pathophysiology, pharmacology, toxicology and public health as well as sex education, self care and health promotion. In long run there will also be full time health knowledge teachers whose major subject in their Master of Science program (minimum 55 credits) will be health science. It is also expected that the regulations of biology courses will change in the near future. The topics relevant to personal health will also increase the students' interest to learn more about natural sciences.

KEY WORDS

biology, teacher education, continuing education, primary schools, high schools, polytechnics

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INTRODUCTION

Education is the most important factor for the future success of an individual and of the society. Good education of workers is even more valuable than natural resources, geographic location or capital, when enterprises seek their location or new enterprises are started. Health has the highest priority when people are asked about essential values of their life. In many advanced countries funding of health services is therefore one of the most important budget items. Healthy adults can significantly contribute to the national income, and healthy children and old people need less health services from the family and the society. Healthy children reach also productive adulthood, and they contribute to the national income over many years in their adulthood. It has been shown that the disability-free life expectancy ie good health and even long life expectancy are correlated with the education (1). This means that the investments on education pay back. When this is true, one can expect that resources to health knowledge ie to teaching human biology, nutrition and physical exercise, pathophysiology of diseases and basics of therapy and self care will give good profits at national level.

On this background it is astonishing that health education is not necessarily among the main subjects in school or university programs. If people know the basic matters of health, they would probably select healthier life styles, remain healthy and be more productive. Students, whose response to a child discipline problem was either to punish or abuse, knew less about child development and child health maintenance than their peers (2). There is a great need for heart health knowledge education and for culturally relevant nutrition education aimed at specific target groups defined by ethnicity, sex and leisure activity (3). One must remember that if an essential part of the valuable curriculum is missing, it may end up to unhealthy life styles due to ignorance and defiance. Schools have hidden curricula (4).

Humans depend in many ways on the nature, which provides them food, shelter, energy and recreation. By learning more about health matters children and adolescents would also learn to respect nature and other organisms, because the biosphere is functioning as a whole. Environmental health is in a great danger globally and in many densely populated territories, because people do not see themselves as one component of the wholeness in contrast to so called primitive populations. The highly advanced urbanization has alienated majority of people from the basics of life, when food is bought in shops and drinking water is available in quantities and wastes disappear somewhere. On the other hand in big cities there are homeless people and also great numbers of children who struggle day by day in temporary shelters and drains without school education.

In Finland the legislation of education has recently been renewed. Health knowledge has been introduced as an obligatory subject at all school levels. It will, however, take several years before sufficient numbers of properly educated teachers of health knowledge will be available. During the period of transition teachers of biology, physical education and psychology are responsible to take care of the teaching of health knowledge. Intensive education of existing teachers will soon start so that they can contribute to the teaching of health knowledge at schools. When this is planned, one serious problem is that ergonomics and nutrition are main curricular subjects in masters program in Finland only in the University of Kuopio.

Continuing education of present day teachers of biology

In Finland the biology teachers teach usually at schools also geography. When they learn biology, human biology and pathophysiology are minor side streams or non-existing in their curricula. This deficiency is also a larger problem. In the United States it has been reported that cardiovascular health knowledge of teachers and principals as well as students is low (5). The earliest precursors of coronary heat disease and chronic lung diseases were common in children also in Australia (6). According to the national plan the present teachers will receive continuing education (5 credits). The teachers will come to weekend courses to learn the aims of the program, to get the materials and to receive tasks for their homework. The teachers have different backgrounds and qualifications. Therefore different sets of

courses must be prepared. The courses will cover the basics of human biology, pathophysiology, toxicology, microbiology and immunology and nutrition. The electronic learning aids will be used (as already available on human biology, ergonomics and exercise medicine) and new ones will be prepared for distance learning both for the teachers and also for the school.

Health science program for biology teachers

The future teachers of biology will need a program of 35 credits in health sciences to be able to give health knowledge lessons at their schools. The new program will consist of courses in human physiology, anatomy, biochemistry, bacteriology and immunology, nutrition ergonomics, physical exercise sciences, pathophysiology, pharmacology, toxicology and public health. Emphasis will be paid on health promotion, sex education, first aid and self care.

Full time teachers of health knowledge

In the long run also full-time health knowledge teachers will be needed. They will major in their Master of Science program (minimum 55 credits) in health sciences. These teachers will elaborate also a thesis in health sciences. As educators they will study pedagogics 35 credit weeks.

DISCUSSION

Every child is asking questions about her or his own body and its physiology. Those who have educated parents and access to good books and television films learn a lot already at home before the school age. The family may have ill members i.e. the children learn many things by observing and listening. Children rapidly gain health and safety knowledge between 3.5 and 5.5. years of age and master much of this content by their sixth birthday (7). The school is, however, the place where all the children should get systematic teaching and learn to know the body functions and the origins of their disturbances and how to handle health related problems. It has been shown that the health knowledge of students significantly improves after education. Attitude of students towards personal hygiene also improved significantly after education as one can expect (8).

The natural interest on health could be used to promote the learning biology and other subjects. One can expect that the children would learn also a lot of animals and plants and biological systems and become enthusiastic to learn more about more abstract subjects such as chemistry, physics and mathematics.

Because man is always a member of a society, it is easy to teach psychology as well as the sociology in the health-related context, too. One can expect that the reluctance to meet children from other cultures will diminish.

In nearly all classrooms there are students who have health problems due to chronic illnesses and also due to epidemics and accidents in sports or traffic. If the backgrounds of health problems are better known, perhaps the students provide better support to those who have had the bad luck.

The increasing consumption of narcotics has its roots in the normal curiosity of young people and the intensive marketing. Because the school children have no knowledge about the mechanisms of addiction, the threshold to make personal experiments is low. The urbanization helps the marketing of harmful products, because there are always people who need income and who do not pay attention to fate of others. E.g. in countries of transition there are many people who fight for survival. The narcotic addition promotes loose sexual activities. In Durban South Africa one out of three pregnant women have AIDS. AIDS and other remerging infections like antibiotic resistant forms of tuberculosis have a fertile soil in

the users of narcotics. If the school provide education on health knowledge, the students would probably be more resistant to the marketing narcotics, although this does not make other efforts useless.

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