


Cardiovascular risk factors and circadian rhythm dysregulation

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Introduction: Chronic dysregulation of circadian rhythm carries the risk of health consequences such as cardiovascular disease and metabolic syndrome. Coronary artery disease is the leading cause of death in women worldwide. In women, CAD generally occurs later than in men, usually by 5-10 years.¹⁻³ We conducted a cross-sectional study to determine the association between shift work and blood pressure, ferritin levels, and metabolic parameters in women.

Methods: A total of 67 nurses were divided into two groups: 12-hour shift work (7 a.m. to 7 p.m./7 p.m. to 7 a.m.) as the test group and 8-hour daily work (7 a.m. to 3 p.m.) as the control group. Data included information on chronic medications and diseases, last menstrual period, cigarette smoking, number of working years, physical examinations, BMI, biochemical and hormonal blood findings, and blood pressure values.

Results: We found a positive correlation between the duration of shift work and systolic blood pressure (Rho = 0.424, P = 0.03). A significant and positive correlation between ferritin and hsCRP was found in all subjects (Rho = 0.401, P=0.001), as well as in the group of subjects working shifts (Rho = 0.468; P = 0.002), whereas there was no such correlation in the group of subjects working regular shifts. Prediabetes was detected in 23 (34.4%) of the subjects, and they had significantly higher levels of LDL cholesterol and fasting blood glucose.

Conclusion: In this cross-sectional study, we found a persistent association between the duration of shift work and systolic blood pressure as a risk factor for cardiovascular disease. We also found the association between ferritin and hsCRP in all subjects and especially in those working in conditions with disturbed circadian rhythms. Further studies are needed to determine the effects of circadian rhythm disruption on cardiovascular risk factors.

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LITERATURE

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