

<b>MANAGEMENT IN HEALTH CARE PRACTICE</b>	
A Handbook for Teachers, Researchers and Health Professionals	
<b>Title</b>	<b>OCCUPATIONAL HEALTH SERVICES - KEY TOOL IN THE DEVELOPMENT OF WORKERS' HEALTH AS PUBLIC HEALTH APPROACH</b>
<b>Module: 5.9</b>	<b>ECTS (suggested): 0.2</b>
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<b>Keywords</b>	Occupational Health Services, basic Occupational health Services, workers' health, public health approach
<b>Learning objectives</b>	<p>At the end of this course students should be able to:</p> <ul style="list-style-type: none"> <li>• Be aware of theoretical principles and concept of Occupational Health and Occupational Health Services;</li> <li>• Broader their knowledge on Occupational Health policy with public health approach;</li> <li>• Fully understand and be able to differ the terms Occupational Health vs. Workers' Health;</li> <li>• Recognize the role of all participants and stakeholders in workers' health.</li> </ul>
<b>Abstract</b>	<p>Health at work and healthy work environments are among the most valuable assets of individuals, communities and countries.</p> <p>Nowadays, new broader approach is promoted, recognizing the fact that occupational health is a key, but not a unique element of workers' health. Workers health is a public health approach to resolving the health problems of working populations including all determinants of health recognized as targets of risk management. It focuses on primary prevention of occupational and work-related diseases and injuries, protection and promotion of the health of workers.</p>

	<p>The major component of occupational safety and health system or infrastructure is occupational health service. The Basic Occupational Health Services (BOHS) are an essential service for protection of people's health at work, for promotion of health, well-being and work ability, as well as for prevention of ill-health and accident.</p> <p>BOHS should provide the services available to all workers, addressing to local needs and adapted to local conditions and existing resources. The development of occupational health system and policy requires strengthen governmental stewardship and ensure continuous political commitment to occupational health. OH policy should provide the development of legislation and standards in the field as well as effective mechanisms for financing of occupational health services. The expected results should be ensuring access to basic occupational health services for all workers with establishing essential requirements for service provision and providing the quality assurance systems for occupational health services.</p>
<b>Teaching methods</b>	Teaching methods will include introduction lecture, interactive small group discussions on recommended subjects followed by group reports and overall discussion and teacher's evaluation.
<b>Specific recommendations for teachers</b>	This Module will be organized within 0.2 ECTS credits out of which 2 hours will be done under supervision (lecture and exercise) and the rest is individual student's work. Teacher should advise students to use as much as possible electronic libraries to gather ideas and select examples in their own countries.
<b>Assessment of students</b>	The final mark should be delivered from assessment of the theoretical knowledge (oral exam), contribution to the group work, reports and final discussion.

# **OCCUPATIONAL HEALTH SERVICES - KEY TOOL IN THE DEVELOPMENT OF WORKERS' HEALTH AS PUBLIC HEALTH APPROACH**

**Jovanka Karadžinska-Bislimovska, Jordan Minov, Snežana Risteska-Kuc, Sašo Stoleski, Dragan Mijakoski**

## **THEORETICAL BACKGROUND**

### **Introduction**

Health and safety at work as a basic human right and constitutes a social and health dimension of the principle of sustainable development. The occupational health and the well-being of the working people is a key element for the total socio-economic development of every country.

