Differential Association of Lung Function Impairment and Risk Communication on Mental Health

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Abstracts

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.