

Comment on “Relationship between components of the metabolic syndrome and job strain using a brief job stress questionnaire (BJSQ)” by Kawada

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We thank Tomoyuki Kawada for his interest in the systematic review on the effect of occupational stress on the risk of the development of cardiovascular disease and his comments. We agree that possible associations of occupational stress with components of the metabolic syndrome as well as with type 2 diabetes are in discussion.

There is evidence that the association of work stress is mediated through indirect effects on health behaviours as well as direct effects on neuroendocrine stress pathways (Chandola et al. 2008). According to results of the Whitehall study, around 32 % of the effect of work stress on CHD seems to be attributable to its effect on health behaviours and the metabolic syndrome. In the Whitehall II study, there also appeared to be a difference in the risk of type 2 diabetes in women exposed to a combination of job strain and low social support (Heraclides et al. 2009). A recent publication on data of the Whitehall study (Heraclides et al. 2012) indicates that gender as well as body weight status play a critical role in determining the direction of the association between psychosocial stress and type 2 diabetes.

However, overall observational epidemiological studies investigating the association between work-related psychosocial stress, the metabolic syndrome and type 2 diabetes still provide an inconsistent picture. A systematic review and meta-analysis, based on cross-sectional studies, case-control studies as well as cohort studies, of the evidence evaluating whether work-related psychosocial stress is associated with the risk of type 2 diabetes did not support

an association (Cosgrove et al. 2012). Reasons for the inconsistent findings may be heterogeneity between studies as well as methodological weaknesses of studies, as highlighted in this review. Thus, further research is required to confirm the finding.

In this context, the cross-sectional study by Kawada et al. adds some evidence to support an association between work stress and fasting glucose. However, the cross-sectional design is limiting the significance of the investigation. In addition, there is no information how the applied instrument (BJSQ) to assess work stress is comparable to the job content questionnaire (Karasek et al. 1998), which is used in most of the other studies on occupational stress.

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