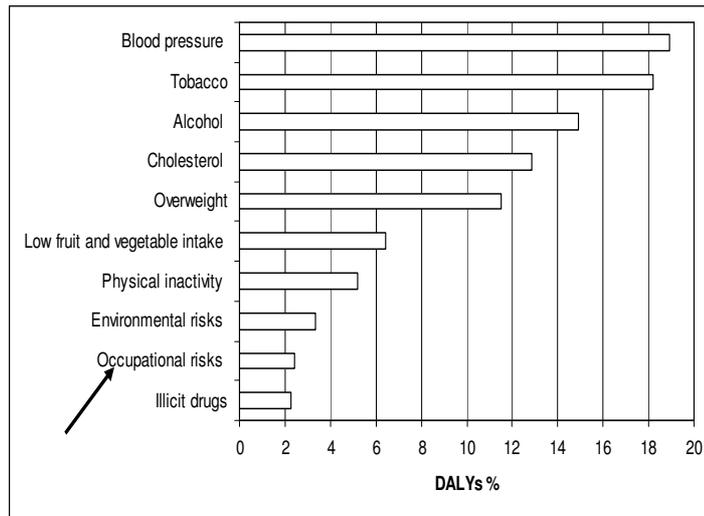
More than the half of the world population belongs to the global working force which is continuously, during its working age, more or less submitted to a large number of factors hazardous to health that originated from the working place.

### **Old and new risks at workplaces**

Beside the traditional problems and risks at work (such as noise, vibration, physical workload, biological and chemical agents, infective agents, bad working conditions) to which 25 to 30% of the working population is still exposed, the new changes of the working processes and the new technology are carrying new risks and challenges of the professional pathology of the working place, even to those that are looking quite safe and harmless. Those are new chemical substances and materials, some of them with unknown and unidentified hazardous effects, new biotechnological and carcinogenic materials, allergenic substances, highly frequented non-ionizing radiation, ionizing radiation, psychosocial stress, unsuitable ergonomic design etc (Figure 1). There are additional effects like social and economic conditions, fluctuation of the work force, working place mobility, psychophysical abuse and violence at the work place. There are the changes in the organization of the work and shift-work, fragmentation of enterprises and increased number of the small-size enterprises and self-employed. Dynamic and growing demand on the work as a result of the market globalization significantly changes the economic structures and the working conditions at almost every single workplace (1).

Accordingly, there are no safety or risk free workplaces in the industry, economic or non economic enterprises, service activities, public or private large, medium or small enterprises. Especially in the developing countries with still present out-of-date technology and use of old equipment, without respect of the existing legislative for protection at work and the health surveillance of the workers seized without a Register of occupational hazards and workplaces with occupational risk.

All of this bring up to work injuries, occupational diseases and work-related diseases such as musculoskeletal, psychological, cardiovascular, respiratory, neurological, cancers etc. that are cause for a long term absence from work, lowered or terminally lost working ability, invalidity or death.



Source: World Health Report (2002)

**Figure 1.** Occupational risks among other threats in WHO/EURO

Despite the traditional occupational illnesses such as pneumoconiosis, which are connected to “hard” working places, the risk of ruined health is present even at work places considered safely like a work with a computer. Some segments of the working population are with a specific vulnerability when exposed to certain professional risks: female working force, young and old workers, farmers, workers in an informal sector, middle and small enterprises, self-employed etc. Especially serious is the problem with child labour, people with special needs, unemployed.

Respiratory diseases that are occurring due to inhalation of microscopic particles, organic or non-organic (SiO<sub>2</sub>, asbestos, coal dust, pesticides etc), are present in many professions: construction engineering, mining, metallurgy, agriculture, textile industry, tobacco industry, wood industry and pastry product industry. Because of the long latent period of some of this diseases (carcinoma, asbestosis, silicosis) they are still present in the countries with a high level of control and protection at the work place. From the total number of the patients with asthma 5-18% are due to professional causes, 14% of the pulmonary obstructive diseases or 243.000 deaths per year with a the pulmonary obstructive diseases are with a occupational aetiology.

300-350 different chemical, biological and physical agents in professional surroundings are classified as carcinogenic materials. Round 20-30% male and 5-20% female, age 15-64 years, from the active working population can be exposed to those carcinogenic agents. On global level 10.3% of the pulmonary and tracheal cancers are due to exposure to asbestos, cadmium, arsenics, chromium, nickel or silica, and 2.4% leukaemia's are due to occupational exposure. It is assessed that 2-38% out of the total morbidities of cancers are due to the occupational etiological factor.

