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DEVELOPMENT AND OUTLOOK OF OCCUPATIONAL MEDICINE IN SLOVENIA

Abstract: *The European Society for Occupational Medicine notes that numerous differences exist between EU members regarding their policies associated with occupational health and safety; one of the reasons for this is the historical variety of approaches. If we wish to unify our occupational health and safety systems, we thus need a common, unified policy and a common European training programme. The key challenges that European occupational medicine will be facing in the future are as follows: globalization, presentism, aging of the workforce, inter-generational cooperation, stress and workplace-related burnout (mental disorders), musculoskeletal diseases (especially various types of dorsalgia), occupational injuries, work following a prolonged absence from the workplace, occupational disability, occupational rehabilitation, the impact of work on the private life and vice-versa, outsourcing, self-employment, precarious employment, prolongation of working life, encouragement of healthy living after retirement, etc. The European Society for Occupational Medicine thus proposes that the new common strategy include a list of priorities and objectives with timelines and that it anticipate collaboration between all stakeholders (workers, employers, experts and the government), while occupational medicine practitioners must become the workers' (impartial) advisers regarding workplace risks (total professional impartiality).*

Key words: occupational medicine, development, outlook, key challenges.

INTRODUCTION

A doctor is primarily a good person who knows a little bit about medicine. (J. Milčinski) However, in addition to medicine, an occupational medicine specialist must also know something about the work environment – its stressors, nuisances and risks – as well as the legislation related to occupational health and safety. The history of mankind is the history of man's work. Work is a deliberate, goal-oriented activity. In today's society, work is a rational activity dominated by programmed activities pursuing goals that had been set in advance. (V. Rus)

Work is not always a positive health and social factor; it can also be exceedingly strenuous and harmful to the individual's health, if it is not suitable to their abilities, if it is not interspersed with appropriate periods of rest or is conducted with particularly harmful circumstances, such as e.g. exposure to harmful chemical, physical, biogenous or psycho-social effects. The fundamental objective of occupational medicine is to protect the lives, health and working ability of workers. In order to achieve this objective, the practitioner must be familiar with the types and levels of nuisances and harmful effects at the workplace and with the burdens processed by the whole body and by individual organ systems and able to use this information to evaluate the safety of the workplace and its workload, as well as the levels of health risk and risks of injury or illness.

Work should be carried out in a state of a dynamic equilibrium, a state of homeostasis. Workloads result in stress – as modified by a person's predispositions. In work, these workloads and stress should generally be in equilibrium.

We must differentiate between stress that causes damage to the organism due to the exposure to workplace stressors and the stress that manifests itself as the changing functioning of the organism due to the processes of adaptation and compensation.

An organism exposed to workplace stressors first goes through the phase of homeostatic adaptation; this is followed by the phase of compensation processes wherein some functions are changed, but without a significant decrease of the "integral level of health". Only when the physiological defence mechanisms are exhausted does the system "break down" and actual changes in an individual's health subsequently occur.

Occupational medicine is a multidisciplinary activity that studies the effects of work and the workplace as well as the environment on the health and working capacity of workers. Its aims are as follows:

- to protect and improve the health of employees
- to prevent and manage occupational disease
- to prevent and manage occupational injuries

- to mitigate occupational risks and improve those aspects of the workplace that present a danger to health and safety
- to develop and advance workplace safety
- to develop and advance labour organization
- to develop and improve working conditions
- to improve the physical and material status of employees
- to preserve and improve the working ability of employees
- to facilitate a socially and economically productive life.

The origins of occupational medicine date to the building of the pyramids in ancient Egypt, however, the field made a great leap forward during the first industrial revolutions as it established itself as a new area of medicine in its own right and as a professional and doctrinal basis for the public healthcare for all employees.

