

HEALTH PROMOTION AND DISEASE PREVENTION A Handbook for Teachers, Researchers, Health Professionals and Decision Makers	
Title	Preventive Programmes in School Health Care Services
Module: 3.5	ECTS: 1.0
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Key words	Prevention, school medicine, school health, schoolchildren
Learning objectives	After completing this module students and public health professionals should: <ul style="list-style-type: none"> • be aware of preventive medicine for improvement of school children health; • recognise the role of school physician in preventive medicine; • increase knowledge of principles and implementation of preventive medicine; • understand specific tasks and measures in different preventive programmes (for different health problems and different group of school children); • differentiate procedures of primary, secondary and tertiary prevention; • identified the risk groups and suitable preventive activities (check ups, screenings, specific control check); • improve the skill of planning and providing a preventive activities. • organize collaboration with other co-workers in outside of health system and to organize interventions in the community.
Abstract	School health services are the most appropriate settings for primary prevention, early detection and secondary prevention of diseases. School health services in collaboration with school setting guarantees easy access to population of school children. The schools are also important environments for preventive actions directed to the group in this setting and population-oriented approach. The regular medical check-ups, as a part of the school health programme, are ideal opportunities to detect majority of health problems of school children in early stage as: growth and developmental problems, risky behaviour (smoking, drinking, drug use), unhealthy eating habits, psychosocial problems, reproductive health status (sexual behaviour, contraception.), school achievement, speech and learning disabilities, visual and hearing problems, cardiovascular risk factors (obesity, overweight, physical activity, blood pressure).

Teaching methods	The module will comprise: Interactive lectures 4 hours, seminars 6 hours, field practice in primary care settings (School health services) 8 hours, small group discussions 4 hours, individual work (reading and writing the seminar paper) 14 hours.
Specific recommendations for teachers	<ul style="list-style-type: none">• work under teacher supervision/individual student's work proportion: 30%/70%;• facilities: a computer room;• equipment: computers (1 computer on 2-3 students), LCD projection equipment, internet connection, access to the bibliographic data-bases.
Assessment of Students	Assessment: seminar paper, case problem presentations.

PREVENTIVE PROGRAMMES IN SCHOOL HEALTH CARE SERVICES

Vesna Juresa

Theoretical background

Health and social needs of Schoolchildren and Adolescents

Specific health care of schoolchildren and adolescent is of a great importance for several reasons: health care and promotion of this population is a basis of health in adulthood, adopting healthy life habits is essential for avoiding major chronic no communicable diseases risk factors, mental health care and risky behaviour prevention provide better and more creative life.

Schoolchildren and adolescents are often described as a healthiest part of population regarding their specific mortality and current morbidity. Analyzing the health problems of this population the facts slightly differ.

Leading health problems of schoolchildren and adolescents are:

1. Problems regarding reproductive health: sexual behaviour, contraception, adolescent pregnancies and adolescent mothers, abortions, sexually transmitted infections.
2. Addictions: tobacco, alcohol, psychoactive drugs.
3. Health care and education of children with developmental and learning disabilities. (1,4,5, 6, 8, 9, 10,13)

School Health Services – organizational context in different countries

Models of school health services regarding organisation

There are two basic models of school health services:

1. School health service in charge of school.
School health service is independent service which provides preventive and curative health care in:
 - public health services organized and financed from the state (Finland, Sweden);
 - private services – preventive health care as a played school programme, curative health care paid as a head fee (England);
 - public health services for preventive health care and private services for curative health care (Belgium, Norway, Croatia).
2. School health services in charge of every student.
 - comprehensive health care (preventive and curative) from one doctor as a individual procedure for every child according to preventive programme (Germany);
 - preventive health care on local basis as a public health service and curative health care in private sector (Norway, Netherlands).

Models of school health services regarding comprehensivity

Regarding the health care comprehensivity there are also two basic models:

1. Comprehensive or integrated school health care.
Advantages of this model or approach are:
 - better insight of child's health;
 - easier to implement health care measures;
 - frequent contact with students;
 - better acceptance from parents, students and children;

- better acceptance from physicians.

Disadvantages of this model or approach are:

- hard to achieve for secondary school students – place of schooling and living are not the same;
- separate head fees for preventive and curative health care.

2. Preventive school health care.

Advantages of this model or approach are:

- better planning and implement of specific and preventive health care measures;
- more time for implementation of specific and preventive health care measures;
- safer implementation of preventive health care measures;
- recognized specific and preventive health care;
- in charge of student's population and school.

Disadvantages of this model or approach are:

- two medical doctors in charge for one child;
- unclear areas of work of school medicine specialist and personal family doctor (which are predominantly curative oriented) for parents, teachers and children;
- colleges and other health professionals are not recognizing the profession;
- school medicine specialists as a preventive professionals can lose interest in permanent education and improving. (2, 16)

Case study – Preventive programmes for schoolchildren in Croatia

Organization of school health services in Croatia

Until 1998, school health services were responsible for comprehensive (curative and preventive) health care for children and youth. Since a reform in 1998, school health services in Croatia are disintegrated and allowed to act exclusively as preventive health care settings. School health services in Croatia have remained a separate service for children in primary and secondary school, and also for students in higher education (professional or university study).

