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A descriptive study to assess the "Prevalence of sleep disorder and its impact on academic performance among college students at of Mahakavidevkota Campus at Sunwal Municipality, Nawalparasi District."

[1]Ms.Anu Dahit.Bachelore of Public Health, Snjeevani College of Medical Sciences, kalikanagar-11 Butwal, Nepal.

[2]Ms. SunitaGyawalii, Lecturer, MSN(critical care), Snjeevani College of Medical Sciences, kalikanagar-11 Butwal, Nepal.

Corresponding Auther : [1]Ms.Anu Dahit.Bachelore of Public Health, Snjeevani College of Medical Sciences, kalikanagar-11 Butwal, Nepal.

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sunitagyawali2017@gmail.com

ABSTRACT

Background: Sleep is a condition of body and mind that typically recurs for several hours every night, in which the nervous system is relatively inactive, the eyes closed, the postural muscles relaxed, and consciousness practically suspended. The relationship between sleep and cognitive function has been a topic of interest for over a century. Beyond the effects of sleep on memory consolidation, lack of sleep has been linked to poor attention and cognition. Well-controlled sleep deprivation studies have shown that lack of sleep not only increases fatigue and sleepiness but also worsens cognitive performance.

Adequate sleep is important for human's mental and physical well-being and chronic sleep deprivation has been linked to impaired neurobehavioral functioning. College students experiences a number of sleep problems, which may impact academic performance, health, and mood.

Several studies have found a relatively high prevalence of sleep-related complaints, e.g. inadequate sleep, difficulty falling asleep or maintaining sleep, early morning awakenings, poor sleep quality, early morning sleepiness, and daytime napping, among college students.

Objective: To identify prevalence ofsleepdisorder and its impact on academic performance among college students

Methodology: A descriptive study was carried out at Sunwal Municipality of Nawalparasi district. The population of the study was all the people living in SunwalMunicipalitythat was selected by using simple random sampling technique. Among them, 138 samples were selected by using non-probability purposive sampling technique. A pretested structured interview schedule was used for data collection. The collected data are analyzed by using descriptive as well as inferential statistics such as mean, percentage, frequency, and chi-square.

Result: In this study majority (47.8%) of respondent belongs to 18-21 years age group followed by (45.7%) age group 22-25. Majority of the respondent were male (57.2%). Most of the respondent were Hindu (97.10) and (91.3%) respondent was unmarried.Majority of the respondent (43.5%) scored<3.25 while (38.4%) and (15.2%) scored 3.25-3.5 and 3.5-3.49 respectively. About majority of the respondent (40.6%) studied 4-6hours, (29.7%) respondent studied >6 hours and (28.3%) 4-6hours. About (39.9%) sleep for 4-6 hours and (28.3%,23.2% and 8.7%) sleep for >10hours, 7h-8h and <4h respectively. Represent (34.1%) of the respondent evaluated good sleep quality while (32.6%) and (29.0%) evaluated satisfactory and excellent sleep quality. Majority (34.8%) evaluated satisfactory sleep quality before an exam whereas (30.4%), and (21.7%) evaluated good and excellent sleep quality before an exam respectively. Half of the respondent (57.2%) felt excessive sleepiness during the lectures and (42.8%) respondent don't feel excessive sleepiness during the lecture.

Conclusion: In conclusion, majority of the respondent scored <3.25 and majority of the respondent (40.6%) studied 4-6hours. About (39.9%) sleep for 4-6 hours and almost all the respondents evaluated satisfactory sleep quality before an exam.

Keywords: prevalance, sleep,disorder, college student.

INTRODUCTION

Sleep is a condition of body and mind that typically recurs for several hours every night, in which the nervous system is relatively inactive, the eyes closed, the postural muscles relaxed, and consciousness practically suspended. The relationship between sleep and cognitive function has been a topic of interest for over a century. Beyond the effects of sleep on memory consolidation, lack of sleep has been linked to poor attention and cognition. Well-controlled sleep deprivation studies have shown that lack of sleep not only increases fatigue and sleepiness but also worsens cognitive performance.

