

Sleep Deprivation of Clinical Instructors and Their Students in Graveyard Shift

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Abstract. *This study determined the level of sleep deprivation of Clinical Instructors and its effects on the performance of the nursing students in their Related Learning Experiences during their affiliation in the intersession of SY 2023-2024. It was a descriptive correlation study where data were obtained through a questionnaire from 12 Clinical Instructors and 114 nursing students who were on their affiliation period. Data collected were statistically treated through the percentage technique, weighted mean, Pearson Product-Moment Coefficient of Correlation and Coefficient of Determination. It was concluded that causes of sleep deprivation among the Clinical Instructors and students generally were sometimes encountered. It was on academic factors that was often encountered and rarely on social and environment factors. Academic performance of the students in their affiliation was very good. There was significant correlation on the level of sleep deprivation between Clinical Instructors and students with academic and social and environment factors. However, no significant correlation between causes of sleep deprivation and performance of the students in their Related Learning Experiences. The effect of sleep deprivation on the performance of the students in their Related Learning Experiences during their affiliation was very weak. The innovative plan to address deprivation of both Clinical Instructors and students was focused on time management, stress management and food habits.*

Keywords: *Clinical Instructors, Nursing Affiliation, Nursing Students, Sleep Deprivation*

I. INTRODUCTION

The world today has become very complex that made men very busy all the time. This is the consequence of population growth, urbanization and development in technology. Though advancement in science and technology have been introduced in the workplace, yet human resources are still needed. Hand in hand with this is the demand of economy. Hence, families try their best to have their children finish a college degree. One of the courses that is most favored among college-bound Filipino students is the Bachelor of Science in Nursing, one of the courses in

healthcare. The nurses as a healthcare professional are responsible in looking into the health of the sick and the well across ages. As stipulated in CMO No. 15, s. 2017, the BSN program aims to:

... “develop a professional nurse who is able to assume entry level positions in health facilities or community settings. The professional nurse is capable of providing safe, humane, quality and holistic care to individuals in varying age, gender and health-illness status; healthy or at risk families; population groups; and community; singly or in collaboration with other health care providers to promote health, prevent illness, restore health, alleviate suffering and provide end of life care”.

Additionally, the same CMO provides the BSN Level Outcomes that:

“At the end of the fourth year, given groups of clients (individuals, families, population groups, and communities) with health problems and special needs, the learners demonstrate safe, appropriate and holistic care utilizing the nursing process and can assume first level entry positions in any field of nursing”.

Thus, in order for the nursing student to acquire skills and be developed according to the provisions and goals of the BSM curriculum, she has to undergo and comply with all requirements in theoretical components and Related Learning Experiences in the community and in the clinical setting. This implies that the student has to engage herself of extra hours to comply with requirements. The BSN program as per above-stated CMO requires the student to complete 53 RLE units equivalent to 2,703 hours.

Since there are also several examinations required in NCM subjects like examination every after a

completion of a certain concept within one subject, comprehensive examinations and return demonstrations in the Skills Lab, all these means utilization and maximization of hours to study. This may cause sleep deprivation or lack of sleep in the student.

Sleep deprivation is a common challenge among professions working in round the clock by shifts. Among them are nurses. Those who are connected in the academe are not spared. Aside from their classroom assignments, they are also given follow-up duties in the hospital and community. Their hospital duties as clinical instructors are not static, they are assigned in their respective areas of specialties in different time schedules, sometimes morning, afternoon or night shift also known as graveyard shift. Lack of sleep is one of the causes of fatigue and can reduce the stamina of the nurse and even the student. According to Maslow's hierarchy of needs, sleep is one of the basic requirements for human beings, so sleeping has an essential role in a man's life. In case of deprivation of sleep, many diseases and stress break out in the human body and mind. That is why, for a healthy body and mind, every person should sleep at least 8 hours a day.

Johnson et al. (2014) reported that more than half or 56% of the 289 staff nurses sampled who worked on night shifts were deprived of sleep. As a consequence, they committed more patient care errors. Though the main purpose of their study was to evaluate the relationships between sleep deprivation with occupational stress and patient care errors, testing the associations with occupational errors was not feasible due to the low number of occupational errors reported. Moreover, Asprec (2023) disclosed in her literature review that there is a relationship between sleep deprivation and impaired psychomotor skills, memory, and increased occurrence of medical errors.

