Nocturnal Lifestyle Behaviour and Sleep Quality During Pregnancy

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Objectives: Little is known about the extent to which lifestyle practices at night influence sleep quality in pregnant women who are susceptible to sleep disturbances. This study aimed to examine the association between nocturnal lifestyle behaviour and sleep quality of women during pregnancy.

Methods: This observational cross-sectional study recruited pregnant women between 18 and 24 weeks of gestation from KK Women's and Children's Hospital, Singapore. Nocturnal lifestyle behaviour was assessed by frequency of night eating after 8 pm, moderate-to-vigorous physical activity performance after 7 pm, screen viewing $>$ 1 hour before bedtime and artificial light exposure with $\geq$ 10 lux between 2–4 am. Sleep quality was measured using the Pittsburgh Sleep Quality Index with global score $>$ 5 indicative of poor sleep quality. Modified Poisson regression model tested the association between nocturnal lifestyle behaviour and sleep quality.

Results: Of 299 women, 117 (39.1%) exhibited poor sleep quality. In the covariate-adjusted analysis, an increased risk of poor sleep quality was observed in women with night eating (risk ratio 1.54; 95% confidence interval 1.15, 2.06) and light exposure at night (1.74; 1.34, 2.25). No associations were observed for night-time physical activity (0.84; 0.60, 1.17) and screen viewing before bedtime (1.10; 0.76, 1.60) with sleep quality.

Conclusions: More than one-third of pregnant women experienced poor sleep quality. Night eating and artificial light exposure at night were associated with poor sleep quality during pregnancy. Thus, reducing night eating and decreasing levels of exposure to light at night represent potential targets for healthy sleep interventions in pregnancy, in a bid to augment efforts to promote sleep quality among pregnant women.

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