THE SLEEP QUALITY OF UNIMAS NURSING STUDENTS THROUGHOUT THE THEORY- AND PRACTICUM-BASED COURSES

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THE SLEEP QUALITY OF UNIMAS NURSING STUDENTS THROUGHOUT THE THEORY- AND PRACTICUM-BASED COURSES

This project is submitted in partial fulfillment of the requirements for the degree of

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Final Year Project Report ☑

Masters ☐

PhD ☐

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I Connie Ngu Kor Nee, 69411, Faculty of Medicine and Health Sciences

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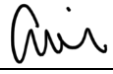
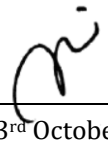
Student's signature  (3rd October 2023)

Supervisor's signature:  (3rd October 2023)

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I, Connie Ngu Kor Nee, hereby declare that this research study entitled “The Sleep Quality of UNIMAS Nursing Students throughout the Theory- and Practicum-Based Courses” is an original work done by me under the supervision and guidance of Mrs. Shalin Lee Wan Fei. This project was submitted to Faculty of Medicine and Health Sciences, UNIMAS in partial fulfilment of the requirement for the Bachelor of Nursing with Honours. I declare that this research study has not been submitted to any other university or institution.

Acknowledgment

First and foremost, I would like to thank my supervisor for her guidance and valuable insights throughout the process. Her expertise and willingness to share her knowledge have been instrumental in shaping this work.

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Abstract

Sleep is a physiological need of human, is essential for the body to maintain good health, daily physical and mental performance and good quality of life (Correia et al., 2022). Mangekar et al. (2022) in India, Kesgin and Çağlar (2020) and Yilmaz et al. (2017) in Turkey, as well as Dharmarathna and Jayamaha (2021) in Sri Lanka get the similar research results that there are more nursing students have poor sleep quality. Hence, this study is carried out to assess the sleep quality among UNIMAS nursing students during theory- and practicum-based courses and to compare the difference in sleep quality among these two different periods. A descriptive quantitative cross-sectional study is carried out among 135 nursing students at Faculty Medicine and Science Health, UNIMAS Main Campus, Kota Samarahan, Sarawak. A self-administered questionnaire was distributed to the randomly selected students to collect data. The collected data was analysed by utilizing IBM SPSS version 26. During the theory-based courses, 80% of students (n = 108) had PSQI scores >5, indicating poor sleep. While, 20% of students (n = 27) reported to have good sleep. The mean PSQI score of nursing students during theory-based courses is 8.25 (SD = 2.857). During the practicum-based courses, 80.7% of students (n = 109) had PSQI scores >5, indicating poor sleep. Only 19.2% of students (n = 26) had good sleep. The mean PSQI score of nursing students is 8.26 (SD = 3.174). The finding of this study shown that there was no significant difference (p = 0.942) in global PSQI scores of nursing students throughout both theory- and practicum-based courses. This highlights the importance of addressing sleep quality issues among UNIMAS nursing students to enhance the academic success, mental health, and future professional performance. Interventions and support systems are needed to improve sleep quality and ensure adequate rest and recovery for students throughout the academic journey.

Keywords: Sleep quality; Pittsburgh Sleep Quality Index (PSQI); nursing students

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PSQI	Pittsburgh Sleep Quality Index
UNIMAS	Universiti Malaysia Sarawak

CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter will present the introduction of this research study. It will discuss the background of the study, problem statement, research questions, research aim/objectives, hypothesis, significance of study, and definition of terms.

1.1 Background of study

Sleep is a physiological need of human, is essential for the body to maintain good health, daily physical and mental performance and good quality of life (Correia et al., 2022). According to Nunez and Lamoreux (2020), the body and brain are still remarkably active although an individual are unconscious when fall asleep. The brain eliminates of toxic waste while storing new information. Besides, in order to maintain proper brain function, the nerve cells communicate and reorganize. Whereas, the body repairs cells, replenishes energy, and release substances like proteins and hormones.

A healthy and good sleep is characterized by feeling restful and fresh after awaking (Mangekar at el., 2022). Other features of good sleep are short sleep latency, sufficient duration, appropriate timing and regularity, and the absence of sleep disturbances and disorders. According to Khin (2016), one of the important factors affecting memory and learning is sleep quality. Lack of good-quality sleep, one would have difficulty focusing and thinking clearly, feeling tired, irritable, or anxious during the day (Harvard T.H. Chan, 2015). Besides,

performance at work or school may be influenced. The reaction time may be delayed as well, increasing the risk of accidents.

Poor sleep is prevalent among nurses, and it has an impact on their physical and mental health as well as how well their organisations functions (Rahman et al., 2022). However, the solutions are yet well known. According to Caruso (2014), nursing staffs have long working hour and need to work according to shift in order to provide patient care around the clock. Scientific evidence provides strong support for the link between sleep problems and shift work (Caruso, 2014). They may easily develop into a disorder known as shift work disorder (SWD), which involves insomnia and/or excessive sleepiness associated with the work schedule.

