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Sleep Quality and Its Correlates among Adolescents Cross-sectional study

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ABSTRACT
Sleep deprivation has a long-term harmful impact on health and can contribute to adolescent depression. To examine the prevalence of sleep quality and its associated characteristics, we conducted a cross-sectional study among adolescents in higher secondary school. The probability proportionate to size (PPS) technique was used to choose 514 teenagers from various schools. The Pittsburgh Sleep Quality Index (PSQI) was developed to measure adolescent sleep quality. The descriptive analysis determined the frequency distribution and percentage, while the chi-square test was performed. The logistic regression model was used to further examine variables that were determined to be statistically significant (P 0:05).In this study, 39.1% of people had poor sleep quality. A study indicated that religion, area of residence, academic success satisfaction, relationship with friends or classmates, more internet use per day, and internet use before falling asleep were all statistically significant with sleep quality. The overall prevalence of poor sleep quality among school-aged teenagers was 39.1%, which was a significant number.
***KEYWORDS**: Sleep quality, adolescent, Pittsburgh Sleep Quality Index, academic performance, logistic regression model*

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INTRODUCTION

For humans, sleep is an essential physiological process. It is regarded as one of the most important contributors to physical and mental health, particularly among adolescents. In the physical, cognitive, and psychological processes, sleep is crucial. Even though the direct advantages of sleep are not fully measured across many groups, sleep disorders are known to cause major health problems [1, 2, 3, and 4]. Sleep deprivation is defined as not getting enough sleep on a regular basis.

The amount of sleep required varies from person to person, but on average, most adults between the ages of 14 and 17 required 8-10 hours of sleep, and 7-9 hours of sleep between the ages of 18 and 25. Long-term and short-term sleep deprivation are both possible [5].Sleep deprivation is linked to increased sadness, anxiety, inattention, conduct issues, drug and alcohol use (abuse), poor academic performance, and suicidal thoughts and behaviours in adolescents. Bedtime, wake-up time, and sleep length are all factors in sleep habits. There are several evidences pointing to the harmful consequences of sleeping disturbances on teenage mental health. According to the studies, sleeping disturbances are linked to decreased functioning across a wide variety of psychological, interpersonal, and well-being markers [6,7,8].

Sleeping disorder-related symptoms were found to be prevalent in 20 percent to 48 percent of people in West Bengal and Karnataka, according to epidemiological research. Students with a variety of sleep issues may experience negative effects on their academic performance, health, and emotions. Sleep deprivation is a widespread issue among college students. Sleep quality is influenced by both biological and social factors. As a result, we set out to assess sleep quality and its correlates in teenagers from various schools. The study's main purpose is to find out how common poor sleep quality and its associated causes are among high school students 12 and 13].

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted at a rural high school among adolescent students aged 15 to 19 years who are currently enrolled in grades 11 and 12. Size of the sample. The sample size was calculated using a prevalence of 21.2% (found in a survey conducted in Trichy district schools), a confidence level of 95%, and a margin of error of 5%.

Sampling Technique: Two schools were chosen at random from the total number of schools using the lottery technique. One was a private institution and the other was a public school. There were 400 kids in public schools and 350 in private schools. After that, schools were chosen in equal numbers, one from each group, using probability proportionate to size (PPS). Because the total number of students in public and private schools was about equal.

Tools for gathering information. Data was collected using a semi-structured, self-administered questionnaire. Students' sociodemographic information, as well as their behavioural and psychological features, were all included in the questionnaire. The Pittsburgh Sleep Quality Index was used to assess sleep quality (PSQI). The PSQI is a useful tool for determining the quality and patterns of sleep. It's a self-report instrument that's quick, accurate, and standardised. It distinguishes between "bad" and "good. "The answer was graded on a "0" to "3" scale, with 3 representing the negative end of Likert's scale. The PSQI scale runs from 0 to 21, with a higher score indicating worse sleep quality. To measure the quality of sleep of adolescent pupils, the PSQI global score > 5 was utilised, which had a sensitivity of 89.6% and specificity of 86.5 percent. Only a self-reported questionnaire is used in this study. The strategies for completing out the questionnaire were explained to the participants. The pupils' seating arrangements were designed in such a way that the possibilities of them peeping at each other's responses were as minimal as feasible.

RESULT AND DISCUSSION

Figure 1 depicts the prevalence of poor sleep quality among adolescents, which was determined to be 39.1%.