Adequate sleep is important for human's mental and physical well-being and chronic sleep deprivation has been linked to impaired neurobehavioral functioning. College students

experiences a number of sleep problems, which may impact academic performance, health, and mood.

Several studies have found a relatively high prevalence of sleep-related complaints, e.g. inadequate sleep, difficulty falling asleep or maintaining sleep, early morning awakenings, poor sleep quality, early morning sleepiness, and daytime napping, among college students.

Among college students, are under particularly high levels of stress, hence the crucial need for adequate refreshing sleep (to maintain cognitive and physical well-being) to achieve their goals.

Sleep is crucial for children and adolescents learning memory processes and school performance research shows that poor sleep, increased sleep fragmentation, late bedtimes and early awakenings seriously affect learning capacity college performance.

The consequences of this sleep deprivation are severe, impacting adolescents' physical and mental health as well as daytime functioning.[6]

OBJECTIVES :

- To assess the prevalence of sleep disorder and its impacts on academic performances among college students
- To find the assess between sleep disorders and selected socio-demographic variable

RESEARCH METHODOLOGY

Research Design

Descriptive study design was used to find out the Prevalence of sleep disorder and its impact on academic performance among college students.

Sampling Technique

Non probability purposive sampling technique was used to select the sample.

Sample Size

The Sample size was calculated by using the following formula:

Sample size (n) $=Z^2\alpha\ pq/d^2$

Where n= sample size required

$Z\alpha$= level of statistical significant, in this study set as 0.5 i.e. area of confidence level CI at 9

5% is 1.96

p= anticipated population proportion (assumed to be 10% or 0.1)

q= 1-p

= 0.9

d= absolute precision (level of error =0.05)

Calculation,

$$n = \frac{(1.96)^2 \times 0.1 \times 0.9}{0.05^2}$$

n= 138.29

Thus, the required sample of the study was 138.

inclusion criteria:
College students,

- who have currently studying in college.
- who have knowledge about English properly

exclusive criteria:
College students

- diagnose to have sleep problem and under treatment.
- who are not willing to participate in the study

VARIABLES

- Study Variable :Sleep disorder
- Attribute Variables: Age, Gender, Marital status, Type of family, Ethnicity, religion, Education Status, Major subjects, Coffee intake perday.

SETTING OF THE STUDY

MahakaviDevkota Campus student of plus 2 at Sunwal Municipality, Nawalparasi District.

POPULATION

Plus 2 students of MahakaviDevkotaCmpusSunwal Municipality, Nawalparasi District.

Research Instrument

Semi-structured interview schedule was developed for data collection. The research instrumentation was divided into 3 parts:

Part I Questionnaire Related to Socio-demographic Information of the respondent.

Part II Questionnaire Related to sleep disorder

Part III Questionnaire Related to impact of sleeping disorder in academic performance

In order to measure the research variable, content validity of instrument was established by extensive review of literature and acquiring the opinion of the research supervisor, subject

matter specialist and advisor. Together with that consulting expertise of related field and peer review. Valuable suggestions and comment was consolidated in final modification of questionnaire.

The reliability of the instrument was established by pre-testing instruments using 10% of sample size for the clarity, feasibility and sequentiality of the questions in the similar settings. On the basis of the pretesting, needed modification was done and instrument was finalized for the data and necessary correction.

Data Collection Procedure

Before collecting the data Administrative approval was obtained from concerned authorities. The data was collected by the researcher herself by visiting the college through the use of a structured interview schedule. A verbal consent was obtained from respondents after explaining the purpose and advantage of the study. The respondents was assured for confidentiality and privacy of the information and encouraged to be sincere and truthful to the responses. The subject was allowed to refuse to participate in the study at any time if they wish. There was no discrimination on the basis of the cast, religion, socio-economic status and so on. The data was collected through face-to-face interview with structured type of questionnaire.

