

THE EFFECTS OF WORK-RELATED STRESS IN DEVELOPING TYPE 2 DIABETES: A META-ANALYSIS

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BACKGROUND

Disability from diabetes have a great impact on third world countries especially the Philippines in which there is a 45.8% change from 4th to 3rd rank during 2007-2017. Numerous risk factors have been linked to the development of type 2 diabetes mellitus (DM2) which include family history and lifestyle behaviors. Work-related stress is also considered a factor that may contribute to the development of DM2 since there is an increase in compensation claims of work-related stress due to DM2. The objective of this study is to determine the association of work-related stress in developing the risk for DM2.

METHODOLOGY

A systematic online search of related journals and literatures published in English from 2008 to 2018 was conducted from PubMed, Cochrane, OVID, Herdin (local publications), and ProQuest (gray literatures). Longitudinal studies that analyzed work related stress on the outcome of DM2 and their related keywords were included. There were 6473 articles initially identified in which 851 were selected for title and abstract review, 77 articles were screened for full text review, 18 articles were evaluated for risk of bias and 17 studies were subjected to meta-analysis.

CONCLUSION

Based on this meta-analysis, several studies showed that workers who are not exposed to work related factors have 0.62x less likely to develop DM2 as compared to workers who are exposed to work related factors (OR=0.62; 95% CI: [0.50-0.76]). Basal metabolic index (BMI) seems to be associated with DM2 as workers having BMI <30 kg/m² are 0.22x less likely to develop DM2 as compared to workers having BMI >30 kg/m² (OR=0.22; 95% CI: [0.19-0.26]). Adult female workers who are exposed to work stress were 1.4x more likely to develop DM2 as compared with male workers (OR=1.40; 95% CI: [1.11-1.76]). Workers who practice good lifestyle habits are 0.88x less likely to develop DM2 as compared with workers who have poor lifestyle habits (OR=0.88; 95% CI: [0.76-1.04]). Workers who have no family history of DM2 are 0.58x less likely to have the condition compared to workers with family history (OR=0.58; 95% CI: [0.39-0.88]).

There is insufficient evidence to say that work related stress and sex are associated with DM2 though we can say that BMI, lifestyle habits, and family history are associated with DM2. In general, heterogeneity, inconsistency of findings and high risk of bias of articles included in this meta-analysis led to the insufficient evidence with respect to the association of work-related stress to DM2.

RECOMMENDATIONS

Higher quality longitudinal studies that have minimal biases will provide more accurate information on job strain and shift work schedule. Well-defined work characteristics are needed to establish association of DM2 in relation to work. Further researches on lifestyle behaviors in relation to work stress are recommended, as this may offer evidence for preventive strategies through policies and programs to address DM2.