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Effectiveness of Psycho Educational Nursing Intervention on Sleep Quality, Academic Pressure and Performance Among College Psychiatric Nursing Students

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Abstract
Sleep is necessary for the optimal operation of key cognitive functions related to academic and perhaps social, success in higher education. Aim: Aim of this study was to assess the effect of psycho educational nursing intervention on sleep quality, academic pressure and performance among college psychiatric nursing students' Design: A quasi experimental design one group pre\posttest was used in this study. Setting: faculty of nursing Menoufia University. Subject: A convenience sample of 50 fourth year psychiatric nursing students during academic year 2014-2015.Tools: Three tools were used Tool (1) to assess socio demographic data and knowledge about sleep disorders, Tool (2) academic pressure scale to assess student's academic pressure, Tool –(3) sleep disorder scale to assess sleep disorder among the students. Result: There is highly significant improvement of the student's level of knowledge post program than before program where good knowledge increased from 16% to 86% post program, there was highly statistical significant reduction of the mean score of academic pressure from 50.1± to 33.4±3.69 at 0.001 post program than preprogram, there was highly statistical significant improvement on the level of academic achievement from 34% to 48% regarding very good and 10% to 52% regarding excellent post program than before interevntion at 0.001. Conclusion: There were highly statistical significant relation between sleep disorder, academic achievement and total academic pressure at0.001 pre interevntion and at 0.008 post interevntion. Negative significant correlation between academic achievement and sleep disorder. The program had great effect on reduction of academic pressure, improving sleep quality and academic achievement Recommendations: Further studies using larger sample for generalization of the result. Adoption of sleep hygiene education by psychiatric nursing staff to enhance students' sleep quality and academic performance.

1. Introduction

Many findings in recent years point toward the importance of Sleep for memory

consolidation. Sleep is critical for memory consolidation, learning, decision making, and critical thinking. Sleep seems to stabilize as well as enhance a wide variety of memory contents [1] Sleep is necessary for the optimal operation of key cognitive functions related to academic and perhaps social, success in higher education. Many studies strongly suggest that timing of sleep as well as its quality and quantity are linked with students' learning abilities and academic achievement and that students are often chronically sleep deprived [2]. Both sleep deprivation (inadequate quantity of sleep) and poor sleep quality (non restorative sleep) are endemic in American society and widely recognized as a significant public health issue [3].

Not only is the consolidation of memories, also the encoding itself negatively influenced by sleep deprivation [4]. Furthermore, sleep inspires insight into hidden rules and facilitates generalization of knowledge [5]. All these cognitive competences are of great importance during higher education, often considered the most demanding and challenging learning period in many people's life. Especially medical students are expected to retain a large amount of complex factual knowledge in a comparably short time period [5]. Despite uncertainties of the relative relationships between depression, sleep, and academic pressure and performance, the fact remains that sleep problems are affecting more students. The incidence of sleep deprivation in a college student population is likely as high as or higher than the incidence of depression [4].

So sleep hygiene education should be used by, nurses as an initial approach to addressing insomnia and other sleep difficulties and can be generally described as the promotion of behaviors that are intended to increase the quantity and quality of sleep that an individual obtains each night. Stimulus control has been identified as one of the more effective treatments available for addressing insomnia. The intervention is predicated on learning theory and seeks to re-establish positive cognitions and break counterproductive associations' regarding the bed, bedtime routine, and sleep. Through repeated episodes of insomnia, sleep-related stimuli are thought to become paired with the negative cognitions generated by being unable to fall asleep. The mind and body gradually become trained to associate the bed, sleep, and sleep-related stimuli with frustration, anger, and wakefulness. Stimulus control, in turn, is designed to reduce the amount of time that sleep-related stimuli and negative cognitions are paired for, serving to break counterproductive associations between bed and sleep. This is typically accomplished through adherence to several rules concerning sleep behavior [6].

