



Analysis of Excessive Day Time Sleepiness in Adolescent Girls Pursuing Professional Courses

Ravi Sunder R¹ and Neelima P^{2*}

¹Professor and HOD, Physiology, GIMSR, GITAM Deemed to be University, Visakhapatnam, Andhra Pradesh, India

²Professor and HOD, Anatomy, NRIIMS, Dr. NTRUHS, Visakhapatnam, Andhra Pradesh, India

*Corresponding Author: Neelima P, Professor and HOD, Anatomy, NRIIMS, Dr. NTRUHS, Visakhapatnam, Andhra Pradesh, India.

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Abstract

Excessive daytime sleepiness may range from drowsiness to uncontrollable diurnal sleep attacks called narcolepsy. Though many causes can be attributed to day time sleepiness, most common physiological reason could be late night interrupted sleep. With the advent of smartphones and gaming hobbies adolescents become the vulnerable age group to be victimized for the day time sleepiness. Literature is scanty on the assessment of sleepiness score from north coastal Andhra Pradesh. This study has been done to evaluate the sleepiness in medical and dental girl students from north coastal Andhra Pradesh. Epworth sleepiness score has been used as a tool to assess the person's average sleep propensity. It consists of eight questions and the score is interpreted basing on the individual's response. The aim of study has been explained to the participants. After taking informed consent, 164 girl students from 1st year medical and dental courses with age between 17-20 years, participated in the study. Identity was kept anonymous and the score calculated. 2 girls got a maximum score of 19 which was interpreted as severe excessive daytime sleepiness using Epworth Sleepiness Score. The minimum score obtained from the study was 2 points given by 2 girls. This is named as lower normal daytime sleepiness. The study group was addressed after analyzing the results. Most of the students admitted that they sleep late in the night and the main culprit disturbing their sleep was the smartphone. They were advised to follow healthy sleep patterns for a wholesome healthy life and also to retain memory and increase attention span to achieve academic excellence. The present study reflects the average sleep propensity of the adolescent girl students of north coastal Andhra Pradesh.

Keywords: Sleepiness Score; Daytime Sleepiness; Adolescent Girl Students; Medical; Dental Students

Introduction

For the brain to actively function, one should have a normal sleep for about 7-9 hours. Our brain remains active during sleep, formatting all the information gathered just like the smart phone or laptop. Sleep deprivation causes adverse effects both physically and mentally. Carskadon., *et al.* [1] described the importance of normal sleep in memory consolidation and cellular growth. Lack of proper sleep may lead to day time sleepiness where a person would not be expected to sleep. According to Dhand., *et al.* [2] ex-

cessive daytime sleepiness disrupts learning process and overall health of the individual. Partinen [3] defined excessive daytime sleepiness as a condition, when a person is expected to be awake, increasingly falls asleep associated with tiredness and loss of mental alertness. This may be observed along with some medical illness like asthma, renal failure or gastroesophageal reflux disease.

The risk of excessive daytime sleepiness is more in persons with insomnia as mentioned by Kao., *et al.* [4]. Routine early bed time sleep practice helps to overcome daytime sleepiness. If left unad-

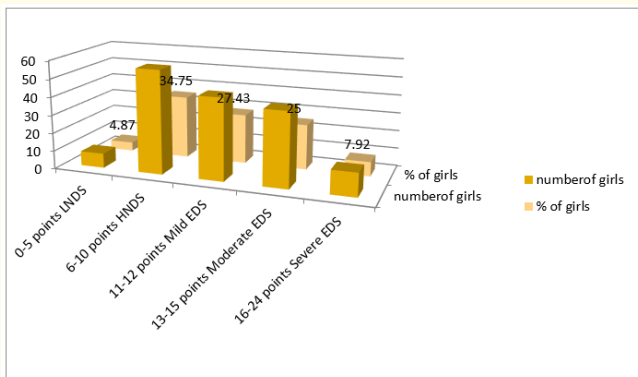
dressed, excessive day time sleepiness may lead to long term complications. Panossian., *et al.* [5] stated the reduced quality of life as a deleterious effect of excessive daytime sleepiness. The academic performance of a student in a professional course is determined by the active brain status which in turn depends on the healthy sleeping habits of the individual. Late night or interrupted sleep patterns may lead to sleep disturbances causing day time sleepiness. The student remains inattentive academically during daytime resulting in poor performance. The present study has been undertaken to assess the daytime sleepiness among girls pursuing 1st year medical and dental sciences from north coastal Andhra Pradesh.