Musculoskeletal diseases are multi factorial and are connected with the ergonomic factors at workplace, heavy physical workload, repeated bending and sudden moves, as well as repeated monotonous movements, un-physiological continuous posture of the body, vibrations etc, organizational and social characteristics of the work. Especially high is the prevalence to those diseases in construction workers, farmers and health workers. Half of the active working population of USA is complaining about those diseases. The WHO

2002 World report on health is pointing out the fact that 35% of the cases with the low back pain are due to hazardous occupational ergonomic exposure (2).

Globally, the noise is also one of the most frequent risks at the workplace and is cause for 16% of the definite and irreversible hearing loss. The damage to the hearing can additionally become a risk for a numerous accidents and injuries at work as well different consequences from that.

### **Occupational health indicators**

The health indicators in the domain of health and safety at work according to WHO are: the rate for incidence and prevalence of the occupational diseases and work related diseases, rate of fatal accidents and injuries at work, morbidity rate at the active working population, disability incidence in 100000 population.

The influence of the work on the health is difficult to observe. The countries work in different health and insurance systems, the declared rates of the occupational diseases are based on the existing national legislative, effectiveness in detecting, enlisting and registration of the occupational diseases, as well as the compensatory mechanisms and systems for compensation. The extrapolation done according to the incidence of the occupational diseases in the European countries are good informational system going from 3-5 to 1000, gives annual incidence of 68-157000000 cases of occupational diseases.

The risk factors that can cause injuries at work are numerous and at different work places. According to the ILO annually in the world happens 120 000 000 injuries at work out of which 200 000 are fatal injuries at work. That means that the average risk from injuries at work is 42 on 1000 workers with a fatal outcome of 8.30/100 000. The average European risk is 25/1000 for injuries and 6.25 for fatal injuries (3).

This numbers can and must be prevented in the interest of the health and well being as well as from the point of interest for the economy and the productivity of the labour.

### **Occupational Health and burden of diseases**

Aiming to measure the health condition of the population from the aspect of paying off, as well as to assess which intervention that will improve the health needs special attention a concept of DALY (Disability Adjusted Life Years) was introduced. That is a measurement which is measuring the burden from the disease and is presented through total loss due to a damage health from any reason whether it is a premature death or invalidity / limitation in the functioning that can be both physical and mental, in different period of time. Because of that, the use of DALY enables to establish priority for health services, to establish groups with special risk and providing comparable measurements for intervention as well as for program and sector planning.

According to WHO Global Plan of Action on Workers' Health occupational risks are among ten threats in WHO EURO (2,3 Daly's%). The results published in the Global burden of disease 2002 are pointing that 2.7% of DALY worldwide (38 millions DALY) are result of occupational diseases compeering to 15.9% DALY as a result of malnutrition as a leading reason and 0.5% DALY as a reason listed last (1,2).

The prevention of occupational diseases and injuries is legal and moral obligation although it involves great expenses. According to the European Agency for Safety and Health at work, the cost for occupational diseases and injuries is between 2.6 – 3.8% GDP. Depending on country, different costs are estimated and prescribed: cost for sick- leave and invalidity (Netherlands 1995 - 4.8 billion euros), medical costs (Netherlands 1995-0.6 billion euros), production loss due to work disability (Germany 1995 – 45 billion euros),

lost for the sick/injured and their families (Great Britain -6.3 billion euros). The total cost for occupational diseases and injuries in Italy in 1996 was 28 billion euros (3).

Economic losses from poor working conditions, occupational accidents and occupational diseases in South East Europe are more than 7 billion USD, annually (about 5% of the GDP) (4).

The cost connected to the occupational diseases and injuries at work can be divided in tree groups:

- Direct (primary and secondary);
- Indirect;
- Immeasurable.

The direct primary cost is: cost for medical care and health protection that are paid from the Health insurance fund for treatment, rehabilitation and therapy of the occupational diseases and injuries at work while the direct secondary cost is covering all the costs that the individual is paying for treatment of his/hers condition which is a result of a certain occupational diseases and injuries at work.

The indirect cost includes absenteeism, time period necessary to regenerated the process of production in which the patient suffering from certain occupational diseases and injuries at work was included, training for the substitute, insurance that has to be paid by the enterprise etc.

