

EDITORIAL

CONTRIBUTION OF OCCUPATIONAL HEALTH FOR PREVENTION OF WORK-RELATED CARDIOVASCULAR DISORDERS (WR-CVDS)

Dear Readers,

Cardiovascular disorders, particularly ischemic heart disease (IHD) and stroke are globally the number 1 cause of death and contribute globally to 1/3 and in many countries 1/2 of total mortality [1]. The World Health Organization (WHO) has given a high priority to cardiovascular diseases (CVDs) in its Global Action Plan 2013–2020 on Prevention of Noncommunicable Diseases (NCD), which was endorsed by the United Nations General Assembly Resolution 66/2 in 2011. The WHO, the World Heart Federation and World Stroke Organization published “A Global Atlas on Cardiovascular Disease Prevention and Control” [2] in 2011. Many countries have shown impressive success in prevention, while several others have still growing trends.

The rates of the CVD mortality start to increase already at the young working age and they increase steeply along with the working-age years: among males the risk increases in the age group of 25–29 threefold by the 4th decade of age, 6-fold by the 5th decade, 28-fold by the 6th decade and 72-fold by the 7th decade of age. A growing body of evidence has been presented during the past 2 decades on work-relatedness of the CVDs. Several methodologically high quality studies and meta-analyses have repeatedly confirmed the correlation between work, workplace exposures, working conditions and CVDs [3,4]. The concept of work-relatedness does, however, cover not only disease outcomes which are totally attributed to certain causal

factors at work (i.e., occupational diseases), but also considers partial attribution that expands the potential occurrence of work-related disorders (WRDs), particularly in ageing populations. The knowledge and awareness on work-related cardiovascular disorders (WR-CVDs) is limited; even the above Global Atlas did not specifically address work-related issues and the only reference was on a worksite as an arena for health promotion for enhancement of physical activity.

Depending on the causal factors our knowledge on work-relatedness varies. Numerous traditionally known agents or working conditions have been listed as cardiotoxic or hazardous to heart, such as carbon monoxide, halogenated hydrocarbons, nitroglycerin, trinitrotoluene, carbon disulphide, toxic metals such as cobalt, heat stress, cold environment and a number of others. One of the most prevalent and important exposures is the environmental tobacco smoke which affects the heart of both the smokers and non-smokers. These directly affecting factors are relatively well-controlled in the industrialized countries, but for example, exposure to carbon monoxide is still common in developing and rapidly industrializing countries [5].

The correlation has been well established between cardiovascular morbidity and numerous life-style factors, such as tobacco smoking, sedentary life style, obesity, sleeping habits, high alcohol consumption and unhealthy nutrition. Many of these factors can also be work-related so that the work does prevent, for example, physiological sleeping rhythms, healthy diet habits or regular physical activity. Long-haul truck drivers may serve as a good example.

More prevalent are the factors with indirect effect on the CVD system at work and in the work environment.

Dozens of such factors have been recognized and the scientific evidence on their contribution is accumulated almost monthly. The most important ones include shift work and irregular working hours, continuous psychological stress, sedentary work and static muscular work and heavy lifting and moving of loads. A new type of factors at work has been associated with the CVD mortality; the psychosocial working conditions, such as uncertainty on job security, injustice in the treatment of workers by managers and supervisors or fellow workers, downsizing of the company and unsecure and precarious employment [6].

According to the WHO, the number 1 position of the CVDs among the causes of deaths will continue at least until the year 2030. Parallel to that the trend of the WR-CVDs will increase, too. The direct occupational exposure-related factors are likely to be gradually prevented, but the other working conditions, psychological stress and adverse work community- and management-related psychosocial factors may grow, both in occurrence and intensity. Concurrent ageing of working populations will mean a double burden to the cardiovascular health of working populations. Therefore, all the means available for prevention of the WR-CVDs should be effectively utilized. Developing effective prevention strategies for risk factors of work, work environment and other working conditions can open a new avenue for the improvement of cardiovascular health and workability of working people and can concurrently improve the overall cardiovascular health condition of working-age populations.

Worksite is also an underutilized arena for health promotion. Due to holistic nature of the cardiovascular health of people, such preventive strategies should be integrated with other activities at the workplace, and should also combine the general public health approach and the occupational health approach. The evaluations of workplace health promotion programmes speak for lower effectiveness of interventions due separately to actors outside the workplace, while the interventions combined

with workplaces' own occupational health programmes have been found positive [7]. Therefore the collaboration between the public health and occupational health actors may represent the most productive approach.

Due to the very nature of work-related cardiovascular disorders, the recognition of risks, detection of morbidity, analysis of associations and attributions call for deep knowledge on working conditions. Work-relatedness of the CVDs is not sufficiently known by health sector, workers and employers, health policy makers and institutions of training and education, and even among occupational health physicians and nurses. This calls for more effective advocacy and information by the expert occupational health communities, researchers and educators. The WR-CVDS should be included in the training curricula of the occupational health experts and also in the general medical curricula for universities and training institutions. The basic knowledge should also be periodically up-dated along with the fast progress in this research.

The International Commission on Occupational Health (ICOH) has 35 Scientific Committees that are actively involved in the research on the most important occupational health aspects; a number of disease-oriented committees, committees on education and training, on special target groups, such as developing countries and for important disciplines, for example, occupational hygiene, psychology, nursing, etc. One of the most active committees is the Scientific Committee on Cardiology in Occupational Health (ICOH-CVD).

This issue contains a selected collection of reviews presented in the 6th ICOH International Conference on Work Environment and Cardiovascular Diseases ICOH-CVD on 27–30 March 2013 in Tokyo, Japan*. It is the wish of the ICOH and the ICOH-CVD that this Report should share the information on some recent developments of

* The papers presented at the Conference included in this issue were invited by prof. Akizumi Tsutsumi, chairman of ICOH Scientific Committee on Cardiology in Occupational Health, and prof. Alicja Bortkiewicz as guest editors.

research on the work-related CVDs and meet on their behalf the need for sharing information with all who did not have a chance to attend it and also for health experts outside the occupational health community. To this end, the ICOH-CVD, on its behalf, also contributes to the call of the Tokyo Declaration [8].

Key words:

Occupational health services, Prevention of work-related CVDs

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