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Influence of Shift Work on Fasting Blood Sugar in Hospital Workers

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Abstract : Background: Accumulating evidence from prospective studies suggests an increased risk of type 2 diabetes associated with sleep deprivation and sleep disorders. Shift work by disrupting the circadian rhythm, could possibly cause metabolic disturbances. Objective: To investigate the influence of shift work on fasting blood glucose in hospital workers population. Materials and Methods: This was a cross-sectional study including 90 night shift workers (study group) and 90 day workers (controls) drawn from paramedical personnel. Night shift work was on a forward rotation basis, with an average of one night shift every 4 weeks. Each night shift rotation was for a period of 7 days, with a total of 8 hours of shift work per night. In the entire subjects body mass index (BMI) and fasting blood sugar (FBS) was measured. Statistical analysis included unpaired t test, Mann-Whitney 'U' test and Chi-square test. P value less than 0.05 was considered significant. Result: The study and control groups were comparable with regard to age, sex distribution and duration of employment. FBS was higher in study group compared to controls ($p < 0.0001$). There was no significant difference in BMI between control and study group. Conclusion: Shift work may adversely influence glucose metabolism.

Keywords : shift work, fasting blood sugar, sleep disturbances, diabetes
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