The beginnings of occupational medicine, at a very high level for the time, in what is now Slovenian territory date to the 16th (Paracelsus, Matioli), 18th (Scopoli) and 19th centuries (Gerbec). In early 18th century, a post was created in Idrija for a physician that treated the miners of the Idrija mercury mine. In 1754 the treatment of miners, which by then also extended to their family members, was taken over by the famous physician and scientist Johannes Antonius Scopolius. In 1761 Scopoli published his Physico-Chemical Medical Treatise on the Mercury of Idrija, part of which dealt with the diseases suffered by the mercury miners. In the Meža Valley, the other Slovenian mining zone, occupational medicine started to develop around 1863, when a brotherhood fund was established in Mežica, which signalled the beginning of organized healthcare for the miners and lead smelters. As early as in 1903, mine workers and their relatives could get treatment at the 35-bed hospital in Črna na Koroškem by a physician provided by the brotherhood fund, who also carried out preventive medical examinations. 1954 saw the creation of the Central Institute of Hygiene with an Occupational Hygiene Department and a central clinic for occupational disease. This was followed in 1960 by the creation of the Institute of the People's Republic of Slovenia for Medical and Technical Safety, which was later renamed the Institute of Occupational Safety of the PRS (now Institute of Occupational Safety - ZVD).

The occupational hygiene field expanded and became occupational medicine, including, in addition to hygiene, the following areas: occupational pathophysiology, occupational diseases and work-related disorders, and evaluation of working ability.

Pursuant to relevant legislation, commercial organizations started to set up factory clinics, while local hygiene institutes of industrial centres established occupational hygiene departments and occupational disease clinics, which were later, as healthcare was reorganized, absorbed by the occupational medicine clinics of community health centres.

1971 saw the creation of the Occupational, Traffic and Sports Medicine Institute, whose principal sphere of activity today includes: occupational disorders and evaluation of working ability, ergonomics and physiology of work, traffic health and safety, industrial toxicology and hygiene, epidemiology of the workplace, psychology and humanization of work, promotion of health, and sports medicine.

Due to economic and political developments, significant changes occurred in active occupational healthcare in the early 1990s. Numerous polyvalent (curative and preventive) factory clinics disappeared, and the very survival of the field came into question as some considered it a product of the previous system of government. Efforts to join the EU again brought the field of active occupational healthcare into the forefront. New legislation, drafted on the basis of ILO Conventions 155 and 161 and Directive 89/391/EEC, provided a very precise definition of occupational medicine and the field again became "interesting and promising", including, for some, in the economic sense, which resulted, in some areas, in uncontrolled expansion of activities. Unfortunately, however, the significant marketability of the field in many cases resulted in a lack of qualified practitioners.

PROBLEMS ENCOUNTERED BY OCCUPATIONAL MEDICINE TODAY

Traditional problems, such as strenuous manual work, noise, vibrations, etc., have nowadays been replaced by new ones, such as: static stress in conveyor belt work, monotony, occupational stress and "burnout", aging of the workforce, new substances that have sometimes not yet been researched well enough with regard to their safety, calls for the humanization of work using various ergonomics measures, better organization, etc.

The principal professional problems faced by Slovenian (and European) occupational medicine today are as follows: aging of the workforce, stress and burnout in the working environment (mental disorders), musculoskeletal disorders (particularly disorders of the spine), occupational injuries and (in Slovenia) inadequate (undefined) verification of occupational disorders (legislation?) [1].

A) Aging of the workforce

Aging of the population is a serious problem faced by all of Europe. The population of EU-27 Member States is predicted to age quite a bit: from 2008 to 2060, the median age of an EU citizen is predicted to increase from 40.4 to 47.9 years. The share of people aged 65 or over in the total population is thus supposed to increase from 17.1 to 30.3%, which means that the number of people over 65 would increase from 84.6 to 151.5 million.

According to a Eurostat estimate, Slovenia will see the share of people aged 65 or over in the total population

increase by 16% (to 33%) by 2060; that is, the number of people in this age bracket is predicted to increase from 325,300 to 589,900.

One of the most important criteria for the evaluation of the employment of the elderly is the share of employees aged over 55: according to Eurostat, the average level of occupational activity for such persons in EU-27 was 63% in 2012: it was highest in Sweden (82%), followed by Germany and Estonia. In Slovenia, the share of such employees was about 45%, and in Malta only 43%, which was the lowest in Europe.

There is a common preconception that a person's working ability decreases as they get into their late middle age, however, there is no proof that this is true. It is true that many employees retire early, but this primarily happens due to inadequate working conditions, illnesses that result from an unhealthy lifestyle, due to these people having reached the material standard at which they can drop out of the race, and so on, and rarely due to normal processes of aging resulting in their decreased working capacity.

The strengths of older employees can be summed up as follows:

- ability to persist at work that demands a high degree of accuracy;
- experience, which compensates for some negative aspects;
- responsibility;
- low fluctuation;
- few brief bouts of absenteeism.