Other studies have investigated the prevalence and causes of sleep deprivation among students in different disciplines and settings. For example, a study by Gallego-Gómez et al. (2021) found that 30.4% or almost one third of nursing students had bad sleep habits which were associated with poor academic performance. The bad sleep habits of the students were characterized by an evening chronotype and short sleep pattern. They revealed further that a short sleep pattern, bad sleep habits and

age <25 years were independently associated with a higher risk of poor academic performance.

In another study, Belingheri et al (2022) made a cross-sectional study on the sleep disorders and night shift work in nursing students. They revealed that a high level of stress was associated with sleep disorders symptoms and with poor sleep quality. Daytime symptoms were associated with smoking. They found out also that students who reported drinking coffee late in the evening reported fewer nighttime symptoms. Moreover, their study showed that unsatisfying academic performance was associated with daytime symptoms and poor sleep quality. Thus, they concluded that although night shifts seemed not to affect sleep quality among nursing students, sleep disorders represent a critical issue since sleep disorder symptoms may result in errors, accidents or low academic performance.

Meanwhile, the study of Carvahilo et al. (2021) assessed the daytime sleepiness and sleep quality of health professionals using the Epworth Sleepiness Scale and the Pittsburgh Sleep Quality Index. A total of 244 health professionals participated in this study where women, comprised 78.28%. The rates of abnormal daytime sleepiness and poor sleep quality were 50.41% and 55.74%, respectively. Reduced physical activity was associated with poor sleep quality. Age between 20 and 29 years and 30 and 49 years as well as excessive alcohol consumption were risk factors for daytime sleepiness. Conversely, adequate bodyweight was considered a protective factor.

Methods: In this cross-sectional study, 102 medical students from different fields, with maximum variation sampling, completed Pittsburgh Sleep Quality Index (PSQI). For data analysis, SPSS 19 was used through which Pearson correlation test, Spearman test, and t-test were employed.

Results: Based on the quality of sleep questionnaire scores, the results indicated no significant difference between students with high grades and those with low grades.

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The study of Elkins (2021) was focused on the impact of the night shift on the well-being of nurses and ways to mitigate them. She revealed that night shift affected the nurses in a negative sense. There were large percentages of nurses who reported to lack sleep, negative changes in their diet during the days when they work on night shift, lack of exercise, unexplained weight loss or weight gain since starting the night shift.

Zhang et al. (2023) looked into the relationship between night shift and sleep problems, risk of metabolic abnormalities of nurses. They found out that in the 23-months follow-up, higher night shift load was associated with more sleep problems such as shortened sleep duration, sleep disorders, poor sleep quality and sleep deprivation. They also found out that night shift load was associated with chronic disease factors, increasing BMI and body fat.

It was explained in the study of Guadiana and Okashuma (2020) that the body requires adequate sleep in order to maintain proper physiological health, psychological health, and cognitive function. Adequate and sufficient sleep is necessary to be assured of efficient and effective patient care. Sleep

deprivation can result in greater procedural errors, which places the patients at risk. It is because insufficient sleep negatively affects the function of the brain. Since decrease brain function is associated with sleep deprivation, academic performance is also decrease. For students, poor sleep quality, insomnia, and daytime sleepiness are reportedly prevalent in college students.

Relative to this theory is the SDG No. 3 articulating to “Ensure healthy lives and promote well-being for all at all ages”. This has become the focus of the study. Healthcare providers must be physically, cognitively and psychologically efficient so that they could discharge their duties and functions effectively. They provide health care service across all ages. They do not only attend to the needs of the sick but also to those who are well. As nursing students are trained to be efficient and effective healthcare providers, thus, they should be able prevent themselves from experiencing sleep deprivation.

With the above conditions, it is interesting to determine the effects of sleep deprivation on the performance of clinical instructors and nursing students of Naga College Foundation in the City of Naga, Philippines in their nursing affiliation during the intercession of SY 2023-2024. Hence, this study was conceived and considered the following concerns to be answered: 1) causes of sleep deprivation of clinical instructors and nursing students assigned in graveyard shift in terms of personal, academic, health, social and environment; 2) level of work performance; 3) significant correlation between causes of sleep deprivation and level of work performance; 4) effect of sleep deprivation on the work performance of the nursing students; and innovative plans to address sleep deprivation of the clinical instructors and nursing students during their period of affiliation.

