

ABSTRACT

Background

The existence of risks of new work-related disorders and occupational diseases in the society is constantly increasing in relation to the fast and continuous development of working conditions, techniques used, materials and overall acceleration of the working pace.

Aim of the study

The aim of the study is to analyse new risks in the working environment and to evaluate early diagnostic possibilities of new occupational diseases including their prevention. The study also compares the current situation in this field in the Czech Republic and other European countries.

Materials and methods

The doctoral dissertation is a multiple manuscript thesis focusing on one common topic - new occupational diseases. The first publication studied the acknowledgement of low-back pain disease caused by overload as an occupational disease. Specialists from European countries were inquired via questionnaire focusing on diagnostic and evaluation criteria of this disease in their countries. Representatives from countries acknowledging low-back pain diseases caused by overload provided further evaluation criteria and number of cases.

Correspondingly, the second publication studied the evaluation of burnout syndrome as an occupational disease. Representatives from countries acknowledging the burnout syndrome as an occupational disease provided further information concerning diagnostic criteria and patients' professions.

The third publication pointed out on new and emerging diseases in the industrial environment - asthma bronchiale and allergic rhinitis caused by inhalation of potassium-aluminium tetra fluoride (KALF₄) in a Czech factory producing air-conditioning systems for cars between 2007- 2012.

The last publication is a summary of newly acknowledged occupational diseases in the Czech Republic within the last update of the List of Occupational Diseases in 2011 and emphasizes the necessity of searching for the newly emerging occupational diseases.

Results

Low-back pain diseases from overload are currently acknowledged as an occupational disease by 13 from 23 countries participating in our study. In eight countries, together with the Czech Republic, low-back pain diseases from overload can be acknowledged only as an acute occupational injury. In 12 countries, low-back pain diseases caused by vibrations can be acknowledged as an occupational disease as well. Diagnostic criteria and exposition criteria differ significantly. The collected data on diagnostics and evaluation/acknowledgement of low-back pain diseases in Europe were used to create a Methodical Instruction Model for acknowledgement of low-back pain diseases from overload in the Czech Republic. This Instruction Model was created as a grant project IGA MZ ČR č. NT/14471 of the Ministry of Health of the Czech Republic to be discussed within the update of the List of occupational diseases in 2018.

Burnout syndrome can be acknowledged as an occupational disease in nine out of 23 participating European countries (39 %) - Denmark, Estonia, France, Latvia, Hungary, The Netherlands, Portugal, Slovakia and Sweden. Burnout syndrome as an individual diagnosis is present on the List of Latvia only. In other countries, an „open item“ is used on the List or there is no List being used at all and any disease that is proved to be occupational can be acknowledged. All interviewed countries use some preventive programmes.

Clinical and laboratory tests, including inhalation bronchoprovocative tests, proved causal relationship between KAlF₄ used as a flux for soldering pieces of air-conditioning in a car industry and all five cases of Asthma bronchiale (recognized in three patients), allergic rhinitis (recognized in one patient) and both diagnoses (recognized in one patient). These patients were acknowledged with occupational diseases and were compensated.

The exposition was verified in all cases by hygienic assessment from the work place.

This study pointed out on a new agent (KAlF₄) causing respiratory diseases in an unusual working environment.

Conclusions

The results of our study point out to the changes in the working environment in view of the fact that new risks and occupational diseases may occur. The doctoral thesis emphasizes the need for prevention in new areas e.g. application of new working techniques and chemical agents, psychical overstrain in some areas of the industry, including the car industry as well as the necessity of observing mental demands of various professions. The need for technical modernisation of workplaces and regular update of the List of occupational diseases should not be neglected either.

Key words

New occupational diseases, low-back pain disease due to physical overload, burnout syndrome, asthma bronchiale from an unusual cause, potassium-aluminium tetra fluoride, List of Occupational Diseases, diagnostics, prevention.