Sleep hygiene education traditionally consisted of a list of recommendations as avoid oversleeping, establish a regular wake time, exercise daily, reduce potentially disruptive noise, regulate the room temperature, have a light snack before bed to regulate hunger, avoid chronic use of hypnotics, avoid caffeine in the evening, avoid alcohol prior to sleep, and do not fight inability to sleep, rather, turn on light and do something else [6]. The patient should be advised to: keep a fixed wake time every day, regardless of the night's sleep, avoid napping, use the bed/bedroom only (or almost exclusively) for sleep and intimacy, lie down to go to sleep only when sleepy, and leave the bed if unable to sleep after approximately 15–20 minutes of wakefulness. These rules all serve to curtail the amount of total wake time the patient spends in bed. Stimulus control therapy has been repeatedly found to be efficacious in the treatment of insomnia among both medicated and non-medicated patients [6].

2. Significance of the Study

Recent study by [7] reported that 15% of college students are unsatisfied with their quality of sleep. While [8] founded that only 11% of the students surveyed met the criteria for good sleep quality. Research conducted by the National Commission on Sleep Disorders estimated that 40 million Americans suffer from excessive sleepiness [9]. Also [10] stated that "at least two thirds of college students report occasional sleep disturbances, and about one third of those report regular, severe sleep difficulties resulting in daytime sleepiness and an increase of academic, physical and psychological health problems [11, 12].

Many factors may contribute to the disturbances of sleep habits in college students. Late-night studying, all-nighters, parties, social obligations, work, academic pressure of exams and curriculum and alcohol and/or drug abuse all likely play a role, [13] So the aim of the study is to design and implement psych educational program and evaluate its effect on sleep quality and academic achievement.

3. Operational Definition

Psych educational program operationally defined by the nursing intervention that was given by the researcher to the students on sessions to enable them to cope with academic pressure, achieve better quality of sleep and gain higher academic performance.

Sleep quality operationally defined by the score obtained by the sleep disorder scale developed by [14]

Academic pressure operationally defined by the score obtained by the academic pressure scale developed by [15]

3.1. The Aim of the Study

The aim of the current study was to:

Evaluating the effect of psycho educational nursing interevntion on sleep quality and academic performance among college nursing students

3.2. Research Hypothesis

Quality of sleep and academic performance will be improved among fourth year college nursing students after interevntion implementation than before intervention.

3.3. Research Design

A quasi-experimental design (one group pretest posttest design) was used to achieve the aim of the study.

3.4. Research Setting

The study was conducted at faculty of nursing, Menoufia University.

3.5. Subjects

A convenience sample of 50 psychiatric nursing students enrolled in academic year 2014 – 2015.

3.5.1. Inclusion Criteria

- Fourth year nursing students.
- At psychiatric nursing department.
- All ages
- Ready and accepted to participate in the study

3.5.2. Exclusion Criteria

- Have a history of chronic physical illness
- Have a history of post-traumatic stress disorder.
- Have a history of substance abuse.
- Have a history of Psychiatric disorder.

3.6. Instruments of the Study

Three tools were used in this study:

Tool (1): Semi-structured interviewing questionnaire:

This questionnaire was developed by the researcher after extended review of literature and revised by five expertise in the field of psychiatric nursing and community department to test its content validity

This questionnaire divided into two parts

Part one:- Include socio-demographic characteristics of the student: It involved data about age, social status, family size, number of rooms, types of residence, etc.

Part two: - Include questions related to student knowledge about phases of sleep; types of sleep disorder, causes of sleep disorder, warning signs, way of management.

The total score of knowledge was graded as follow, less than 50% was graded as poor, 50% and more score was graded as moderate and 75% and above score was graded as high or good.

Tool (2) Academic pressure scale (Arabic version):-

This scale was developed and validated by [15] It consists of five domains. The researcher used two domain (Curricula and exams domains) each domain consisted of 12 items in the form of three points likert scale ranging from 1-3 where (1= always, 2= sometimes, 3= never)

T the score of each domain

0-6 absence

7-18 mild

19-30 moderate

31-36 high

Total score of the two domain

0-12 absence

13-36 mild

36-60 moderate

61-72 high

Tool (3):- Sleep disorders scale (Arabic version)

This scale was developed and validated by [14] to measure sleep disorder. It consisted of 39 items in the form of four point Likert scale ranging from (1 never to, 4 always). Score sustained as follow (0-20) absent, (21-59) mild, (60-98) moderate, (96- 156 sever).