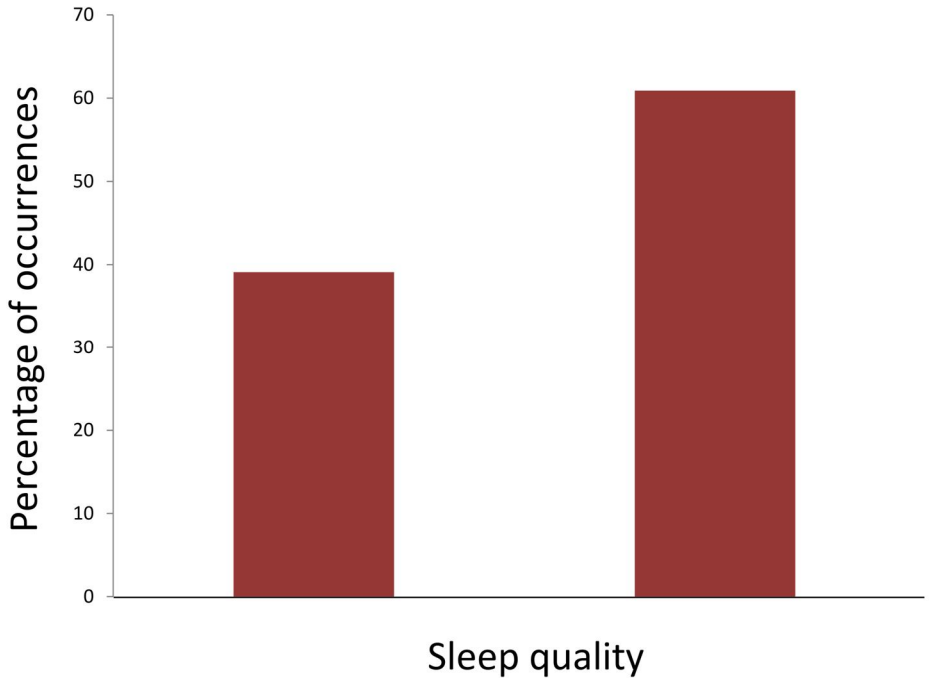

Figure 1. Percentage of occurrences of sleep quality among adolescents

The educational qualities of the pupils are represented in Table 1. A total of 55.8% of those who responded were in grade 11. More than four hundred students (41.1%) were enrolled in the management programme. More than three-quarters of students (78.2%) completed their prior exams, and four-fifths (80.4%) are currently studying their particular faculty due of their own inclination. Sixty-six percent of pupils (64.6%) were dissatisfied on their studies. It also represents the respondents' behavioural characteristics. The majority of the students (93.2%) were non-smokers, and 93.8 percent had never consumed alcohol.

Table 1. Demographic and economic features of Respondents and their families (n = 514).

Characteristics	*n*(%)
Age	
≤17	275(53.5)
>17	239(46.5)
Age mean age±SD (years)	17:4±0:9
Gender	
Male	270(52.5)
Female	244(47.5)
Religion	
Hindu	461(89.7)
Christian	53 (10.3)
Place of residence	
Urban	401(78.0)
Rural	113(22.0)
Type of family	
Nuclear	338(65.8)
Joint family	176(34.2)
Monthly income of family (in Rs)	
≤25000	301(58.6)
>25000	213(41.4)
Educational status of father	
≤Secondary	354(68.9)
>Secondary	160(31.1)
Occupational status of father	
coolie	202 (39.3)
Business	275 (53.5)
Other	37 (7.2
Occupational status of mother	
coolie	291(56.6)
Business	211 (41.1)
Other	12 (2.3)
Drinking habit of father	
Yes	195(37.9)
Type of school	
Public	252(49.1)
Private	262(50.9)
Satisfied with academic performance	
Yes	332(64.6)
No	182(35.4)
Physical exercise	
Regularly	62(12.1)
Frequently	51 (9.9)
Occasionally	329(64.0)
Rarely	44 (8.6)

PREVALENCE OF SLEEP QUALITY:

In this study, the prevalence of poor sleep quality was determined to be 39.1%. Poor sleep quality is

widespread among teenage students in the Trichy district, according to our findings.
However, in a study conducted in Bengaluru, urban students were found to have poorer sleep than rural students. This could be related to the fact that the studies were conducted in diverse settings and the sample sizes were different [14, 15].
Having a smart phone and using the internet on a regular basis had no statistically significant relationship with sleep quality, although time spent on the internet per hour daily and using the internet before falling asleep did (OR = 2:10, CI: 1.47-3.10 and AOR = 2:67, CI: 1.61-4.48, respectively).In addition, a study conducted in Turkey found a link between poor sleep quality and daily internet usage. For every hour spent on the internet, poor sleep quality rose by 2.10 times [16-18]. The findings could be explained by the fact that students who use the internet for more than an hour before bedtime may reduce their sleeping time, resulting in poor sleep quality.

CONCLUSION

Religion, place of residence, academic performance satisfaction, relationship with friends or classmates, greater internet use per day, and internet use before falling asleep were all found to be statistically associated with sleep quality in this study.
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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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