NIGHT SHIFT WORK INCREASES THE RISK OF DIABETES: A 17-YEAR FOLLOW-UP COHORT STUDY AMONG ASIAN HEALTHCARE WORKERS

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Introduction In East Asian countries with highly developed economies, the prevalence of diabetes is rapidly increasing. Long working hours and shift work are suspected to be important risk factors in East Asia. A long-term follow-up study is warranted to clarify the relationship between diabetes, working hours, and shift work.

Objectives To evaluate the association of night shift work and risk of diabetes among Asian healthcare workers, and to explore their dose-response relationship using actual hours of night shift work monthly rather than cumulative years with night shift work.

Methods A retrospective cohort study was conducted among employees in a tertiary medical centre in central Taiwan. From 2002–2019, there were 7767 participants with a mean (±SD) age of 27.9 (±7.0) years, and 89.6% of them were women. We collected information related to annual health check-ups, medical charts, and annual working hours, including during day, evening, and night shifts. We divided working hours into three categories (less than 60 hours per month, 60 to 100 hours per month, more than 100 hours per month). We estimated hazard ratios and 95% confidence intervals (CIs) for incident diabetes using Cox proportional hazards models, adjusting for age, sex, and body mass index.

Results 309 (3.98%) incident cases of diabetes occurred during 56,799 person-years at the 17-year follow-up. In the age- and sex-adjusted model, the HR (95% CI) for those who worked night shifts for more than 100 hours per month was 2.062 (1.179 to 3.608) compared with those who worked fewer than 60 hours. In the stratified analysis, the association between night shift work and diabetes was significant among those aged <40 years, females, and obese participants.

Conclusions Among Asian healthcare workers, night shift work is associated with the incidence of diabetes in a dose-dependent manner. This finding could identify workers at high risk of diabetes to provide preventive strategies.