The immeasurable cost (pain, suffering of the individuals and their surrounding) is increasing the price of the occupational diseases and injuries at work that in most cases could be prevented.

The poor health care and protection at the work place leads to reduction of the working ability that can cause a loss of 10-20% of the GDP. According to the estimations of the World Bank, 2/3 of the DALY could be prevented with programs for health and safety at work (5).

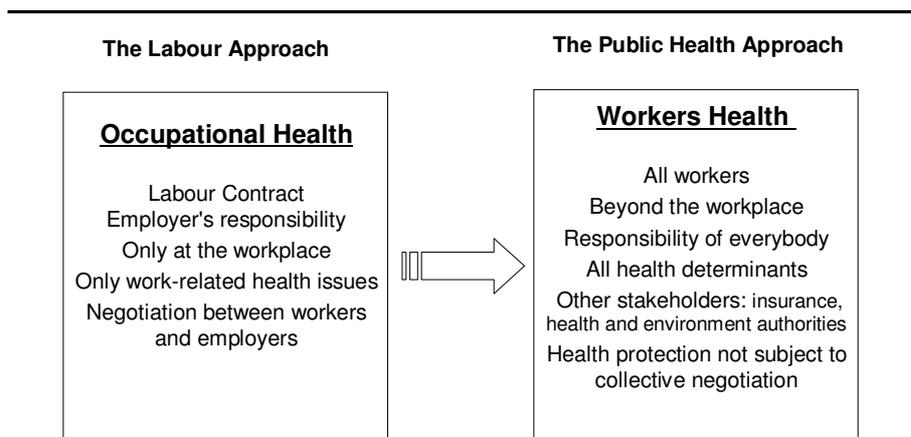
## **Occupational health and key elements**

Health at work and healthy work environments are among the most valuable assets of individuals, communities and countries. "Occupational health is an important strategy not only to ensure the health of workers, but also to contribute positively to the national economies through improved productivity, quality of products, work motivation, job satisfaction, and contribute also to the overall quality of life of working people and society" (1).

The term "occupational health" on traditional manner includes the maintenance and promotion and workers health and working capacity, but also the improvement of the working environment and safe and healthy workplaces.

Nowadays, new broader approach is promoted, recognizing the fact that occupational health is a key, but not a unique element of workers' health. Workers health is a public health approach to resolving the health problems of working populations including all determinants of health recognized as targets of risk management. It focuses on primary prevention of occupational and work-related diseases and injuries, protection and promotion of the health of workers. Occupational health constitutes the core of this approach, followed by the other public health activities such as prevention and control of communicable and chronic diseases, health promotion, organization and financing of health services, and environmental health. The workers health approach requires close collaboration of all stakeholders and coordination of all interventions related to the health of workers (1) (Figure 2).





**Figure 2.** From Occupational Health to Workers Health

“In the past two decades the settings in occupational health have become more complex, multifactorial, multimechanism and multioutcome”(6).

The health of the workers depends on a combination of factors and a complex interaction between them:

- working environment: mechanical, physical chemical, biological, ergonomic, psycho-social factors; social determinants related to work: employment status, occupational position, social inequalities and poverty;
- work-related health behaviour: individual preventive health practices and personal health-related behaviour in general;
- access to health services: adequate and affordable occupational health services for primary prevention, cure and rehabilitation.

### **Occupational health system and Occupational health services**

All these facts confirm the need for infrastructure, continuity and security, evidence and quality, comprehensive multidisciplinary content, coverage, cost-effectiveness, multisectorial collaboration in occupational health (OH) system (7).

The development of OH system includes the critical prerequisites like political commitment, legal basis, leading institutions, training and education, methods and guidelines, standards, collaboration of employers and employees, financing and infrastructure (1).

The major component of occupational safety and health system or infrastructure is occupational health service. Unfortunately, today, a lot of workers of the world have never even heard of such services. Even in many industrialized countries the coverage of occupational health services is below 50%, and in most countries of the world the rate is below 10%. The main goal is that all workers have access to OHS (5).