3.6.1. Reliability of the Tools

Reliability was applied by the researcher for testing internal consistency of the tool by administration of the same tools to the same subjects under similar conditions. Answers from repeated testing were compared (test- retest reliability) the tools revealed reliable at 0.81 for tool (2) and at 0.85 for tool (3)

3.6.2. Validity of the Tools

All the tools were tested for its content validity by (5) experts in the field of psychiatric nursing and community nursing to ascertain relevance and completeness. The tools proved to be valid

3.7. Procedure

An administrative approval: was obtained from dean of the faculty of nursing, Menoufia University after explaining the purpose of the study. The questionnaire used in this study was administered by the researcher.

Ethical consideration: the students were informed about the purpose of the study and encouraged and give full informed verbal consent to participate, students were informed about the privacy of their information, the study was voluntary, harmless, and anonymous and confidentiality of responses would be respected and they have the full right to refuse to participate in the study at any time and they informed that the data would be used only for scientific purpose.. A Pilot study was carried out on 5 students to test the clarity, feasibility, consistency of the study tool, and time needed for data collection. No modifications were needed as revealed from the pilot study. The sample of pilot study was excluded from the total sample to assure the stability of the results. Data collection The study was carried out in the period from January 2014 to April 2015 over a period of two months. The researcher divided the students into four groups, each group consisted from 12-13 students. The researcher collected the data during the morning 2 days per week from 12 AM to 2 PM .The implementation of the study passed into three phases (pre assessment phase, implementation phase, and post assessment phase).

3.7.1. Pre Assessment Phase

A comfortable, private place was chosen for the interviewers. Orientation was done about the purpose of the study and content of the study. Each student was individually interviewed where pre assessment was done using structured interviewing questionnaire, sleep disorder scale, academic pressure scale and academic achievements score.

3.7.2. Implementation Phase

This study hypothesized that psych educational nursing intervention program will improve quality of sleep and academic performance than before program. This program has a general objective and divided into 7 sessions. Each session lasted for one hour and has a set of specific objective. This was achieved through several teaching methods as brain storming, lecture, group discussion; role playing, data show, picture, posters and booklet were used as media. At the end of each session summary, feedback, further clarification was done for vague items and homework activity for the following session.

The content of the intervention program sessions was as follows:

1) Developing a trusting relationship with the students and encouraging them to discuss their opinion, expectations, specific needs and problems.

2) information about sleep such as its definition, phases, types of sleep disorders, causes of sleep disorders, and warning signs of sleep disorder

3) Balanced diet and its effect on their cognition and sleep

4) methods of management of sleep disorders

5) How to study and correct negative cognition and developing good recall of information & self-esteem.

6) Relaxation techniques used by students and importance of emotional expression to deal with stress.

7) Summary for all previous sessions and posttest evaluation

General objective of the program.

The study aimed at evaluating the effect of psycho educational nursing program on sleep quality, academic pressure and academic performance among college psychiatric nursing students

3.7.3. Post Assessment Phase

Evaluation was done using interviewing questionnaire, academic pressure scale, sleep disorder scale and students' academic achievement sheet to evaluate the effectiveness of the program.

3.8. Statistical Analysis

Data was coded and transformed into specially designed form to be suitable for computer entry process. Data was entered and analyzed by using SPSS version 16. Graphics were done using Excel program .Quantitative data were presented by mean (X) and standard deviation (SD). Friedman test p was performed to differentiate changes in different follow up results of different studied variables. Qualitative data were presented in the form of frequency distribution tables as number and percentage. It was analyzed by chi-square ($\chi 2$) test. Level of significance was set as P value < 0.05 for all statistical tests.

4. Results

Table 1: shows distribution of Socio-demographic characteristics of the studied students: This table reveals that more than half (60%) are not engaged, and (62%) have family size 4-6 member.

Table 2: shows distribution of healthy and unhealthy habits among studied group pre and post nursing intervention program: This table reveals that there is highly statistical significant 'improvement in healthy and unhealthy habits of studied group at 0.001 post program than preprogram while there is no statistical significant difference in taking medications pre and post program.