Schoolchildren and youth in Croatia have two physicians:

- family doctor or paediatrician takes care of curative aspect of health care, whilst
- school medicine specialists, in charge of specific schools and universities, takes care of preventive measurements, specific health care and health education.

In 2005, 154 school medicine teams, school medicine specialist and nurse working in each team, were in 21 School health services. School medicine services (as the hygienic and epidemiological services) are under the jurisdiction of county institutes of public health (20 County Institutes of Public Health and Public Health Institute City of Zagreb). Mainly of School health services are located in primary health care centres and coordinate activities with them.

Areas of work are covering wide range of preventive measures according to an annual programme which is developed and enacted at the national level in Ministry of Health and Social Welfare of Croatia, according to the Health Care Measure Plan and Programme (14,15).

Health Care Measure Plan and Programme

Approved health care Programme of preventive, specific and health care education procedures for school children, youth and students is consisted of three main parts:

1. Preventive health care programmes (short review):
 - check-ups (generally) obligatory before entering in the elementary school (at the age of 6 or 7), in the 5th and 8th grade, first grade in high school, and on first year of university;
 - control check-up and according to medical indication after general and specific check-ups;
 - specific check-ups (with specific conditions in school), and
 - screening programmes.
2. Specific health care programmes:
 - reproductive health protection:
 - mental health protection:
 - prevention of addiction (tobacco, alcohol, psychoactive drugs):
 - school's sport clubs, recreation sports and sports in school:
 - children and youth with psychophysical development disorder:
 - education of the children and youth with special needs:
 - school and vocational guidance:
 - nutrition in the schools:
3. Other specific-preventive activities:
 - counselling work with children, parents, teachers and others With special emphasize on work with children with special needs (problems with psychophysical development), learning difficulties, health risks, chronic health disorders, risk behaviours etc.;
 - health education (with children, parents and teachers);
 - general topics in health education: personal hygiene, adequate diet, growth and development, puberty, sexually transmitted infections-STI including HIV/AIDS, reproductive health and family planning, chronic illness, development risk factors, self-protection and caring for personal health, healthy lifestyle promotion.

Main activities of the Programme

Main activities of the Programme are:

1. Regular systematic examinations.

Regular systematic examinations (check-ups) of schoolchildren, youths and students in Croatia are including following examinations:

 - skin changes;
 - body height and body weight (centile curves);
 - assessment of potential abnormal body posture, spinal deformation;
 - other musculoskeletal system deformations ;
 - eye examination (strabismus, Cover test, sight, disorders of refraction), colour vision deficiencies;
 - hearing impairment, speech disturbances;
 - examination on nose deformations, mouth and pharynx (caries);
 - thyroid gland examination;
 - heart examination (murmor cordis innocens, cardiac defects, blood pressure), pulse;
 - lungs examination;
 - abdomen examination;
 - peripheral circulation;
 - arms/legs;

- genital examination;
- puberty by Tanner, kryptorchismus, testis size (Prader), menarche, menstrual cycle,
- Haemoglobin examination,
- urine examination (albumin/eritricites/ leucocytes/ bacteria),
- school achievements,
- leisure time activities,
- nutrition habits,
- smoking, alcohol, other addictions.

These examinations are performed in certain age of a schoolchild:

- primary school - at time of enrolment, 5th grade, 8th grade with professional education
 - secondary school - 1st grade
 - higher education (university/college) - 1st study year
2. Additional examinations if needed after regular systematic examinations.
 3. Examinations with specific purpose:
 - for school and boarding school enrolment;
 - before vaccination;
 - for sport activities enrolment;
 - before field trips.
 4. Screenings of all schoolchildren.
 - body height and weight (and Body mass index-BMI) – as part of regular systematic examinations and in 3rd and 6th grade of primary school
 - vision – as part of regular systematic examinations and in 3rd grade of primary school
 - colour vision – 2nd and 3rd grade of primary school
 - anaemia – primary school enrolment
 - blood pressure – as part of regular systematic examinations
 - proteinuria – primary school enrolment
 - scoliosis – as part of regular systematic examination and 6th grade of primary school
 - hearing – 6th or 7th grade of primary school
 - sexual development – as part of regular systematic examinations
 - behaviour – in the second part of 1st grade of primary school and as part of regular systematic examinations
 - risk behaviour – as part of regular systematic examinations
 - mental health – 7th grade of primary school and 1st grade of secondary school
 5. Screenings of schoolchildren at risk (hypercholesterolemia, hearing, psychoactive drugs and sexual activity). (3)
 6. Vaccination – according to the National mandatory vaccination programme.
 7. Health care for chronically ill children and children with special needs.
 8. Health education and health promotion.