II. METHODOLOGY

The descriptive-correlational method was used. Information were gathered from all the 12 Clinical Instructors and 114 Nursing students through researcher-made questionnaire tried out among Clinical Instructors in the Midwifery course and Fourth Year BSN students after it validation. Data collected were treated statistically through weighted mean, Pearson Product-Moment Coefficient of Correlation and coefficient of determination.

Affiliation was in selected hospitals in Metro-Manila, Laguna and Camarines Norte in Luzon area, Philippines. Level of sleep deprivation was focused on causes of sleep deprivation. Level of work performance was limited on assessing the patients, making plan of care, medication administration and evaluation. The level of sleep deprivation and level of work performance were correlated so that the effect of the former to the latter was determined. From this result, an innovative plan may be developed to address sleep deprivation of the clinical instructors and nursing students during their period of affiliation.

Clinical Instructors and nursing students assigned in graveyard shift but not yet on their affiliation periods were not included. Moreover, students taking other courses in the College of Health Sciences, like Midwifery, Medical Technology and Caregiving, who are also assigned during night shifts were not also included. Performance of Clinical Instructors who were not assigned to supervise the students during their affiliation period was also not included.

III. RESULTS AND DISCUSSION

Causes of Sleep Deprivation

Work schedules in the health profession is 24 hours every day especially among nurses. They work on a 3-hour shift and the third shift is commonly known as a graveyard shift.

Personal Factors. Table 1a shows the causes of sleep deprivation as given by both the Clinical Instructors and student-affiliates. It could be noticed from the table that the primary indicator that causes sleep deprivation among the Clinical Instructors in terms of personal factors was on thinking about the conditions of their family (WM=3.74) and this happens often to them. This often happens not only to this group but anyone who is away from home for a long time. Filipino families are described to have a strong family ties. Hence, the attachment and bonding that they do within the family at home is an experience that they miss. As to the Clinical Instructors, most of them were married, and therefore, the role they have to play in the family that they are away make them think about what might be happening.

Table 1a. Causes of Sleep Deprivation in Terms of Personal Factors

Indicators	CI	S	WM	Int.	Rank
Thinking about the conditions of my family.	3.58	3.89	3.74	O	1
Over thinking of possible consequences of things I will fail to do the following day or on some future times regarding work.	3.33	3.90	3.62	O	2
Doing home chores like laundry during the night because there is no time to do it during daytime.	2.67	3.93	3.30	S	3
Prolonged use of cell phones at night.	2.83	3.64	3.24	S	4
Absence of opportunity to have a short sleep during night shift.	3.00	2.89	2.95	S	5
Feeling of the possibility of being sick.	2.75	2.93	2.84	S	6
Average Weighted Mean	3.03	3.53	3.28	Sometimes	

Legend:

CI=Clinical Instructors; S=Students

Scale Interval	Interpretation
4.21-5.00	Always (A)
3.41-4.20	Often (O)
2.61-3.40	Sometimes (S)
1.81-2.60	Rarely (R)
1.00-1.80	Never (N)

The respondents were also “Often” overthinking of possible consequences of things they might fail to do the following day or some future times regarding work (WM=3.62). This personal factor that causes sleep deprivation implies that there are many tasks to

be done and that proper and careful planning is necessary. This happens to both Clinical Instructors and students when there are many things to be done based on activities and objectives but time is short to accomplish them. With all these personal causes of

sleep deprivation, they have the feeling of the possibility of getting sick (WM=2.84) “Sometimes”.

As a whole, an average weighted on 3.28 indicates that these personal factors as causes of sleep deprivation come to them “Sometimes”. However, they happen “Often” among the students as evidenced by the weighted mean value of 3.53. In contrast, the Clinical Instructors have sleep deprivation caused by personal factors “Sometimes” as shown by the average weighted mean of 3.03.

It could be inferred from the data that students have higher level of sleep deprivation caused by personal factors compared to their Clinical Instructors. This is an indication that the students could not cope up or adjust to situations that do not allow them to have a quality sleep.

