ABSTRACT

Sleep is a fundamental human need. Constant increase in academic expectations and demands in the collegiate cycle at present, has led to compensation of the need for a good quality sleep from present-day adolescents. Though globally, the concept of Poor Quality Sleep (PQS) and its consequences among adolescents had been extensively researched in different study settings, Sri Lankan research culture is devoid of any form of community level sleep studies among school children.

Objectives

1. To determine the prevalence, correlates and selected outcomes of PQS among grade ten students in government schools in Colombo District.

2. To evaluate the effectiveness of a school based educational intervention to improve PQS among grade ten students in government schools in Colombo District.

Methods

A school based, cross sectional descriptive study was conducted among 1315 grade ten students from twenty-eight government schools in Colombo District, selected by multistage cluster sampling technique, to determine the prevalence of PQS, using culturally adapted and validated Pittsburgh Sleep Quality Index (PSQI) questionnaire. Correlates and outcomes of PQS were identified in a subsample of 410 students. A Quasi Experimental study among 250 school children was carried out to evaluate effectiveness of a school based educational intervention to improve PQS. Ethical clearance for the study was obtained from the Ethical Review committee of University of Kelaniya.

Results

PSQI revealed a good consensual validity. The response rate was 95.2%. The prevalence of PQS and very PQS among Grade ten students were 37.5% (95% CI = 34.9% - 40.2%) and 24.4% (95% CI = 22.0% - 26.8%) respectively.

Higher frequency of Electronic Entertainment and Communication Devices (EECD) usage (AOR=3.7, 95% CI=2.2-6.2,p<0.001) and perceived encounter of disturbance by EECD on sleep (AOR=4.3, 95% CI=2.4-7.7,p<0.001) and habitual skipping of dinner (AOR=1.7, 95%CI=0.9-2.8,p=0.053) were reported as significant positive ii

predictors for PQS in the Multiple Logistic Regression model. Frequent reading of books before bedtime (AOR=0.6, 95%CI=0.3-0.9, p=0.021) reported negative association with PQS. Multiple Linear Regression model for outcomes of PQS revealed a significant (p<0.001 and p=0.03 respectively) negative predictor effect of -0.7 on Academic achievements and negative predictor effect of -0.6 on Intelligence.

Sleep education intervention outcome variable-poor quality sleep, reported a statistically significant {t (243.99) =8.06, p<0.001} mean difference in Post Intervention PSQI mean scores between the Intervention group and the control group (-2.26,95% CI= -2.8 - -1.7). Furthermore, a significant positive correlation between Pre-PSQI scores (r=0.4) and Post-PSQI scores (r=0.6) were reported. Sleep intervention failed to elicit difference in outcome variable - sleep hygiene.

Conclusions and Recommendations

The Sinhala Translated and culturally validated student version of Pittsburgh Sleep Quality Index (PSQI-SS) is a valid and reliable instrument to assess PQS among Grade ten students in Sri Lanka. The prevalence of PQS among Grade ten students in government schools in Colombo District was high and majority of significant correlates were lifestyle related and dietary factors. Cognitive behavioural therapy and mindfulness based, multicomponent, in school educational group intervention was found to be highly significant in improving PQS among grade ten school children in Colombo District.

The study emphases the necessity of good quality sleep culture among school children. It is recommended to encourage parents, teachers and society to encourage positive and supportive good quality sleep environment. Furthermore, it is recommended to consider implementing the effective sleep educational intervention at school level to rectify problems related to PQS.

Keywords: Poor quality sleep, adolescents, PSQI, sleep educational interventions iii