

**Sleep patterns, quality, related factors and their association with
academic performance among grade 10 students in Kurunegala
Educational Division**

ABSTRACT

Background

Good quality sleep and patterns play a key role in the well-being of an adolescent. Identification of the behaviors and factors related to good quality sleep is a timely need.

Objectives

The main aim of the study was to assess the sleep patterns, quality, related factors and the association of sleep quality with academic performance among grade 10 students in Kurunegala educational division.

Methods

A school-based descriptive cross-sectional study was conducted among 620 adolescents studying in grade 10 classes of 1AB, 1C, and type 2 schools of Kurunegala educational division. The stratified cluster sampling technique was performed and the clusters were selected according to the proportion of the population in each school type using simple random sampling. A self-administered questionnaire was used. The validated versions of the Pittsburgh Sleep Quality Index (PSQI) and the Patient Health Questionnaire 2 (PHQ-2) screener were used. The questions regarding the related factors were developed following a detailed literature search and after consensus with an expert panel of educational and health professionals. The academic performance was assessed using the average marks and categorized as “poor performance” and “good performance”. Chi-square and odds ratio were used for the analysis.

Results

The daytime naps were present among 33.7%(n=209) of participants and only 13.2%(n=82) of the adolescents slept the recommended duration of eight to ten hours. According to the PSQI, 29.2%(95%CI:25.6-32.9) of the participants had a poor quality of sleep. Statistically significant associations for poor quality of sleep were present between the duration of the use of digital devices during weekdays

($p < 0.001$, OR=2.9, 95% CI=1.6-5.1) and weekend ($p = 0.002$, OR=1.9, 95% CI=1.3-3.1), screening status for depression ($p < 0.001$, OR=2.9, 95% CI=1.7-5.1), disturbance from family members ($p = 0.002$, OR=1.8, 95% CI=1.2-2.6) and watching television ($p = 0.001$, OR=1.9, 95% CI=1.3-2.7). The gender ($p = 0.68$), consumption of drinks before bedtime ($p = 0.13$), consumption of coffee before bedtime ($p = 0.98$), physical exercises ($p = 0.93$), engagement of extracurricular activities ($p = 0.24$), use of digital devices ($p = 0.16$), duration of studying in weekdays ($p = 0.57$) and weekends ($p = 0.91$), participating in tuition ($p = 0.63$), presence of long term illnesses ($p = 0.27$) and academic performance ($p = 0.42$) were not statistically significant.

Conclusion

Health education programs are recommended since 29.2% of the participants had a poor quality of sleep.

Keywords

Sleep patterns, sleep quality, adolescents, academic performance