On the other hand, the most significant weaknesses of older employees are:

- decreased capacity for constant rapid work;
- decreased capacity for memorization and integration of new information;
- slower learning of new methods;
- deteriorating near vision and eye adaptation;
- decrease of maximum manual working capacity.

The following are the most commonly encountered problems related to the employment of the elderly:

- acceleration of many work processes;
- decrease of effective working power in certain industries and jobs;
- integration of some work operations and their conversion into quicker and shorter ones;
- increasing number of half-automated work that cause increased mental stress in older employees;
- poor organization of work, such that the tempo of work and breaks is determined to suit the healthy employees at peak working capacity;
- the practice that easier jobs are reserved for rehabilitated young employees [2].

B) Workplace stress

Analysis of data on stress for the 2001–2008 period shows a significant increase in the percentages of those who encounter stress daily or very often and those with risky stress-related behaviours, i.e. those who are frequently stressed out and have problems managing the stress.

The following groups stand out as the most vulnerable:

- women – both in terms of frequency of experiencing stress and in terms of risky stress-related behaviours;
- 40–45-year-olds – the group most prone to experiencing stress, they have trouble managing it and show risky stress-related behaviours, are most stressed out at the workplace, because of their co-workers and due to their poor financial situation;
- those with a low level of education and members of the lower social classes – the group struggling the most with stress management; on the other hand, those with a higher education and members of the upper middle and high classes are stressed out more often;
- those living in urban environments;
- those living in the eastern and central regions – increased daily experience of stress and decrease in problems with stress management.

The increased percentage of people who are frequently stressed out can be ascribed to numerous changes that have occurred in our daily lives in the past few years. General living conditions are changing: onset of economic crisis, rising unemployment, increased levels of material deprivation, risk of poverty. This results in individuals having feelings of financial uncertainty, ambivalence and uncertainty regarding any future plans. As industrialization progresses and as science and technology continue to develop, there are more and more dangers and uncertainties that we create for ourselves. There are no general rules, nobody's place in society is guaranteed anymore, a person's role is not predetermined anymore by e.g. tradition or by their social class, one's idea is no longer a finished product but rather requires constant personal development. Our lives have gone off the beaten track, the future is uncertain and full of risks. Women of all ages are increasingly burdened by family problems, and older women stand out as significantly stressed out by loneliness. Due to social expectations, women also bear much heavier burden taking care of others, they rarely rate their own state of health as good and often experience stress as an emotional burden. They have an easier time expressing their feelings, admitting to their problems and getting help if overburdened. On the other hand, men rarely admit to their problems, particularly those related to mental health, and their experience of stress is often masked by certain, frequently risky behaviours (intensive participation in sporting activities, unhealthy eating, smoking, alcohol, etc.). The type of stress that increased most

significantly in this period is stress due to occupational workloads [3]**.**

C) Musculoskeletal disorders – lifting of loads

In Slovenia, disorders and conditions of the musculoskeletal system and connective tissues represent a major public healthcare problem. Issues with the musculoskeletal systems usually appear early on and then, through overloading and degenerative changes, rapidly progress in the elderly. As the percentage of the elderly and the overweight increase and as physical activity becomes even less frequent, the impact of this type of health issues on individuals and the society as a whole is expected to see a significant increase. Extended pain and decreased ability to perform everyday tasks take a significant toll on the quality of life and increase one's dependence on the help of others. The heaviest social burden in this regard are the high costs of absence from work and early retirement.

One in every ten visitors to selected personal physicians in Slovenia complains of musculoskeletal problems. On a given day, an average of 0.9% of all employed persons in Slovenia are absent from work due to musculoskeletal disorders. As men and women enter the "over 45" age bracket, musculoskeletal disorders become the most common reason for absence from work. These disorders also usually result in prolonged terms of absence, lasting almost 30 days on average.