This finding is supported by the study of Guadiana and Okashuma (2020) that the body requires adequate sleep in order to maintain proper

physiological health, psychological health, and cognitive function. Adequate and sufficient sleep is necessary to be assured of efficient and effective patient care. Sleep deprivation can result in greater procedural errors, which places the patients at risk. It is because insufficient sleep negatively affects the function of the brain. Since decrease brain function is associated with sleep deprivation, academic performance is also decrease. For students, poor sleep quality, insomnia, and daytime sleepiness are reportedly prevalent in college students.

Academic Factors. Both Clinical Instructors and students are still faced with academic factors even though they are on the affiliation period. They may not be about classroom work since they are in the clinical setting. These academic activities that the respondents face are standard requirements. Cause of sleep deprivation on academic factors are shown in Table 1b.

Table 1b. Causes of Sleep Deprivation in Terms of Academic Factors

Indicators	CI	S	WM	Int.	Rank
Fear from not being able to meet expectations.	3.33	4.03	3.68	O	1.5
Studying lessons and preparing for examinations during the night if shift was daytime/preparing lectures and evaluating students' requirement.	3.25	4.10	3.68	O	1.5
Fear from forthcoming examination/expectation of the hospital.	3.25	4.06	3.66	O	3
Prolonged time of doing and completing requirements to meet deadlines.	3.33	3.92	3.63	O	4
Frequent shift work at night that interferes regular sleeping time.	3.00	2.79	2.90	O	5
Continuous work even after regular shift work.	2.67	3.04	2.86	O	6
Average Weighted Mean	3.13	3.66	3.40	Often	

It is very evident that both groups of respondents “Often” experienced academic factors that do not allow them to have a quality sleep. Primary among them were on fear from not being able to meet expectations and studying lessons and preparing for examinations during the night if the shift was daytime. For the Clinical Instructors, was on preparing lectures and evaluating students' requirements. Both of these had weighted mean of 3.68. Clinical Instructors still give lectures in the clinical setting like making a nice and good Nursing Care Plan. It is a way to enhance the students' knowledge about procedures that are expected to happen in the area of assignment. Lectures are given to explain the cases being encountered by the

students. Thus, lectures on Pathophysiology are done by them. Requirements they give to students aside from quizzes are journals and reflection papers. These are evaluated by the Clinical Instructors.

The cause of sleep deprivation on academic factors found to have the lowest weighted value was on continuous work even after regular shift (WM=2.86) but this still “Often” happens to them. Students have to read learning resources they have with them or even browse the internet. These happen when there are assignments given.

The table also shows that the Students have a higher level of experiencing sleep deprivation along

academic factors with an average of 3.66 which means “Often”. To the Clinical Instructors, it is “Sometimes” only as shown by the average weighted mean value of 3.13. Generally, the respondents “Often” have sleep deprivation caused by academic factors.

The findings imply that the respondents are often deprived of sleep. This could be attributed to both time management and compliance to requirements in the setting or area of assignment. Since students are learners, they may find it hard to accomplish requirements given. To Clinical Instructors, they could do their work for a shorter period of time because of their experience in the nature of the job.

This finding is supported by the study Alyami et al. (2021). They found out that students with higher GPA could manage their time and strongly agreed that they can meet deadlines. Moreover, students with GPA of 4-4.5 strongly believed that their academic performance decreased due to mis planning. They concluded that preplanning of students’ studies had been beneficial for their academic performance.

Health. This is a condition that determines how well one can do daily activities to achieve one’s goals. It has something to do with the physiological capacity of every systems and organs in the human body. Once these are adversely affected, the individual could not be active enough to perform his roles and functions. Table 1c shows the causes of sleep deprivation in terms of health factors.

Table 1c. Causes of Sleep Deprivation in Terms of Health Factors

Indicators	CI	S	WM	Int.	Rank
Having body aches/muscle pains.	2.75	3.45	3.10	S	1
Insomnia.	2.92	3.02	2.97	S	2
Frequent urination due excessive fluid intake.	3.00	2.86	2.93	S	3
Excessive daytime sleepiness.	2.50	3.21	2.86	S	4
Having persistent cough at night.	2.58	2.24	2.41	R	5
Gasping for air during sleep.	2.17	2.03	2.10	R	6
Average Weighted Mean	2.63	2.80	2.72	Sometimes	