Materials and Methods

The aim of the study was explained to the medical and dental students. The research design is a cross-sectional study and the research method used was questionnaire based. The study sample included only girls who are adolescents with age ranging between 17-20years, as the study was intended for them. After taking informed consent, Epworth sleepiness scale with 8 questions was circulated by google forms. 164 girls took part in the study. They were asked to fill the appropriate option. Keeping identity anonymous, the reports were analysed and graphically represented.

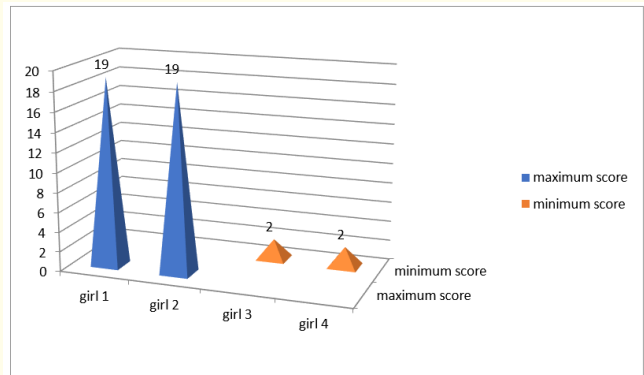
Results

The following results were obtained from the study.



Graph 1: Showing scores achieved by number of girls and percentage.

LNDs: low normal daytime sleepiness
 HNDS : High normal daytime sleepiness
 EDS: Excessive daytime sleepiness.



Graph 2: Illustrating maximum and minimum scores from the study.

34.75% students report high normal daytime sleepiness. Maximum score from the study is 19 which falls in the range of 16-24 of Epworth sleepiness scale and is interpreted as excessive day time sleepiness.

Minimum score is 2, seen in the range of 0-7 and this corresponds to low normal daytime sleepiness.

Discussion

Healthy sleep plays a vital role in physical and mental well being of an individual. Good sleep habits and perfect sleep routine makes a person to think wise and stay strong. Sleep deprivation, due to consistent lack of sleep or reduced sleep quality may lead to daytime sleepiness affecting the physical and mental health. Students in particular, adolescents pursuing professional courses, should have a sound sleep with good sleeping habits and routine. This reflects on their academic abilities. Dagnew., *et al.* [6] reported high prevalence of excessive daytime sleepiness in medical students adversely affecting their academic performance. Rose., *et al.* [7] correlated the association of depression in excessive daytime sleepiness. Hormonal alterations have also been observed due to excessive daytime sleepiness. Muhlen., *et al.* [8] illustrated the role of cortisol on hippocampus causing depression in day time sleepiness. Alsaggaf., *et al.* [9] stated that excessive daytime sleepiness is associated with stress. Psychological effects of excessive daytime sleepiness have been postulated by Mume., *et al.* [10] in their study. By this it is understood that a healthy sleep of 7-9 hours is essential to get rid of daytime sleepiness. The present study has been done to

detect and analyse the excessive daytime sleepiness in adolescent girls pursuing their 1st year in medical and dental sciences. 34.75% students reported high normal daytime sleepiness. This is in accordance with study by El Hangouche, *et al.* [11]. 2 students exhibited excessive daytime sleepiness with score 19. From the present study, it can be analysed that most of the students reveal high normal to mild excessive day time sleepiness. It is very important at this stage to prevent further progress towards excessive daytime sleepiness. The study group was addressed after the results were analysed and were cautioned about the deleterious effects of daytime sleepiness. They were advised to follow healthy sleep routine and to get rid of unwanted habits that interrupt their sleep which reflect on their physical and mental well being.

Conclusion

High normal daytime sleepiness was reported in maximum number of girl students. A considerable percentage revealed mild to moderate excessive daytime sleepiness.

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