Table 1. *Socio-Demographic Characteristics of the Studied Sample.*

Socio-demographic	Participants (N=50) %	
Age / years:		
21 - 23	47	94
More than 23	3	6
Marital state:		
Married	1	2
Engaged	19	38
Not engaged	30	60
Family size:		
Less than4	1	2
4 - 6	31	62
More than6	18	36
Number of rooms:		
Less than2	2	4
2 – 3	18	36
More than3	30	60
Residence:		
Rural	45	90
Urban	5	10
Family problems:		
Yes	1	2
Sometimes	30	60
No	19	38

Table 2. *Healthy and unhealthy habits among studied group pre and post nursing intervention program (n=50).*

Healthy habits	Pre		Post		$\div^2$	P value
	No.	%	No.	%		
Average sleeping hours:						
Less than6	27	54	5	10	22.7	0.001
6 – 8	21	42	43	86		
More than8	2	4	2	4		
Hours watching TV:						
1 – 3	23	46	39	78		
4 – 6	20	40	10	20	12.1	0.001
7 – 9	5	10	1	2		
More than9	2	4	0	0		
Drinks contain caffeine:						
Yes	23	46	2	4	12.6	0.001
Sometimes	18	36	33	66		
No	9	18	15	30		
Sleep medication:						
Yes	2	4	0	0	2.04	0.15
No	48	96	50	100		
Sleep in constant hour :						
Yes	10	20	39	78	33.6	0.001
No	40	80	11	22		
Sun exposure:						
Yes	32	64	47	94	13.6	0.001
No	18	36	3	6		
Exercise:						
Yes	13	26	40	80	29.3	0.001
No	37	74	10	20		
Fatty diet:						
Yes	22	44	1	2	24.9	0.001
No	28	56	49	98		

Table 3: Shows mean score of academic pressure of studied group pre and post nursing intervention program: This table reveals that there is highly statistical significant reduction of the mean score of academic pressure from 50.1±3.76 to 33.4±3.69 at 0.001 post program than pre interevntion.

Table 4: Shows Relationship between sleep disorder, academic achievement and total academic pressure pre and post nursing intervention. This table reveals that there is highly statistical significant relation between sleep disorder, academic achievement and total academic pressure pre and post interevntion at0.001 and 0.008.

Table 3. *Mean score of academic pressure of studied group pre and post nursing intervention.*

Academic pressure	Pre	Post	Paired t-test	P value
	$\bar{X}$ ±SD	$\bar{X}$ ±SD		
Curriculum pressure domain	23.9±3.29	16.6±2.63	20.9	0.001
Exam pressure domain	26.1±3.38	17±2.98	23.9	0.001
Total academic pressure	50.1±3.76	33.4±3.69	27.9	0.001

Table 4. *Relation between sleep disorder, academic achievement and total academic pressure pre and post nursing intervention.*

	Sleep disorder (Pre)						÷2 p value	Sleep disorder (post)				÷² P value
	Mild (n=6)		Moderate (n=43)		Sever (n=1)			Mild (n=21)		Moderate (n=29)		
	No.	%	No.	%	No	%		No	%	No	%	
Achievement:												
Good	0	0	27	62.8	1	100	10.2	0	0	0	0	21.4
Very good	4	66.7	13	30.2	0	0	0.03	2	9.5	22	75.9	0.001
Excellent	2	33.3	3	7	0	0		19	90.5	7	24.1	
Total academic pressure:												
Mild	0	0	0	0	0	0	-	12	57.1	26	89.7	7.1
Moderate	6	100	43	100	1	100		9	42.9	3	10.3	0.008

Table 5: Shows the Correlation between sleep disorder and both academic pressure, knowledge and academic achievement. This table reveals that there is insignificant negative correlation between sleep disorders and both academic pressure and knowledge while negative significant correlation between academic achievement and sleep disorder. Negative correlation mean when academic pressure, knowledge and academic achievement increase sleep disorder decrease.