The primary cause of the respondents’ sleep deprivation in terms of health is body aches/muscle pains (WM=3.10). However, they encounter this “Sometimes” only. This happens among health care workers because they continuously go around to assess the condition of the patients and to administer medication. Walking and standing most of the time is stressful. Though this is rank 1 in both groups of respondents and sometimes experienced, yet it could be noticed from the table that this is the leading cause among the students (WM=3.45) which suggests that they “Often” encounter this as a cause of sleep deprivation. To the Clinical Instructors, it was on frequent urination due excessive fluid intake (WM=3.00) that was found as the leading cause of their sleep deprivation. As matured individuals, and considering that the affiliation period was during the summer or intersession months, drinking plenty of fluids prevents dehydration.

There were two causes of sleep deprivation that were “Rarely” encountered by the respondents. These were on having persistent cough at night (WM=2.41) and Gasping for air during sleep (WM=2.10). This were

known to have been the effect of sudden exposure to changes in temperature. This could also be aggravated by stress. Although this is not a life-threatening condition, safety and precaution should still be a concern of everyone.

As a whole, the respondents experience causes of sleep deprivation in terms of health “Sometimes” only. However, the students encounter these to a higher level (AVM=2.80) compare to the Clinical Instructors (AWM=2.63).

These findings were supported by the review of previous studies on health affecting sleep made by Liew and Aung (2021). Their review highlighted that chronic sleep deprivation of less than 7 hours daily is associated with multiple health disorders. They also outlined health issues to affect sleep. These are alteration to respiratory physiology, gastrointestinal disorder, musculoskeletal disorder, urology disorder, and stress.

Social and Environment Factors. Man is a social being. He lives in an environment where there are

reactions and interactions with the environment. Some of these actions of men may be beneficial or detrimental. In Table 1d, the cause of sleep

deprivation in terms of social and environmental factors are presented.

Table 1d. Causes of Sleep Deprivation in Terms of Social and Environment Factors

Indicators	CI	S	WM	Int.	Rank
Thinking of my safety or possible dangers to happen in my living environment.	3.58	3.48	3.53	O	1
Excessive heat or coldness during the night.	2.92	2.89	2.91	S	2
Awakened by loud snoring.	2.83	2.67	2.75	S	3
Disturbance caused by video singing in the neighbourhood.	2.67	2.44	2.56	R	4
Hanging out for recreation and leisure at night.	2.42	2.16	2.29	R	5
Invited to parties at night.	2.58	1.96	2.27	R	6
Average Weighted Mean	2.83	2.60	2.72	Sometimes	

The data on the table shows that the respondents are “Often” disturbed by thinking of their safety or possible dangers to happen in their living environment (WM=3.53). This cause of sleep deprivation is common among individuals who are not residents of the place. Anxiety is always felt, much more that they are not familiar with the place or environment. This was followed by excessive heat or coldness during the night (WM=2.91) but this is “Sometimes” happening only. As it was presented in earlier discussion, the affiliation period took place during the summer months or intersession. Hence, temperature even during the night could be very high.

The social factors were all found to have “Rarely” happened to disturb them in their sleep. These were on disturbance caused by videoke singing in the neighbourhood (WM=2.56), hanging out for recreation and leisure at night (WM=2.29), and invited to parties at night (WM=2.27).

Generally, the social and environmental factors that causes sleep deprivation among the respondents had an average weighted mean of 2.72 interpreted as “Sometimes”. These findings indicate that social and environmental causes of sleep deprivation exist but not always. However, if one had a short sleep during the night, it takes a hard time to recover. Hence, energy of the individual is affected.

These findings were corroborated by Rana, Chous, Nawaz and Ali (2020). Their study revealed that aside from stress and financial issues, there were environmental noise that disturbed the students from their sleep. Others were cause by poor ventilation, hostel being near commercial places and the habit of playing mobile games during the night. It is also supported by SDG No. 3 articulating to “Ensure healthy lives and promote well-being for all at all ages”. This has become the focus of the study. Healthcare providers must be physically, cognitively and psychologically efficient so that they could discharge their duties and functions effectively. They provide health care service across all ages. They do not only attend to the needs of the sick but also to those who are well. As nursing students are trained to be efficient and effective healthcare providers, thus, they should be able prevent themselves from experiencing sleep deprivation.