Comprehensive and long-term response from international organizations (WHO, ILO, EC) and joint efforts are recognized and needed in order to develop occupational health system including occupational health services as a key tool. Occupational health services provide also an important instrument for practical implementation of the Conventions and recommendations of international organizations, WHO and ILO as well as implementation of the principles of European Directives on Occupational safety and

health. The Government and policy-makers should make more effective use of occupational health approach and practices to support overall socio-economic development, development of modern work life and social and economic dimensions in the national development program. There is a need to define concise national policy and program for development of occupational health services as a system providing expert support for enterprises and working people (8).

ILO Convention No.161 and its accompanying Recommendation No. 171 are used in many countries, as models for establishing requirements for the organization and functioning of occupational health services (9, 10).

EU Document "Improving Quality and Productivity at Work: Community Strategy 2007-2012 on Health and Safety at Work emphasized the need for services to all working people of the world.

The implementation of Article 7 of framework Directive 89/391/EEC reveals considerable disparities with regard to the quality, coverage and accessibility of prevention services. One of the key objectives in the Community Strategy is the development of occupational health services especially for underserved, vulnerable and high risks sectors and workers (11).

60<sup>th</sup> World health Assembly (WHA60), 2007 endorsed the Global Plan of Action on Workers' health (GPA 2008-2017) and urged the Member States to take a number of measures on workers health (1).

This Plan of action is based on several principles in the different priority areas. These principles are intended to guide the formulation, implementation and evaluation of programs and activities in the area of workers health. They consist of: right to health and to favourable working conditions, priority of primary prevention, workplace as a setting for health interventions, coordinated response by the health system, equity in workers health (12).

### **Basic Occupational Health Services (BOHS)**

One of the objectives of WHO GPA is to "Improve the Performance and the Access to Occupation Health Services" and pointing out that all workers should have access to the occupational health services. In order to achieve this goal, the Basic Occupational Health Services (BOHS) approach is recommended, as a joint response to the priority area set for the WHO, ILO and ICOH collaboration. The concept of BOHS is based on the principles of primary health care (equity, universality) with the objective the WHO Global Plan of Action, ILO Convention No161 and Recommendation 171 (7).

The Basic Occupational Health Services are an essential service for protection of people's health at work, for promotion of health, well-being and work ability, as well as for prevention of ill-health and accident (16).

BOHS should provide the services accessible and available to all workers, addressing to local needs and adapted to local conditions and existing resources, effective and cost-effective in service provision.

The objective of Basic Occupational Health is to provide OH services for all workpeople in the world (in both industrialized and developing countries) regardless of the sector of economy, size of company, geographic area, or nature of employment contract. The provision of BOHS should be an integrated part of the social policy of work life and should be guaranteed by public authority.

The OHS infrastructure is called OHS system and it depends on the overall national health system for health services and occupational health and safety. However, the BOHS

infrastructure should be the part of integrated infrastructure for health and safety, can be carried out by several types of services units, collaborate with and take support from primary health care, collaborate with safety services and specially should serve underserved, high risks, SMEs (12).

Occupational health services support the employer in improving work conditions, but employer has the primary responsibility for health and safety at work. On one side the appointment of occupational health services does not discharge the employer from his responsibility for work conditions and on other side Occupational health services assist the employer in fulfilling his obligations for health and safety at work (13).

Without prejudicing the responsibility primary responsibilities of the employers and of tripartite collaboration, social partners and the Government the provision of services to sectors which do lack tripartite mechanism are the responsibility of the Government and other public sector in general.

Governments should ensure equity and access to occupational health services and their quality regardless of the mode of service provision. All levels of the health system play a role in the provision of services, from basic functions at the primary health care level to the more sophisticated functions at the regional and national level.

The full coverage of the total working population in the countries should be set as a long - term objective. In the first stage priority should be given to the high-risk sectors and the seriously underserved groups which are most in need.