Fig 1: Shows levels of knowledge of the studied group about causes of sleep disorder pre\ post nursing intervention program. This figure shows that there is highly significant improvement of the student's level of knowledge post interevntion than before program where good knowledge increased from 16% to 86% post program.

Table 5. *Correlation between sleep disorder, academic pressure, knowledge and academic achievement.*

Items	Sleep disorder	
	R	P value
Academic pressure	-0.186	0.197
Knowledge about causes and management of sleep disorder	-0.273	0.055
Academic achievement	-0.609	0.001

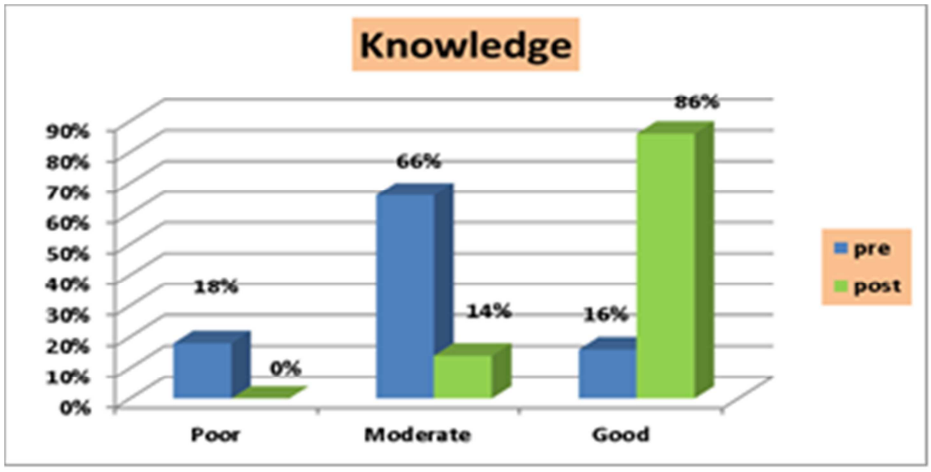

Figure 1. *Levels of knowledge of the studied group about causes of sleep disorder pre\ post nursing intervention.*

Fig 2: Shows levels of sleep disorder among the studied sample pre\post nursing intervention program. This figure reveals that there is highly statistical significant reduction on the level of sleep disturbance from 86% to 58% post program regarding moderate disturbance and from 2% to 0% regarding sever disorder at .001

Fig 3: Show levels of academic achievement of the studied sample pre\ post nursing intervention program. This figure reveals that there is highly statistical significant improvement on the level of academic achievement from 34% to 48%

regarding very good and 10% to 52% regarding excellent post program than before intervention at 0.001.

Fig 4: Shows levels of academic pressure of the studied sample pre\ post nursing intervention program. This figure reveals that there is highly statistical significant reduction on feeling of academic pressure from 100% moderate academic pressure to 24% post interevntion than before program at 0.001.

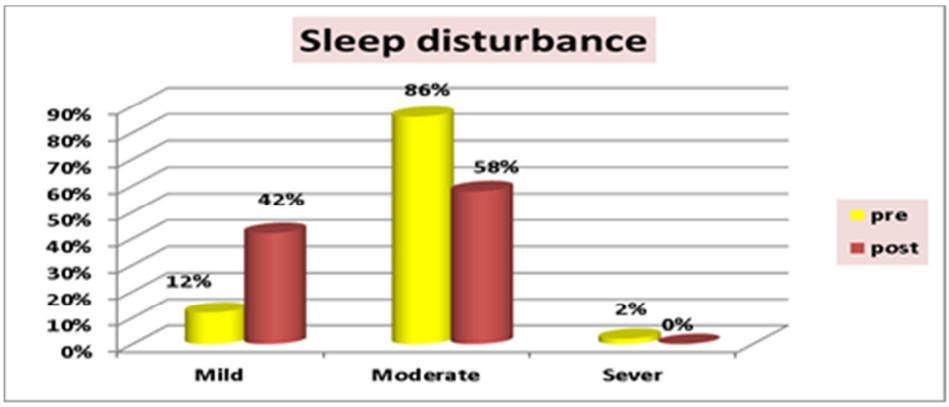

Figure 2. *Shows levels of sleep disorder among the studied group pre\post nursing intervention.*