Performance of the Students in Related Learning Experiences (RLE)

The performance of the students was based from their RLE as given by their Clinical Instructors. Criteria in determining their performance is based on a checklist and other accomplishments required by the Clinical Instructors.

Table 2. Related Learning Performance of the Students in their Affiliation

RLE Performance	f	%
1.5-1.6	5	4.39
1.7	25	21.93
1.75	31	27.20

1.8	28	24.56
1.9	18	15.78
2.0	7	6.14
Total	114	100.00

It could be noticed that there were 5 or 4.39% of the students who were given a final grade of 1.5-1.6 which was the highest grade given to them. The mode is 1.75 where 31 or 27.20% obtained it. The lowest grade was 2.0 where there were 7 or 6.14% of the students got it.

From these performances, it could be said that the students were very good. They have satisfactorily complied with the requirements in affiliation, both in knowledge and skills and competencies. It also implies that the training they obtained was very good. This is an assurance that they can perform the functions of a nurse given the opportunity to do them. They can perform client care using the nursing processes in the care of mothers, newborns, children, adolescents, adults and geriatrics, family, community, population groups and persons with special needs.

The BSN Learning Outcomes as indicated in CMO no. 15, s. 2017, it states that:

At the end of Third Year, given individuals, families, population groups, and communities with physiologic and psychosocial health problems and maladaptive patterns of behavior in varied health care settings, the learner demonstrates safe,

appropriate and holistic care utilizing the nursing process and applying research and evidence-based practice.

This finding is supported by the study of Candelesa (2016) who determined the performance of nursing students in the clinical area whether the length of days of exposure can enhance the students' psychomotor learning. The exposure was three days and five days. He found out that the students had satisfactory performance in both schemes of exposure. The students were provided with opportunities for continuity of nursing care plan for the patient and enhancement of skills. Furthermore, the result showed that length of exposure in the clinical area did not affect the performance of nursing students.

Correlation between Level of Sleep Deprivation and Performance of the Students

The present study also looked into the correlation between level of sleep deprivation and performance of the students. Aside from this, the level of sleep deprivation of the Clinical Instructors were also correlated with those of the students. The data are shown in Table 3.

Table 3a. Correlation between the Level of Sleep Deprivation of the Clinical Instructors and the Students

Clinical Instructors	Students	r-value	Degree of Correlation	p-value	Int.
Personal	Personal	0.38	Low	0.463	NS
Academic	Academic	0.83	High	0.042	S
Health	Health	0.58	Moderate	0.225	NS
Social and Environment	Social and Environment	0.94	Very High	0.004	S

Legend:

Computation: Appendix B

<i>r-value</i>	<i>Interpretation</i>
<i>Less than ±0.20</i>	<i>Negligible Correlation</i>
<i>±0.20 to ±0.39</i>	<i>Low Correlation</i>
<i>±0.40 to ±0.69</i>	<i>Moderate Correlation</i>
<i>±0.70 to ±0.89</i>	<i>High Correlation</i>
<i>±0.90 to ±1.00</i>	<i>Very High (Perfect) Correlation</i>

The data depicts that the correlation between the level of sleep deprivation of Clinical Instructors and students was “High” in academic factors ($r=0.83$) while it was “Very High” in social and environment factors ($r=0.94$). This means that the way the Clinical Instructors encountered sleep deprivation in terms of academic and social and environment factors were

similar with those of the students. Thus, the correlation was “Significant” in both of these factors.

The study also determined the correlation between the sleep deprivation experienced by the students and their performance in Related Learning Experiences. The data are shown in Table 3b.

Table 3b. Correlation between the Level of Sleep Deprivation and Performance of Students in Related Learning Experiences

Factors	RLE Performance	r-value	Degree of Correlation	p-value	Int.
Personal	RLE Performance	0.40	Moderate	0.430	NS
Academic	RLE Performance	0.40	Moderate	0.427	NS
Health	RLE Performance	0.21	Low	0.688	NS
Social and Environment	RLE Performance	-0.10	Negligible	0.847	NS

In this instance only the responses of the students regarding the level of sleep deprivation was considered. Using the Pearson Product-Moment Coefficient of Correlation, it was found out that personal ($r=0.40$) and academic ($r=0.40$) had moderate correlation with their performance in RLE. Health ($r=0.21$) and social and environment ($r= -0.10$) had low and negligible correlation with RLE performance. When significance of correlation was tested, it turned out that all the factors of causes of sleep deprivation were not significant. It is because all the p-values were higher than the 0.05 level of significance.