Health education schedule and topics are as follows:

 - 1st – 4th grade of primary school - hygiene, healthy eating; violence and abuse;
 - 5th – 6th grade of primary school - puberty, menstrual cycle, substance abuse;
 - 7th – 8th grade of primary school - HIV/AIDS and other sexually transmitted infections, healthy development and maturation;

- 1st – 3rd grade of high school - family planning, abortion, contraception, marriage, family, children, sexual behaviour, sexually transmitted infections, self-protection and care for the personal health;
 - students in higher education (university or professional) -topics according to needs and indications.
9. Guidance services.
- learning difficulties, risk behaviour, mental health, reproductive health and chronic diseases (1, 4, 5, 15).

Documentation of data on preventive health examinations

All information, collected in preventive health examination are registered in a medical chart. Medical chart additionally contains information on:

- personal and family medical history obtained from pupils/students (anamnesis);
- personal and family medical history obtained from parents (hetero-anamnesis);
- insight into medical documents;
- information from teacher;
- control examination (when indicated).

Preventive programmes in numbers

In the school year 2005/2006, in primary school there were 391.112 children, in secondary school 186.918 children and 97.329 students in higher education.

At primary school enrolment 46.942 children were examined, in 5th grade were examined 91% of the children (44.102 children) and in 8th grade 92% of the children (45.938 children) were examined and visited counselling service regarding professional orientation. At secondary school enrolment 35.956 children (68% of the generation) were examined. Regarding the fresheners, 18.532 were examined in school year 2005/2006.

Health education has been rapidly growing regarding number of participants and variety of themes. In school year 2005/2006, 305.236 elementary school children (and 63.975 of their parents), 89.498 secondary school children (and 7.404 of their parents) and 14.888 of students in higher education took a part of lectures, group work or some other type of health education strategies.

The number of visit to the counselling service has increased each year reaching the total of 140.738 for primary, 42.495 for secondary school and 19.145 for students in higher education, in school year 2005/2006. Main reasons for visiting counselling services differ regarding age:

- primary school: chronic illness (42%), learning difficulties (24%), mental health (21%);
- secondary school: chronic illness (37%), reproductive health and STI (21%), learning difficulties (15%), risky behaviour (12%), mental health (16%);
- students in higher education: reproductive health (6.242), mental health (3.565), chronic illness (3.496), risky behaviour (2.154), learning difficulties (1.062). (14)

Preventive measures in school medicine

Prevention approach in school health services in Croatia assumes that all school health teams are constantly collaborating with different professions such as:

- school and university professionals (teachers, pedagogues, psychologists);

- other primary health care services (close everyday contacts and cooperation to provide quality health care);
- clinical professionals (gynaecologists, clinical psychologists, psychiatrists);
- rehabilitation services.

School child health booklet (SCHB)

Ministry of Health and Social Welfare of Republic of Croatia decided in 2006. to publish School Child Health Booklet (SCHB) which covers a child's life from birth to eighteenth year. Information gathered in SCHB enables systematic surveillance with unique methodology of growth and development of a child. It is possible to follow entities such as: anomalies, anthropometric measures, risks factors, social surroundings and family history. Gathered information are base for creating records which will have operative value and it will enable rapid and diverse intervention with a purpose of protection and improvement of child's health.

School health service's advantages

School health service's advantages are:

- accessibility of school medicine teams to all school children and students in Croatia;
- an unique Programme for all school children and students supported by Croatia's Ministry of Health and Social Welfare;
- primary health care service which allows direct approach for all children and students;
- school setting where children are easily available for health interventions, epidemiological monitoring and health education;
- individual approach and confidentiality.

Possibilities for improvement

In spite of the fact that the system is efficient, there exist several possibilities for improvement, among which are:

- school medicine teams consisted of school medicine specialist, nurse, head nurse per two teams and psychologist per four to six teams;
- number of patients standard – 3000-3500 elementary and secondary school children per team (5000 students per team);
- head fee should be different for elementary and secondary school children and also for students in higher education;
- health care standards correction based on the number of children emphasising terrain characteristics – dislocated schools, large number of schools with low number of children in wide areas, health care for children with special needs;
- work space and equipment standards and norms must be synchronised with health care measures;
- enable to school medicine specialists to become personal curative doctors only for school children and youth. (11,12)

Exercise

Task 1:

Different models of School Medicine Services in South-Eastern and other European Countries responding to the needs of schoolchildren and adolescents

Instructions

Carefully read the following document:

Hopenbrouwers K, Juresa V, Kuzman M, Juricic J. Prevention of Overweight and Obesity in Childhood: A Guideline for School Health Care. Katholieke Universiteit Leuven, Flemish Society for Youth Health Care, Society for School and University Medicine, Croatian Medical Association, University of Zagreb, Croatian National institute of Public Health, University of Ljubljana, Slovenian Medical Association, European Union for School and University Health. 2007.

Find on Websites description of models in Europe. Use also recommended readings.

Discuss advantages and disadvantages of different models with special emphases on past and current situation in your country.

Discuss with other students the need and importance of preventive activities of schoolchildren.

Task 2:

Identification of risk factors for cardiovascular diseases in school age and screening methods for cardiovascular diseases in school age

Instruction

Read carefully recommended papers and discuss with colleagues the risk factors and screening methods for cardiovascular diseases in school age. Make the list of priorities and propose plan and programme, including regular preventive measures in current practice. in your own country.

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Recommended readings

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