RESULT-

Statistical analysis for the study was done using IBM SPSS version 20

Descriptive statistics:

- Frequency and percentage distribution were used to analyse socio-demographic data.

Inferential statistics:

- Chi-square was used to find the association between study findings and selected socio-demographic variables.

Table 1 Distribution of Respondents According to Age, sex, religion, Ethnicity, Marital status, type of family, Classification status and major n=138

Variable	Frequency(f)	Percentage (%)
Age		
18-21	66	47.8
22-25	63	45.7
Mean age=20.96		
Sex		
Male	79	57.2
Female	59	42.8
Religion		
Hindu	134	97.1
Buddhist	2	1.4
Christian	2	1.4
Ethnicity		
Bhramin/chhetri	57	41.3
Janjati	57	41.3
Dalit	24	17.4
Marital status		
Unmarried	126	91.3
Married	12	8.7
Type of family		
Nuclear	74	53.6
Joint	64	46.4
Classification status		
Junior	102	73.9
Senior	36	26.1
Major Subject		
Education	111	80.4

Others	27	19.6

Table 2 Distribution of Respondents According to current GPA, studying hours, sleep hours, midday nap and coffee intake n=138

Characteristics	Frequency(f)	Percentage (%)
Current GPA		
<3.25	60	43.5
3.25-3.5s	53	38.4
3.5-3.49	21	15.2
3.49-4	4	2.9
Studying hours		
>6	41	29.7
2-4	39	40.6
4-6	56	28.3
<2	2	1.4
Sleep hours		
>10h	39	28.3
7h-1h	32	23.2
4-6h	55	39.9
<4h	12	8.7
Midday nap		
Yes	77	55.8
No	61	44.2
Coffee intake		
0	66	47.8
2-3	38	27.5
3-4	30	21.7
5+	4	2.9

Table 3 Prevalence of sleep disorder according to work at night, wake with morning headaches, and stop breathing during sleep n=138

Characteristics	Frequency (f)	Percentage (%)
Work at night		
Not at all	66	47.8
Part time	38	27.5
Sometime	30	21.7
Full time	4	2.9

How often do you wake with morning headaches		
Never	54	39.1
Monthly	46	33.3
Weekly	30	21.7
Daily	8	5.8
Stop breathing during sleep		
Yes	50	36.2
No	88	63.8
If yes N=50		
Some night	47	94
Every night	3	6
Awoken with snort, chocking sensation, or short of breath	49	35.5
Yes	89	64.5
No		
If yes N=49	46	33.3
Some night	3	2.2
Every night		

Table 4 Prevalence of sleep disorder according to feel excessively sleep, Go to bed on weekdays, asleep time, wakeup time at night, daytime nap n=138

Characteristic	Frequency(f)	Percentage(%)
Feel excessively sleepy in daytime		
Yes	73	52.9
No	65	47.1
Go to bed on weekdays		
Before 8:00	49	35.5
8-10	33	38.4
10-12	53	23.9
12-2	3	2.2
How long it take you to fall asleep usually		
5minutes	51	37.0
10-30minutes	45	32.6
5-10minutes	36	26.1
More than 1 hours	6	4.3

How many times do you wake up during the night		
0	50	36.2
1-2	37	26.8
3-4	47	34.1
More than 4	4	2.9
If you take daytimes naps, how long are they		
5-10minutes	51	37.0
15-30minutes	35	25.4
More than 1 hours	49	35.5
More than 2 hours	3	2.2

Table 5 Prevalence of sleep disorder according to sleep quality, late coffee in evening, sleeping pill, wake up due to noise n=138

