139. Long-Term Shift Work Is Not Associated With an Increased Risk of Metabolic Syndrome: A Cross-Sectional Study of Railway Workers in Southwest China

Chaohui Dong, Honglian Zeng, Bo Yang , Yi Zhang, Zhitao Li, Jia Pan, Lei Tang, Clinical Medical College & Affiliated Hospital of Chengdu University, Chengdu University, Chengdu, China

Body

Objectives: Metabolic syndrome (MetS) increase the risk of new diabetes and cardiovascular disease. Night shift work may lead to a higher risk of cardiovascular diseases. This study aims to investigate the association between long-term shift wok and metabolic syndrome.

Methods: The observational cross-sectional study was conducted among railway workers in the Physical Examination Center of the Affiliated Hospital of Chengdu University from January 2020 to December 2020.The basic data were collected by investigators and blood test results were collected. The results were analyzed using statistical software SPSS 22.0.

Results: In total, 11023 people over the age of 40 with more than 10 years of working experience were enrolled, 4759 (43.2%) participants had a diagnosis of metabolic syndrome (MetS). The basic data indicated that shift workers tended to be younger, shorter working years, but higher BMI and longer hip circumference ($p<0.05$). shift workers also showed a higher level of ALT, Cr, and UA ($p<0.05$). The adjusted analysis revealed that there was no significant association between shift work and metabolic syndrome (OR 1.02, 95%CI 0.94-1.12, $p=0.608$). Shift work was associated with overweight (OR 1.19, 95%CI 1.09-1.30, $p<0.001$), SBP≥130 mmHg (OR 1.11, 95%CI 1.02-1.21, $p<0.001$) and Waist circumference≥90 cm (OR 1.11, 95%CI 1.02-1.21, $p<0.001$).

Conclusion: Long-term shift work is not associated with an increased risk of metabolic syndrome, but associated with elevated systolic blood pressure, overweight and waist circumference increase. All the railway workers need long-term and effective interventions to reduce the incidence of metabolic syndrome.

Clinical Implications: Our study could help understand the association between long-term night shift work and metabolic syndrome among railway workers in China and provide information for the precision prevention of chronic diseases in this occupational population.