While specialized comprehensive occupational health services are the best way to support the well established industrial and services sectors, for the underserved sectors and high risk and vulnerable workers it was found appropriate to combine such development with the overall development of primary health care services system. In organization of such service the possibilities to utilize the WHO/ILO/ICOH Basic Occupational Health Services approach was found appropriate (14).

### **Activities of Occupational Health Services**

The activities of occupational health services are based on prevention and promotion focused on workers' health and work environment. BOHS have a strong focus on primary prevention; the concept is comprehensive and includes prevention, cure and rehabilitation. Activities are complemented by the workplace health promotion. BOHS activities start with process of orientation and planning, and proceed to the identification of needs, risk assessment, proposal and management of preventive and control actions to employers and workers and evaluation of activities on the basis of data on workers' health and work environment with further steps in the process of development (15):

- Planning, orientation and identification of health and safety needs;
- Surveillance of the work environment;
- Surveillance of workers' health;
- Risk assessment ;
- Information and education on risks and advice on need for preventive and control actions;
- Preventive actions for the management and control of health and safety hazards and risks;
- Prevention of accidents;
- Maintaining first-aid and participation in emergency preparedness;
- Diagnosis of occupational and work-related diseases;
- Curative and rehabilitation services;

- Workplace health promotion (healthy lifestyle, general preventive and public health measures);
- Collection of data and record keeping;
- Evaluation of OH activities and their effects and impacts;
- Re-planning and necessary actions for the development of services.

### **Service provision models**

Different models for the provision of occupational health services are available:

- Big industry (in-plant) model is the most widespread, OHS for special sector or trade; Group services and private consultancies organized jointly by SMSE;
- Public health care establishments like community and other local primary health services (health centres, out-patient departments, group medical practices) (16).

The provision of Basic Occupational Health Services (BOHS) should be a priority in countries and economic sectors with high occupational risk and very low coverage of workers by occupational health services. The proposed model of BOHS as a part of integrated infrastructure of OH System should enable provision of OHS on all levels, from basic function at primary health care level, to the more sophisticated functions (International standard services and comprehensive OHS) at local and national level (4).

The provisions of the BOHS for every worker must be supported by the public sector and mechanisms for delivering and financing should be put in place to protect workers health and safety and to ensure the sustainable development (16).

### **Human resources**

In the optimal case the occupational health services will be provided by a multidisciplinary team: physician-specialist in occupational health, nurse, occupational hygienist and psychologist. In some countries, where not enough specialists are available, primary health care team may provide services with additional training in occupational health. At the secondary level, different support services (diagnostic, analytical etc.) are needed. National centres of excellence - Institutes of occupational health should provide the evidence base for preventive interventions, technical support to OHS, specialized laboratory tests and services and training of OH practitioners, and to plan and monitor implementation of OHS. Workers should be actively involved in the evaluation and control of the hazards. The risk management tools should be the basis of the intervention on the workplace settings (16,17).

Occupational health services can also seek support from inspection agencies - labour and public health inspectorates.

State policy should support education and training of experts for occupational health services through the specialization in the areas of occupational health, participation in field research and establishment of professional associations of occupational health services.

### **Financing of OHS**

According to ILO convention No161, on OHS, the employer has the main financial responsibility for providing occupational health services. So, the financing reflects

employer's responsibility for working conditions and it is presented by the different options: direct financing, indirect financing or public funding.

The direct funding is focused on: Big industry model, Group services or Consultancies. Indirect financing includes the various insurance schemes, special funds or shares. In some countries occupational health is covered by public funding through the central government or local authorities.

### **Instead of conclusions**

The development of occupational health system and policy requires implementing one step-by step approach. As a start point is necessary to strengthen governmental stewardship and ensure continuous political commitment to occupational health. OH policy should provide the development of legislation and standards in the field as well as effective mechanisms for financing of occupational health services. The expected results should be ensuring access to basic occupational health services for all workers with establishing essential requirements for service provision and providing the quality assurance systems for occupational health services.