According to the National Institute of Public Health of the Republic of Slovenia, the daily absenteeism rate (percentage of employees on sick leave – SL%) in 2012 was 4.23%, while SL% due to musculoskeletal and connective tissue disorders (MSCTD) amounted to 0.85%, meaning this category of disorders was the most common reason for sick leave. In the same year, there were 79,150 cases of absence from work due to MSCTD, with 2,496,767 working days lost. The handicap index (number of working days lost per worker) for MSCTD was 3.12, the frequency index (number of cases of sick leave per 100 workers) for MSCTD was 9.98, and the gravity index (average duration of sick leave) for MSCTD was 31.54 days. The largest amount of working days lost per worker in category 13 (MSCTD) according to MKB-10 was due to back pain (1.48), which also represents the greatest part of SL% (0.40%) and of the number of cases of sick leave per 100 employees (1.48). Only if we consider the average duration of sick leave do we find lower back pain not straddling the top and instead being replaced there by other intervertebral disc disorders (85.5 days).

On average, about 30% of all yearly evaluations of disability committees are due to category 13 according to MKB-10, i.e. due to MSCTD. From 2002 to 2004, most (43.66%) of such assessments that found a disability from this category identified the disability to be due to back pain; this was followed by disability due to intervertebral disc disorders (18.76%), various arthroses (18.075%), spondyloses (5.86%), muscle and connective tissue disorders (5.38%), and deforming back disorders (3.64%). The probability of going on a sick leave due to MSCTD was slightly higher (by 1.16) for female workers. Workplace burdens usually result in excessive loads borne by the lumbar spine in men and by the cervical spine in women. Lumbar dorsopathies represent as much as 49.18% of all diagnoses from category 13 according to MKB-10 in men and about 39.93% in women. The likelihood that a female worker go on sick leave due to lumbar spine issues is slightly lower than it is for men (by 0.92). However, the likelihood increases for women over 40, probably due to menopause-related changes, and then again decreases for women over 50, as some are already retiring at this point, leaving only the most healthy female workers still active (the "healthy worker effect"). Sick leave is more frequent in unskilled workers.

Workplace conditions also have an effect on absenteeism due to MSCTD. However, this connection is often disregarded, even though workplace conditions may sometimes be the main reason for the person's issues, as well the ideal point at which to implement preventive measures. Upon diagnosing the patient and providing therapy, we should thus consider diagnosing and treating the workplace, particularly when problems keep recurring, not just sending the sick employee on sick leave in the short and into disability retirement in the long term.

Lifting of loads is only one of the numerous physical, psychological and other burdens that may, rapidly or over time, contribute to various injuries or degenerative changes to spinal structures and other parts of the musculoskeletal system. Within the European Community (EC), musculoskeletal disorders are the most common health issue of employees: 62% of workers spend over a quarter of their time at work performing repetitive motions; 46% do so in non-physiological or forced positions; over 35% carry heavy loads. Women are less often exposed to carrying loads, however, other types of burdens are as common in them as in men. On the other hand, there are jobs, particularly in healthcare and social assistance, in which women lift and carry heavy loads much more often than men. In 2005, 25% of all workers in the EC complained of lower back pain. In manufacturing, 18% of workers carry heavy loads throughout their working day [4,5].

D) Workplace ergonomics

Good workplace ergonomics not only contribute to the economic efficiency of production but also accomplish the following:

- lower psychological and physical burdens placed on the workers, thus also being a measure against exhaustion;
- prevention of unhealthy effects of non-physiological, forced positions and mitigation of one-sided burdens, decreasing negative health

indicators, absenteeism, the frequency of injuries and disability as well as occupational and work-related disorders),
- increased workplace safety,
- a positive effect on the attitude of workers to their work and specific assignments as well as the production and company in general.

The workplace should thus be shaped and designed in such a way as to conform to the human body and to the mobility of the musculoskeletal system. The workplace should be such that the employee is able to perform their tasks in the least strenuous posture and using the lowest-order muscle groups possible. The workplace must be equipped with tools and equipment suitable to the physiological and psychological properties of the human body.

By designing the workplace in an ergonomic manner, we are making it more human-centred. Such design of the workplace entails the following:

- anthropometric design of the workplace with the goal of conforming its dimensions and elements used to control machines to the measures of the human body;
- psychological design of the workplace, which ensures a pleasant working environment for the employee (colours, plants, music);
- ecological design of the workplace, which consists of shaping the following parameters – temperature, lighting, noise, vibrations, gases and steam, aerosols, explosions, ionizing and non-ionizing radiation, physical loads;
- physiological design, which consists of adapting methods of work to the human body;
- design that allows for effective capture of visual, audible and tactile information (appropriate visibility, loudness, etc.);
- organizational design, which aims to conform working hours to the biological daily fluctuations of efficiency by providing an appropriate break schedule; and
- providing work-related training, designing workplaces in accordance with occupational safety requirements, which entails measures for the prevention of work-related injuries and accidents [5,6]**.**

E) Work-related injuries

Each day, 11 fatal workplace accidents happen in the EU, which means over 4000 annual fatalities due to work-related accidents. Each year, over 3 million workers suffer workplace accidents.

