Differential association of lung function impairment and risk communication on mental health

Lang Jessica*, Felten Michael, Kraus Thomas. Institute of Occupational Medicine, RWTH Aachen University, Aachen, Germany

Introduction The knowledge of previous exposure to a hazardous material like asbestos may lead to chronic psychological strain (Lebovits, Byrne, & Strain, 1986). Specifically, the information about an increased cancer risk can trigger emotional responses such as symptoms of depression and anxiety (Dilling, Mombour, & Schmidt, 1993) which in turn activate coping mechanisms. This applies in particular to those individuals who have developed non-malignant changes like lung fibrosis and pleural plaques (Gietmann, Gerd Meier, & Trotschler, 1993). Resulting lung function impairment due to asbestos related diseases might occur even years after cessation of exposure. Consequently, it cannot be excluded that poor psychological well-being may also be associated with obstructive or restrictive lung function impairment.

Methods The 619 male study participants (M_age=66.3 years, SD=9.6) attended a screening program for asbestos related diseases. Routine examinations included lung function testing and validated questionnaires for mental health (depression and anxiety) and coping. Hierarchical regression analyses were conducted.

Results The strongest predictor for mental health was the functional impairment due to restriction (e.g., for depression: beta=0.21, t=3.15). For predicting coping behaviour, the presence of a non-malignant asbestos related disease was most significant (e.g., for avoiding coping: beta=0.29, t=4.11).

Discussion The presence of psychological health symptoms (i.e., depression, anxiety) is associated with ventilation problems, whereas the knowledge of an already initiated tissue change – resulting from the asbestos exposure – is primarily associated with mental strain. Specifically, the affected individuals are more prone to intrusive thoughts and engage more in coping behaviours. As an implication, physicians should be sensitised about possible consequences of risk communication and functional restrictions in order to counteract excessive fear or anxiety.

Distribution of sensitiser-induced occupational asthma in R. Macedonia in the period 2005–2016 by occupation

Jordan Minov*, Jovanka Karadzinska-Bilimovska, Sasho Stoiski, Dragan Mijakoski, Aneta Atanasovska. Institute for Occupational Health of RM – Skopje, Skopje, Macedonia

Objective To present the distribution of sensitiser-induced OA by occupation in R. Macedonia in the period 2005–2016.

Methods Sensitiser-induced OA was diagnosed by serial measurements of peak expiratory flow rate (PEFR) at and away from work or by combination of serial PEFR measurements at and away from work and non-specific bronchial provocation at and away from work in subjects with diagnosed asthma and work-relatedness of the symptoms.

Results The annual incidence rate of the diagnosed sensitiser-induced OA in the mentioned period varied from 1.8/100,000 working population in 2013 to 2.8/100,000 in 2006. Sensitiser-induced OA in bakers, cleaners, textile workers and agricultural workers accounted up to more than a third of the all diagnosed cases. Atopy was registered in approximately a half of the sensitized-induced OA cases. Majority of the cases with sensitiser-induced OA caused by high-molecular-weight (HMW) agents (i.e. OA in bakers, textile workers, tanners, herbal and fruit tea processors, and health care workers) was atopics and had positive prick tests to occupational allergens.

Conclusion Our findings indicate the sectors with highest occurrence of sensitiser-induced OA in R. Macedonia in the period 2005–2016. The data obtained enable directing of adequate activities to prevent developing of the disease, as well as to identify affected workers and to prevent further respiratory impairment.