Figure 3. *Levels of academic achievement of the studied group pre\ post nursing intervention.*

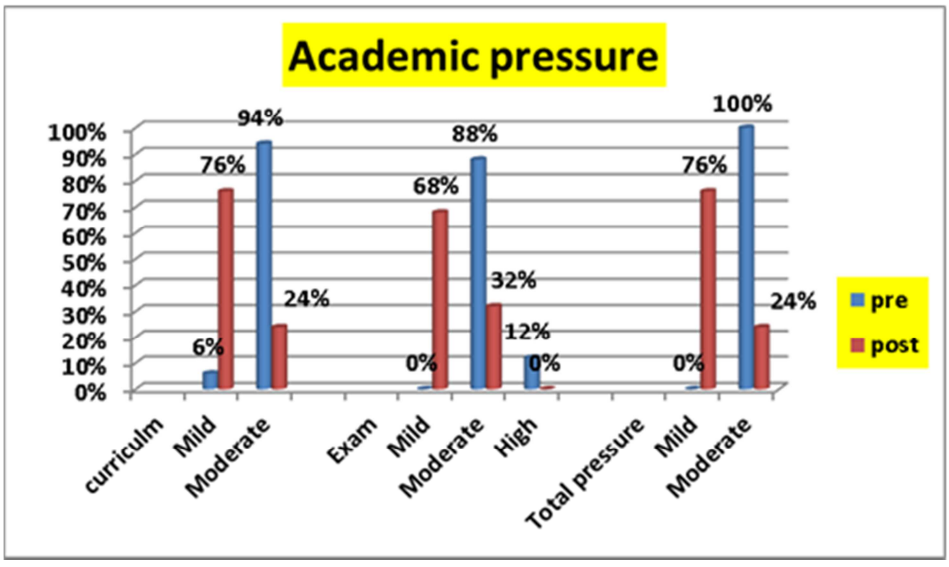

Figure 4. *Comparison between levels of academic pressure of the studied group pre\ post nursing intervention program.*

5. Discussion

Sleep is an important component of normal human physiology. It serves a restorative homeostatic function and appears to be crucial for normal thermoregulation and energy conservation. [16]. Nursing is one of the most stressful fields of education because of its highly demanding professional and academic requirements. Extensive nursing curricula, frequent examinations, fear of failure in dealing with psychiatric patient and fear of failure in final exam are sources of constant stress and anxiety for psychiatric nursing students who may cut short their leisure activities and hours of sleep in order to achieve their desired goals. So Sleep is clearly an important aspect of successful academic and personal life in college, yet very little attention has been given to finding an appropriate sleeping pattern. [17]

Our study showed that more than three quarters of the studied group were at age group (21-23) years. This result was congruent with [18] who found that the mean age of sleep disorders among respondents were 19.10 years. Also [19] who found that the mean age of sleep disorders among respondents were 21.1 years.

The results of the present study illustrated that more than half of the studied sample had family size (4-6) and sometimes had family problems. This result was congruent with [20] who stated that routine bed sharing in Chinese school aged children was very prevalent, with 56%, sleep disturbances were found to be significantly associated with increased likelihood for bed sharing, poor physical health, poor parental relationships, and crowded housing.

Our results illustrated that there were highly statistical significant ‘improvement in healthy habits of studied group at 0.001 post program than preprogram. This is may be due to the desire of the students to change their habits and their awareness about its relation with sleep disorders which motivate them for change where more than half of the studied group got less than six hours of sleep pre intervention while more than three quarters got (6-8) hours of sleep post intervention, this could be due to the effectiveness of the program application. this result was congruent with [21] who found on his studied sample that more than quarter respondents got less than 5 h of sleep per day, and more than three quarter reported nighttime disturbances, more than one third reported poor sleep latency, near to half daytime dysfunction, more than one third poor sleep quality and tenth poor sleep efficiency, Over the course of academic program, students in the intervention group improved significantly in their sleep and got more than 6 hours of sleep.