According to the Labour Inspectorate of the Republic of Slovenia, 9,333 workplace injuries requiring over 3 days of sick leave were sustained in 2014, 429 of which were serious and 8,719 of which were minor injuries. Furthermore, 15 collective work-related accidents had occurred, as well as, unfortunately, 23 accidents that resulted in death (there were 22 in 2013).

According to the National Institute of Public Health of the Republic of Slovenia, 13,150 workplace injuries were sustained in 2013. On the other hand, sick leave data indicate that there were 15,534 cases of work-related injury or poisoning (in addition to 53,203 cases that were unrelated to work). The ratio between work-related and other injuries is 1 : 3.4 – it has been seeing significant increase in the past 5 years, however, workplace injuries remain much too frequent.

Alongside occupational disorders, workplace injuries are the most important negative indicator of public health. They are a major factor in the monitoring of the occupational health and safety situation and for the planning of preventive activities that could be used to improve public health. Workplace injuries are among the most important human, social and economic problems of modern society. They hurt the people who sustain them, physically and mentally, as well as their families, organization and the society as a whole[5].

F) Promotion of health

Promotion of health is regulated by the Health and Safety at Work Act (ZVZD-1, 2011). Article 6 of ZVZD provides that the employer must design and implement measures for the promotion of health at the workplace (fundamental principles). This is one of the employer's preventive obligations in the context of ensuring the health of their employees at the workplace. This obligation is also based on the employer's obligation to develop a comprehensive preventive policy that must include programmes for the promotion of workplace health. Such programmes improve people's capacities, their efficiency and competitiveness, and result in the employer being recognized as a socially conscious company and subsequently in improved business performance. Promotion of health at the workplace extends to all aspects of the individual's life: to their physical and psychological wellbeing, to their behaviours and habits, as well as, indirectly, to their socio-economic status.

Promotion of health at the workplace encompasses the joint efforts of employers, employees and the society in general to improve health and wellbeing at the workplace and thus involves the following:

- improving the organization of work: coordination of professional and private life, provision of social support – day nurseries for children, vicinity of schools and sports and recreation capacities, introduction of flexible working hours, choice of posts that allow employees to work from home (telecommuting), provision of options for lifelong learning, allowing for the switching of employees with similar tasks by expanding job profiles, allowing employees to contribute to the improvements in work organization and environment, etc.;
- improving the working environment: encouragement of mutual support between co-workers, encouragement of employee participation

in the improvement of the working environment, selection of healthy meals during work, etc.;
- caring for the health of employees through targeted preventive medical examinations and monitoring of the standard factors for common diseases of civilization (hypertension, hyperlipidemia, obesity, diabetes, cancer, etc.);
- encouraging workers to participate in healthy activities: offering a selection of physical exercise programmes (during the working hours in the form of an active break or by covering the cost of physical activity outside working hours – during free time, organization of sporting events within the company, etc);
- encouraging personal development, e.g. offering courses through which employees can obtain competencies needed for stress-management, relaxation, counselling, communication at the workplace, etc., improving and maintaining mental health: helping employees give up smoking, keep their body mass under control, consume alcoholic beverages in a "cultured" manner, offering treatment options, etc., preparation of "healthy and balanced" meals, etc [6]**.**

PERSPECTIVE FOR THE DEVELOPMENT OF OCCUPATIONAL MEDICINE

In addition to the known problems and risks related to the working environment, we estimate that at least a third of all employees are exposed to the novel types of risk present around new work processes and technologies. We are referring primarily to new chemical substances and materials, which may pose new and unknown hazards, new biotechnological carcinogenic substances, allergenic substances, nanoparticles, high-frequency non-ionizing radiation, psycho-social stress, workplaces designed without due reference to ergonomics, etc.