Characteristics	Frequency (f)	Percentage(%)
How do you evaluate your sleep quality		
Excellent	40	29.0
Satisfactory	45	32.6
Good	47	34.1
Poor	6	4.3
Do you drink late coffee in the evening		
Never or almost never	67	48.6
Once or twice a week	50	36.2
Less than once a week	19	13.8
3-5nights/days a week	2	1.4
Do you use sleeping pills		
Never or almost never	135	97.8
Once or twice a week	3	2.2
Do you wake up because of noise		
Never or almost Never	70	50.7
Once or twice a week	54	39.1
Less than once a week	12	8.7
3-5 nights days a week	2	1.4

Table 6 Prevalence of sleep disorder according to wake up nightmares, wake up because of talking during sleep, about snore

Characteristics	Frequency	Percentage

Do you wake up nightmares	59	42.8
Never or almost never	48	34.8
Once or twice a week	31	22.5
Less than once a week		
Do you wake up because of talking during sleep		
Never or almost never	72	52.2
Once or twice a week	47	34.1
Less than once a week	18	13.0
3-5 nights/days a week	1	0.7
Do you wake of walking during sleep		
Never or almost never	61	44.2
Once or twice a week	58	42.0
Less than once a week	17	12.3
3-5nights/days a week	2	1.4
Do you snore		
Yes	61	44.2
No	77	55.8

Table 7 Impact of sleeping disorder in academic performance n=138

Characteristics	Frequency (f)	Percentage(%)
How do you evaluate yourleisure activity		
Excellent	46	33.3
Good	69	50.0
Satisfactory	21	15.2
Unsatisfactory	2	1.4
Do you work while studying	57	41.3
Not at all	49	35.5
Part time	26	18.8
Sometimes	6	4.3
Unsatisfactory		
How do you evaluate your sleep quality before an exam	30	21.7
Excellent	48	34.8
Satisfactory	42	30.4
Good	18	13.0
Poor		
Do you feel excessive sleepiness during the lectures	78	56.5
Yes	60	43.5

No		
Do you feel excessive sleepiness in your free time		
Yes	78	56.5
No	60	43.5

Discussion

This study aimed to discover the proportion of sleep disorders among medical students and examine their association with academic performance through the use of a well-validated screening tool.

In the present study. About (39.9%) sleep for 4-6 hours and (28.3%,23.2% and 8.7%) sleep for >10hours, 7h-1h and <4h respectively. In the study conducted by Veldi M, Aluoja A, Vasar VThestudents were distributed almost equally in the three academic years. A daily sleeping hours of 4–6 h were reported by 48% of the participants and 7–10 h by 46.67% while a small numbers of students were sleeping less than 4 h (2.6%) or more than 10 h (2.6%) .

In the present study Majority of the respondent (97.8%) never used sleeping pills and(2.2%) used once a twice a week. Half of the respondent (50.7%) never woke up because of noise while(39.1%) and(8.7%) woke up once or twice a week and less than once a week because of noise respectively. In PSQI Article.pdf. According to the Spearman Rank Order Correlation, the nighttime workload of students was associated with the time of going to bed late at night (unusual time) (RZ0.100; P=0.05), drinking coffee late at night (RZ0153;
P=0.01), use of sleeping pills (RZ0.101;[3]

Conclusion

In conclusion, majority of the respondent scored <3.25 and majority of the respondent (40.6%) studied 4-6hours, . About (39.9%) sleep for 4-6 hours and almost all the respondents evaluated satisfactory sleep quality before an exam .

Limitation

It was tried best to avoid the bias and error during the study however there were some limitation that had been listed below.

- The study findings cannot be generalized due to small sample size.
- Sample was taken by focusing only one setting therefore, the findings of the study couldn't be generalized to other setting.
- The non-probability purposive sampling technique was used for this study which reduced the external validity.
- Respondents may not provide appropriate/actual answer that the study needed.

Recommendation

On the basis of findings of the study, following recommendations are made:

- A study can be done in larger group of samples for generalization of findings.
- Further similar research with large sample size is recommended to increase external validity.
- Awareness campaign can be done to aware community people about sleep disorder.
- Designing and implementing health educational programs towards sleep disorder.

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