Regarding exercise, the present study revealed that there were a relationship between exercise and sleep disorders. This result is consistent with [22]. Who suggested that exercise may be associated with better sleep quality, and with [23] who found that physical inactivity has consistently arisen as a factor that increases one’s likelihood for reporting symptoms of insomnia or poor sleep, even after controlling for other factors believed to affect insomnia risk. [23] Added that it has recently been reported that maximal aerobic capacity was lower in those diagnosed with insomnia compared to those without insomnia, independent of other factors like age and sex. This could be due to relief of tension as a result of exercise’s which might enhance sleep quality.

The result of this study revealed that, there was a statistically significant improvement in performing exercises Post intervention three quarter of students than pre intervention one quarter of students. This result was consistent with [24] who reported that after an acute bout of moderate-intensity aerobic exercise approximately 3 hours before bedtime has been shown to reduce sleep onset latency, total wake time, and pre-sleep anxiety, while increasing total sleep time and sleep efficiency in those diagnosed with insomnia.

In general this result was congruent with [25] who found that Participants were 104 students from three co-educational high schools. Approximately half of these students attended sleep education classes, held once per week for four weeks, and the remaining students attended classes-as-usual. The lessons were tailored to improve healthy habits (e.g., sleep hygiene education, relaxation strategies, and recommendations to reduce weekend sleeping, decrease caffeine drinks, increase exercises and increase morning bright light exposure). Baseline prevalence of sleep problems was again high, with more than one third of the sample reporting difficulty initiating sleep, more than one half reporting insufficient sleep on school nights, and more than three quarter reporting a clinically significant discrepancy between their weekend and weekday out of bed times. Within the intervention group, students' motivation to get up about the same time every day also improved during the program, and there was a trend towards improved motivation to increase average total sleep time. In addition, students reported attempting to make changes to their sleep behavior during the program. This clarifies the needs of the students to knowledge, guidance encouragement and support during study to achieve higher performance.

The present study revealed that there was highly significant improvement of the student’s level of knowledge post program than before program where good knowledge increased from near to one quarter to more than three quarter post program. This was congruent with [26] who illustrated that over half of the participants gave incorrect answers to items related to taking a nap during daytime and the use of sleep medications. They also erroneously believed that performing active exercise or engaging in emotionally upsetting activities close to bedtime did not disrupt sleep. More than half of the students did not think that using the bed for purposes other than sleep induced a negative impact on sleep behavior. Knowledge on caffeine was generally satisfactory, with an average of near three quarter giving correct answers. Many respondents were aware that beverages such as Chinese or western tea, cola soft drinks, and coffee contain caffeine. However, over half of the respondents did not know that chocolate milk, honey green tea,

lemon, tea, also contain considerable amounts of caffeine. A relation to comparison between students' knowledge and their sleep disorders Post intervention, the result of this study revealed that, that there was insignificant negative correlation between knowledge and sleep disorders this means that when knowledge increase, sleep disorder decrease. That in because lack of knowledge has an effect on practice, especially about the consequences of sleep deprivation

This finding was supported by [27] who found that after a two-credit, 18-week course included group discussion, lectures, and self-evaluation. Topics included circadian rhythms, sleep hygiene, muscle relaxation, and public sleep education. Participants had improved sleep quality over the semester and women reported decreased nap time and also with [28] who offered four supplementary sleep-learning modules, as extra credit, improved sleep knowledge and encouraged some sleep-related behavior changes, as more than half of his studied sample reported a change in their sleep hygiene as compared to less than half of control students ($P<0.01$). This result was inconsistent with [29] who conducted a study evaluating sleep hygiene awareness and sleep hygiene practice and found only a weak association between knowledge and practice.

Our results revealed that there were highly statistical significant relation between sleep disorder, academic achievement and total academic pressure pre and post program. This result was congruent with [30] who stated that, an interesting finding in his study was that more than three quarter of the medical students in his studied sample reported poor sleep quality, which was significantly associated with academic stressors and achievement. Also [31] who clarified that his study demonstrates a clear association between sleep/wake habits and academic performance among medical students. Certain sleep habits were associated with lower academic performance. A late bedtime on weekdays and weekends was associated with lower academic performance. Also [16] who found that his studies on students claimed that poor sleep quality was associated with significant psychological distress, depression, confusion, and generally academic achievement. Problems associated with poor sleep could result in excessive daytime sleepiness, which was severe enough to interfere with daily activities, especially those that involve recall, logic, and learning. This could be due to the level of sleep hygiene knowledge among university students was relatively inadequate. Our study supported the use of sleep hygiene strategies as an intervention to improve university students' sleep practices and academic achievement.