We must also not forget the changed and changing socio-economic circumstances, the fluctuation of the workforce, mobility of workplaces, psycho-physical pressure and aggression at the workplace, poor organization of work in general and shift work in particular, changing and growing demands of the job as the result of market globalization that is certainly bringing significant changes to the economic structure and working conditions in all areas of work.

Analyzing the existing situation, we can conclude that some categories of employees are more likely to be exposed to various risks related to the workplace; these categories are: young workers and elderly workers, labour migrants, etc. On the other hand, there are certain types of business entities that are more vulnerable as well: small and mid-sized businesses have a harder time introducing and implementing complex systems for the development of their employees' health and safety; some of the most problematic industries in this regard are: construction, agriculture, forestry, transport, etc.

Certain new challenges have been identified that are expected to become increasingly pressing:
- demographic changes and aging of the workforce;
- new trends in employment, inclusion of self-employment;
- contracted provision of activities and services (outsourcing), increasing percentage of workers employed by small and mid-sized companies;
- inflow of migrant workers; etc.

Principal weaknesses of occupational medicine in Slovenia:
- fragmented nature of the field, both in the sense of horizontal and vertical communication;
- absence of multidisciplinary collaboration between key partners in activities related to workplace health and safety;
- absence of a formal and referential national institution heading the field with regards to doctrine, research and education, generating important data, providing advice, coordination and supervision;
- non-existence of supervision/control of professional work (both in the sense of counselling as well as, to a certain degree, in the sense of "enforcement");
- undeveloped information system (for the field in general and for individual activities);
- shortcomings of the current financing model used in the field (financial dependence on the client and thus reduced autonomy of service providers);
- poorly harmonized legislation and executive acts that preclude full implementation of EU directives (occupational disorders, work-related disorders, etc.).

Principal goals of the field in the following years will thus be the following:
- regulate the status and place of occupational medicine in Slovenian legislation;
- place the field of occupational medicine at the second level of healthcare;
- regulate the collaboration with family medicine (communication through referrals);
- regulate the participation of the field in the assessment of temporary and permanent inability to work (priority role of occupational medicine in medical and disability committees);
- regulate the participation of the field in vocational guidance;
- regulate the participation of the field in rehabilitation procedures, i.e. in the reintroduction of employees into work processes;
- regulate the system of occupational health and safety insurance;
- regulate the financing of all activities of occupational medicine (not just preventive medical examinations, but also analyses, ergonomics counselling, rehabilitation policies, courses, workshops, etc.);
- engage with the technical safety field (team of experts) in ensuring a quality working environment;

- intensify professional collaboration with labour inspectors;
- emphasize promotion of health at the workplace, in traffic and sports in the broadest sense of the word (healthy and safe work, etc.);
- emphasize study of concrete hazards at the workplace (not general, unrecognizable and useless risk assessments according to the current model);
- emphasize verification of occupational risks and disorders and measures for their management;
- emphasize lifelong learning regarding health and safety for employees, employers and worker representatives, etc.;
- have the field engage in broadest possible participation in all legislative activities related to health and safety at the workplace, in traffic and in sports;
- create a system of supervision through professional counselling and, to a certain degree, "enforcement" in the field;
- establish a suitable information system for the whole field of health and safety at the workplace, in traffic and in sports, in order to facilitate research, planning, drafting of doctrine and priorities, etc.;
- prevent professional and price-related "dumping" that has been degrading the field for the past decade;
- form professional centres that would form a network of excellence, etc.

We advocate the introduction of a special occupational health and safety insurance that would be:

- compulsory for all employees,
- based on non-profitable and mutual principles and financed with employers' contributions,
- independent and separate from the compulsory health and disability insurance, aiming at improving the level of occupational safety and health and being based on the determination of contributions in accordance with concrete levels of risk and with the "bonus – malus" principle, encouraging employers to provide better occupational health and safety.

In Slovenia as well as globally, occupational, traffic and sports medicine is an established and respected professional field. However, it is currently facing many new challenges. And only through the coordinated activity of the administration and the professional sphere will it be possible to ensure successful care for the health and safety of employees, traffic participants and athletes. Of course we must not forget about our responsibility to further develop our field and conduct our activities in accordance with the highest professional and ethical standards – only thus will we be able to collaborate with other fields related to occupational health and safety and improve everyone's health, level of happiness and subsequently productivity and prosperity.

