

Age at menarche, menstrual problems, and daytime sleepiness in Chinese adolescent girls

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Abstract

Study Objectives

Menstrual problems and daytime sleepiness are prevalent in adolescent girls. Little is known about the associations between age at menarche, menstrual problems, and daytime sleepiness. This study aimed to examine the associations of age at menarche and menstrual problems with daytime sleepiness among Chinese adolescent girls.

Methods

Of 11,831 adolescents who participated in the baseline survey of Shandong Adolescent Behavior & Health Cohort (SABHC), 5,813 were girls and included for the analysis. A structured self-administered questionnaire was used to collect information about menstrual problems, sleep, mental health, and demographics. Daytime sleepiness was measured by the Chinese Adolescent Daytime Sleepiness Scale (CADSS).

Results

The mean age of the girls was 15.02 ($SD = 1.44$) years. The prevalence rates of mild, moderate, and severe daytime sleepiness were 20.5%, 16.7%, and 5.5%, respectively. After adjusting for adolescent and family covariates (age, body mass index, physical health, physical exercise, sleep duration, sleep problems, anxious/depressive symptoms, and family social economic status), sometimes irregular (odds ratio [OR] = 1.24, 95% confidence interval [CI] = 1.01 to 1.52), often irregular menstruation (OR = 1.58, 95% CI = 1.17 to 2.12), moderate (OR = 1.39, 95% CI = 1.12 to 1.72), and severe (OR = 1.46, 95% CI = 1.04 to 2.04) menstrual pain were significantly associated with increased risk of daytime sleepiness.

Conclusions

Our findings suggest that menstrual irregularity and menstrual pain are associated with increased risk of daytime sleepiness. These findings emphasize the importance of evaluating and intervening menstrual problems for preventing daytime sleepiness in adolescent girls.

[menstruation](#), [dysmenorrhea](#), [daytime sleepiness](#), [adolescence](#)

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