In the study by Gallego-Gómez et al. (2021) they found that 30.4% or almost one third of nursing students had bad sleep habits which were associated

with poor academic performance. The bad sleep habits of the students were characterized by an evening chronotype and short sleep pattern. They revealed further that a short sleep pattern, bad sleep habits and age <25 years were independently associated with a higher risk of poor academic performance.

Extent of Effect of the Sleep Deprivation on the Performance of the Students

The extent of effect of the level of sleep deprivation on the performance of the students in RLE was determined through the Coefficient of Determination. Results obtained indicated that the level of sleep deprivation encountered by the students were all “Very Weak” as shown in Table 4.

Table 4. Extent of Effect of the Level of Sleep Deprivation on the Performance of Students in Related Learning Experiences

Factors	RLE Performance	r-value	r ² -value	Interpretation
Personal	RLE Performance	0.40	16%	Very Weak
Academic	RLE Performance	0.40	16%	Very Weak
Health	RLE Performance	0.21	4%	Very Weak
Social and Environment	RLE Performance	-0.10	1%	Very Weak

Legend:

<i>r²-value</i>	<i>Interpretation</i>
81% - 100%	<i>Very Strong</i>
61% - 80%	<i>Strong</i>
41% - 60%	<i>Moderate</i>
21% - 40%	<i>Weak</i>
0% - 20%	<i>Very Weak</i>

The data means that personal and academic factors as causes of sleep deprivation affected the performance of the students in RLE by 16% while social and environment factors affected their performance by 1% only. In other words, had it not for the instances of sleep deprivation of the students, they could have obtained a better performance.

Innovative Plan to Address Sleep Deprivation

Though the findings showed that sleep deprivation had a very weak effect on the performance of the students in RLE, the situation should not be ignored. It is especially so that it was on academic factors that was found to cause their sleep deprivation. Thus, the following innovative plan is considered appropriate to both Clinical Instructors and students not only during affiliation period but it should be made as a habit and routine.

WHAT	HOW	WHY
Time management	Before Clinical Instructors and students would go to their respective assignments for their RLE, the orientation period should include a lecture on time management.	This is to enable both groups, but most especially among the students to have a systematic routine of attending to their responsibilities: attending classes and doing assignments like organizing their case presentations, RLE, and personal matters.
	Clinical Instructors should include monitoring the academic activities of students assigned to them through journal writing.	It is a way to obtain feedback from the students so that those who are found to be lagging in the accomplishment of requirements could assisted and provided with counselling.
Stress Management	Conduct stress management as part as part of the activities during the orientation program.	Although stress and coping mechanisms are part of lectures, yet the students should be provided with practical activities in managing stress.
Food Habits	Encourage students to have the habit of eating foods that promotes serotonin.	Serotonin is a chemical messenger in the brain and body that regulates mood, sleep, and digestion. Eating a balance diet is necessary for the students. Since they go for their RLE for 8 hours at three time a week, they should have more intake of GO foods so that they are packed with energy to sustain them in the workplace.

IV. CONCLUSIONS

Causes of sleep deprivation among the Clinical Instructors and students were often encountered along academic factors and rarely on social and environment factors. Academic performance of the students in their affiliation was very good. There was significant correlation on the level of sleep deprivation and students on academic and social and environment factors. However, no significant correlation between causes of sleep deprivation and performance of the students in their Related Learning Experiences. The effect of sleep deprivation on the performance of the students in their Related Learning

Experiences during their affiliation was very weak. The innovative plan to address deprivation of both Clinical Instructors and students was focused on time management, stress management and food habits.

It was recommended that future studies on sleep deprivation of nursing students assigned in the clinical setting should include all year levels to have a more holistic information about its effect on the academic performance. Revisiting the evaluation checklist of performance used during affiliation should be done incorporating Nursing Competencies. Other factors may be correlated with the performance of the students during their affiliation like level of

stress, financial stability and sleep quality. The innovative plan may be implemented and monitored to assess its effectiveness and possible sustainability.

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