CONCLUSION

In the process of drafting the new Resolution on the Healthcare Plan of the Republic of Slovenia, we have thus emphasized that the Resolution should also include occupational healthcare and thus contribute to the preservation of health in the economically active population, whose targeted preventive healthcare is currently provided only by occupational medicine.

According to ILO Conventions 155 and 161 and the EU 89/391 Directive, which had been the foundation for the Slovenian occupational health and safety legislation, occupational medicine provides active healthcare for the whole economically active population – in Slovenia, that means approximately 800,000 employees whose labour provides the material basis for the continued existence of the country. As occupational medicine is the one that determines who is and who is not able to work, we believe its role in the Slovenian healthcare system should not be overlooked by the Resolution and subsequent legislation. We also believe our work could mean a significant contribution to the health and well-being of the economically active population and thus the society in general.

Main suggestions that we have communicated to the legislature:

1. Occupational, traffic and sports medicine (OTSM) should be a matter of public health.

2. An OTSM network should be defined and adopted, as the situation at the moment is such that OTSM is being developed in an uncoordinated manner in large centres, where there are already too many specialists, while whole peripheral regions are still experiencing shortages. Furthermore, it is unacceptable that a concession (certificate needed to provide occupational medicine services) can be obtained by anybody who wants one, and particularly unacceptable that "afternoon OTSM clinics" are being simply "packaged" with other concessions. Such a manner of operation makes it impossible to provide professional OTSM services; the OTSM specialist should be involved with the life and operation of organizations, companies, factories. Each fundamental unit of occupational medicine should thus regularly employ at least one occupational medicine specialist (who is not there merely on contract and who is not retired), as well as appropriate numbers of other staff and a psychologist.

3. An occupational health and safety insurance should be established, wherein the payment and prices of services would be arranged by a contracted insurer, which would also carry out price control. Only thus would it be possible to ensure full professional autonomy and observance of secrecy in the provision of OTSM services. Under no circumstances should conflict of interests be allowed to influence the OTSM evaluation or statement, least of all when OTSM specialists are counselling an employer, employees or the latter's representatives on occupational risk and situations that represent a clear health or safety hazard.

4. Professional communication with family medicine specialists should be such as the latter have with all other specialists to whom they may refer their patients to receive further diagnostics and/or therapy.

5. The Resolution should emphasize and uphold the importance of appropriate professional supervision of our work, which is currently lacking and does not result in better work.

Areas of OTSM that we believe the Resolution should include as well:

- preventive medical examinations, risk assessments, promotion of health at the workplace;
- identification, verification and registration of occupational disorders, work-related accidents, disability (primarily disabled persons with category II or III disability who are returning to their workplace) and sick leave; every sick leave longer than 6 months should be considered by an OTSM specialist who would ensure that the worker returns to their old workplace or to a new, adjusted one as soon as possible.

Slovenia currently has about 200 active specialists of occupational medicine who together perform approximately 250,000 preventive medical examinations (their primary activity at this point) every year. Our rough estimate is thus that the total annual expenses employers incur due to OTCM are about EUR 30 million. The Health Insurance Institute of Slovenia estimates that about EUR 70 million from insurance premiums for workplace accidents and occupational disorders are left unallocated each year.

These data indicate that we already have the required staff (as well as facilities and equipment), as well as earmarked (and already collected) funds; the only thing left is thus to follow the example of developed Western European countries and amend our occupational health and safety legislation in accordance with proposals from the experts and thus re-establish the occupational medicine system that we had largely already had prior to the reform, which will ensure higher levels of health, wellbeing and productivity of the workforce, contributing to the development and prosperity of the society in general [7]**.**

SUMMATION

Although the law has, since 1974, provided that education in such matters should be part of the education programmes at universities as well as schools of all kinds and at all levels, further activities of occupational health and safety education and training should be developed. It will also be necessary to provide for fundamental and applied research of this area. Measures connected to preventive infrastructure and the culture of prevention aimed at managing both known, traditional risks as well as new risks based on new hazards (technological, organizational, etc.) should be continued and intensified. Different approaches should be used for risks specific to different activities and employers of different sizes, and for risks specific to individual categories of vulnerable employees (older employees and young employees, employees in precarious employment, particularly the self-employed).

A new National Occupational Health and Safety Programme is also being drafted, which will have to provide answers to a number of challenges, some of which are barely appearing on the horizon.