Our result was incongruent with the study that was conducted by [32] to evaluate the effects of sleeping patterns on the academic performance of medical students at King Edward Medical University and found that his, results do not confirm the hypothesis that any particular pattern effects academic performance of medical students. There is no significance among sleeping pattern and academic performance, therefore he cannot predict with confidence that student's grades would be improved by adapting a particular sleeping pattern, although the possibility is not excluded

The results of the present study revealed that there was negative significant correlation between academic achievement and sleep disorder, Negative correlation mean when knowledge and academic achievement increase sleep disorder decrease. This is could be due to too much stress can interfere student's preparation, concentration, and performance and sleep loss lead to learning and memory impairment, as well as decreased attention and vigilance. It might be that it is poor sleep quality that actually affects performance mediated by the negative effect of stress on sleep. Alternatively, poor sleep quality might increase stress resulting from sleep deprivation and stress in turn might affect performance. Also, stress and sleep might independently influence academic Performance. This result agree with [33] who found that Medical students were subjected to high levels of stress during their academic year (extra- curricular activities) that could lead to psychological problems resulting in sleep disturbances. They had seminars, presentations, weekly and monthly assessment tests and other extracurricular activities, which they have to complete in a limited period of time. These activities increase the incidence that their actual bedtime will be pushed back and finally affect their Academic achievements. Also [34] found that Students with sleep disorders probably do not achieve optimal academic performance, and up to 27% of students might be at risk for at least one sleep disorder.

Our study revealed that there were highly statistical significant improvement of sleep disturbance post program than preprogram. This could be due to improved knowledge, psychological support and stress relaxation intervention. This result agree with [29] who stated that Non-pharmacological treatments for sleep deprivation were successful in more than three quarter of his studied sample of patients. Non-pharmacologic treatments include sleep hygiene, relaxation therapy, stimulus control therapy, sleep restriction therapy, and cognitive behavioral therapy. These treatments were helpful alone, in combination and when they were used with pharmacologic interventions. This result disagree with [34] who found in his study that a sleep intervention presentation does not have a significant effect on the sleep quality of college students. This might be due to difference in study sample or the technique of intervention.

Our study revealed that there was a highly statistical significant reduction on feeling of academic pressure post program than before program at 0.001. This could be due to the effect of guidance about support and relaxation intervention .This result was congruent with [35] who stated that, the new teaching methods implemented at medical schools make the learning environment more student-friendly and enjoyable. A study that compared perceptions towards PBL experiences reported that medical students found these approaches to be better at enhancing team work, interpersonal relationships, motivation and personal enjoyment, and at favoring positive attitudes towards information-gathering, reasoning and independent thinking, Students in a PBL curriculum reported better quality of life, perhaps because of the spare time available for self-study and the greater freedom

and autonomy to manage their time. Also [36] provided overwhelming evidence of improvement in the psychological well-being of medical students who underwent stress reduction programs such as mindfulness-based stress reduction, hypnosis, desensitization, progressive muscle relaxation, social support and group therapy. Such programs also improve participants' spirituality, empathy, positive coping skills and conflict resolution skills. Studies should be done to determine the feasibility of campus-based psychological support, stress reduction and relaxation-based interventions such as mindfulness training at medical schools.

6. Conclusion

There were highly statistical significant difference between sleep disorder, academic achievement and total academic pressure post program than preprogram. Psycho educational nursing intervention program reduce academic pressure, improve students' quality of sleep and academic achievement.

Recommendations

Sleep hygiene education program should be given to all students to improve their sleep quality and academic achievement. Further research is needed to not only determine how to best educate students about the importance of sleep and the consequences of sleep deprivation, but also how to translate this knowledge into practice and developing positive coping skill.

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