For realization of the planed steps should stimulate national and international efforts for capacity building and establishing critical core capacities of countries to deal with workers health. The key message should be the integration of the development of occupational health services into national strategies, health systems performance improvement plans, and health sector reforms, in particular with regards to primary health care and public health.

### **EXERCISE**

After introductory lecture, students work in small groups and are asked to discuss on recommended subjects:

- The situation of Occupational Health Services in their country;
- Identify possible problems in students country and discuss on the priorities;
- Suggest improvement, taking into account any possible obstacles.

Each group will produce a written report on the tasks. Timing: 2 hours.

### **REFERENCES**

1. World health Organization, Global Plan of Action on Workers' Health 2008-2017 Geneva, 2007. Available at: [www.who.int/gb/ebwho/pdf\\_files/WHA60/A60\\_R26\\_en.pdf](http://www.who.int/gb/ebwho/pdf_files/WHA60/A60_R26_en.pdf). (Accessed: July 11, 2008).
2. World Health Organization. World Health Report 2002. Reducing risks, promoting healthy life. Geneva; 2002.
3. Strategy for Health, Healthy Environment and Safety at Work in Republic of Macedonia, Ministry of health RM, Skopje, May, 2006.
4. Karadzinska-Bislimovska J. Occupational Health Services in The former Yugoslav Republic of Macedonia - current status and future trends. In: Challenges to occupational health services in the Regions: The national and international responses. Proceedings of a Workshop. Helsinki, 2005: 20-23.

5. Takala J. ILO approach to occupational health services. In: Lehtinen S, Rantanen J, Elgstrand K, Liesivuori J, Peurala M ed. Challenges to occupational health services in the Regions: the national and international responses: proceedings of an ICOH/WHO/ILO workshop. Finish Institute of Occupational Health; Helsinki, 2005: 4-6.
6. Rantanen J. Basic Occupational Health Services - Strategy, Structure, Activities, Resources. Draft Guideline. Finish Institute of Occupational Health. Helsinki, 2005.
7. Rantanen J. Basic occupational health services - their structure, content and objectives. SJWEH Suppl 2005: no 1:5-15.
8. Lehtinen S, Rantanen J, Elgstrand K, Liesivuori J, Peurala M, ed. Challenges to occupational health services in the Regions: the national and international responses: proceedings of an ICOH/WHO/ILO workshop. Finish Institute of Occupational Health; Helsinki, 2005: 81.
9. International Labor Conference. Convention concerning Occupational Health Services. Convention No. 161. International Labor Office. Geneva, 1985.
10. International Labor Conference. Recommendation concerning Occupational Health Services. Recommendation No. 171. International Labor Office. Geneva, 1985.
11. Commission of the European Communities. Communication from the Commission to the Council and the European Parliament: Improving quality and productivity at work: Community strategy 2007-2012 on health and safety at work. Brussels, 2007.
12. Eijkemans G. Occupational health services as a part of primary health care. In: Lehtinen S, Rantanen J, Elgstrand K, Liesivuori J, Peurala M, ed. Challenges to occupational health services in the Regions: the national and international responses: proceedings of an ICOH/WHO/ILO workshop. Finish Institute of Occupational Health; Helsinki, 2005: 1-3.
13. Kochan F. Strategies for Tomorrow's World of Work. Federal Institute for Occupational Safety and Health. Dortmund, 2005.
14. International Labor Office (ILO). 93<sup>rd</sup> session of the International Labor Conference: report IV(I): integrated approach to standard-related activities in the area of OSH. Geneva: ILO; 2005.
15. Rantanen J. New concept in occupational health services - BOHS. Challenges to occupational health services in the Regions: the national and international responses: proceedings of an ICOH/WHO/ILO workshop. Finish Institute of Occupational Health; Helsinki, 2005: 7-12.
16. Basic Occupational Health Services (BOHS). Working Paper for the Joint ILO/WHO Committee on Occupational Health, Geneva; 9-12 December 2003.
17. Global Strategy on Occupational Health for All. The way to Health at Work. Recommendation of the Second Meeting of the WHO Collaborating Centers in Occupational Health in Beijing, China. Geneva, 1995.