With regard to legislation and its implementation, we have to build on the tradition and professional qualifications of relevant stakeholders, including through adoption of missing legal foundations and regulations (occupational disorders). We must consider how to provide a systematic solution for the issue of economic incentives for employers to invest in occupational health and safety. We should determine how to financially or otherwise motivate employers to invest in occupational health and safety and how to punish them for not doing so, which has an adverse impact not only on themselves but on the society as a whole.

Nowadays, workplace changes are the result of a series of factors, the main ones being rapid technological development and other scientific breakthroughs, new methods of organization of work, different distribution of labour at the global level, and demographic changes (changing population pyramids and migrations). Some of these changes have a positive impact on workplace conditions (including workplace health and safety), while the effects of some are negative, which is also contributed to by the current economic crisis. Some risks that we have been familiar with for a long time are not decreasing in spite of the technological potential for them to do so, e.g. musculoskeletal disorders due to manual shifting of loads and repetitive movements. Psycho-social risk factors are becoming increasingly widespread, especially those related to poor organization of work and poor management, as well as uncertainty of employment. We should continue to raise awareness and provide training for workplace health and safety and thus achieve a widespread culture of safety among all stakeholders – employers, executives and employees. At the same time, we are facing the increasingly pressing issue of precarious forms of employment – such as economically dependent self-employed individuals, contract work and temporary agency work. Attention should be paid to coordinate national policies with the EU, particularly occupation health and safety and employment policies. We should also work to raise awareness of the fact that an efficient implementation of occupational health and safety policies and measures would help with the realization of policies in other areas (e.g. gender-based discrimination, ageism, etc.) [8]**.**

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BIOGRAPHY

Marjan Bilban graduated at the Ljubljana Faculty of Medicine and received his Master's and Doctor's degrees at the Faculty of Medicine in Zagreb. He deals primarily with health and safety in work environments, study of physical and chemical factors of work and residential environments and indicators of negative health, assessment of the working ability of workers and handicapped persons, employment of the elderly and their special needs, etc. Author of essential Slovenian textbooks on occupational medicine, as well as more than 30 articles in indexed international journals, more than 400 articles in Slovenian and international journals, organizer and editor of numerous expert professional meetings and publications compiled from panel discussions, etc. Member of numerous Slovenian and international professional organizations and President of the Expert Council for Occupational Medicine, editor of the scientific supplement to the *Delo in varnost* magazine, assistant editor at *Zdravstveno varstvo*.

He is currently a Professor at the Faculty of Medicine of the Ljubljana University (Head of the Public Health Department) and Head of the Occupational Medicine Unit of the Institute of Occupational Safety.

RAZVOJ I PERSPEKTIVE MEDICINE RADA U SLOVENIJI

Marijan Bilban

Rezime: *Udruženje lekara medicine rada ustanovljuje brojne razlike između pojedinih članica EU u oblasti politike bezbednosti i zdravlja na radu, što je takođe posledica različitih istorijskih pristupa. U želji za objedinjavanjem sistema bezbednosti i zdravlja na radu, potrebna nam je zajednička i jedinstvena politika u toj oblasti i jedinstveni evropski program obuke. Ključni izazovi evropske medicine rada za budućnost su: proces globalizacije, prezentizam, starenje radne populacije, međugeneracijska saradnja, stres i izgaranje u radnom okruženju (mentalne bolesti), motoričke bolesti (pre svega bolesti kičme), povrede na radu, rad posle dugotrajnog odsustva sa rada, invalidi rada, profesionalne rehabilitacija, uticaj rada na privatan život i obrnuto, outsourcing, samozapošljavanje, prekovremeni rad, produžavanje radnog veka, promocija zdravlja za zdrav život posle penzionisanja itd. Polazeći od toga, Evropsko udruženje medicine rada predlaže da se u novoj zajedničkoj strategiji napravi lista prioriteta i ciljeva sa vremenskim okvirima. Nova strategija mora da isplanira saradnju između svih učesnika (radnici, poslodavci, stručnjaci zaštite i vlada), a specijalisti medicine rada moraju postati (nezavisni) poverenici radnika u pogledu rizika u radnom okruženju (potpuna stručna nezavisnost).*

Ključne reči: medicina rada, razvoj, izazovi.