1.2 Problem statement

The Universiti Malaysia Sarawak (UNIMAS) nursing students are always struggling with their packed study schedule because the students are not merely learning nursing theory and knowledge in a tutorial room, but practicums are also indispensable for every nursing student to succeed in a future career and are usually carried out in a clinical ward to polish the basic and specialized skills on real live patients (Xiong et al., 2021). Another reason of the nursing students to go for practicum is to adapt the student during transiting from a student to a staff nurse (Rabei et al., 2020). The busy academic life makes the students have no choice to sacrifice the sleeping time to accomplish their commitments. According to Zhang et al. (2018), two-thirds of 242 undergraduate nursing students at a public university in the northeast United States had PSQI score of more than 5, indicating poor sleep quality. While, there are of 508 out of 553 nurses students (91.86%) had poor sleep quality during the internship at Second Xiangya Hospital, China (Xiong et al., 2021). Rabei et al. (2020) also get the same result that 90.53% of 95 internship nurse students from 5 hospitals in Egypt (College of Nursing Helwan

University, Badr University Hospital, Ain-Shams University Hospital, Wadi El Nil Hospital, El Salam International Hospital, and Nile Badrawy Hospital) had poor sleep. Kesgin and Çağlar (2020) suggested that the students' perceptions of stress and its intensity alter as their academic performance does, and vice versa. The quality of students' sleep may eventually be ruined by stress. This causes the students to have behavioural and emotional problem, lower concentration, as well as negative emotional status during the conduct of practicum-based courses and theory-based courses. The poor performance during theory- and practicum-based courses also leads them to get poor academic results, make clinical mistakes when nursing the patients and so on. As a result, reputation of UNIMAS would be affected, the staffs and the patients lose the trust on UNIMAS nursing students. Therefore, the aim of this study is to investigate the sleep quality of UNIMAS nursing students throughout the theory- and practicum-based courses.

1.3 Research questions

a) What is the sleep quality of UNIMAS nursing students throughout the theory-based courses?

b) What is the sleep quality of UNIMAS nursing students throughout the practicum-based courses?

c) Is there any difference in the sleep quality of UNIMAS nursing students throughout the theory- and practicum-based courses?

1.4 Research aim/objectives

1.4.1 Research aim

The aim of this research is to investigate the sleep quality of UNIMAS nursing students throughout the theory- and practicum-based courses.

1.4.2 Research objectives

a) To assess the sleep quality of UNIMAS nursing students throughout the theory-based courses.

b) To determine the sleep quality of UNIMAS nursing students throughout the practicum-based courses.

c) To compare the sleep quality of UNIMAS nursing students throughout the theory- and practicum-based courses.

1.5 Hypotheses

(i) Null hypothesis (H_0)

There is no significant difference in the sleep quality of UNIMAS nursing students throughout the theory- and practicum-based courses.

(ii) Alternative hypothesis (H_A)

There is a significant difference in the sleep quality of UNIMAS nursing students throughout the theory- and practicum-based courses.

1.6 Significance of the study

This study hopes to determine the prevalence of UNIMAS nursing students who have unsatisfied sleep quality during theory-based courses and practicum-based courses respectively. Besides, the findings of this study may be used as evidence for the necessary to tailor the educational components of nursing program to promote the UNIMAS nursing development. The research also wishes to prepare the UNIMAS nursing students early in planning for the strategies of improving sleep quality in order to outshine the academic performance during theory-based courses at the same time enhance the clinical performance during practicum-based course, thus providing the best quality of nursing care to the patients in the future.

1.7 Definition of terms

a) Sleep quality

Sleep quality refers to the evaluation of how effectively an individual's sleep promotes restfulness and restoration (The National Sleep Foundation, 2020). In this study, Pittsburgh Sleep Quality Index (PSQI) developed by Buysse et al. in 1989 was used as a tool to evaluate an individual's sleep quality throughout the theory-based courses and practicum-based courses respectively. The PSQI consists of 19 self-assessment questions. Each item is scored from 0 to 3, where 0 represents "not during the theory- or practicum-based courses", 1 represents "less than once a week", 2 represents "once or twice a week" and 3 represents "three or more times a week". The scoring obtained from the 19 items were used to generate the scoring of the 7 components of sleep quality: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, usage of sleep medication, and daytime dysfunction. Total scores of the 7 components derived from the scoring of 19 items are ranging from 0 to 21. The

global PSQI score of less than or equal to 5 indicated that the individual has a good sleep quality, while the global PSQI score of more than 5 indicated that the individual has a poor sleep quality.

b) Theory-based courses

In this study, theory-based courses operationally defined as the courses that centre around the systematic development of knowledge by others. It involves the utilization of established theories and frameworks to enhance understanding and acquire new knowledge (Smith & Johnson, 2018). For example, MDJ1832 Professional Nursing, MDJ1704 Fundamental of Nursing, MDJ2523 Health Education and MDJ3273 Paediatric Nursing.

c) Practicum-based courses

The conceptual definition of practicum-based courses is a course of study that is designed where teachers or clinicians are prepared and involves the supervised application of previously learnt theory (Merriam-Webster, 2014). While practicum-based courses in this study is operationally defined as the courses that involve the process of acquiring nursing knowledge through self-reflection on personal clinical experiences. It emphasizes learning from one's own practical encounters and drawing insights from them (Smith & Johnson, 2018). For instance, MDJ1672 Concept and Practice of Basic Nursing Practicum, MDJ3312 Obstetric and Gynaecological Nursing Practicum, MDJ3762 Mental Health and Psychiatric Nursing and others.

1.8 Summary

This chapter had presented the introduction of this research study. It discussed background of the study, problem statement, research questions, research aim/objectives, hypothesis, significance of study, and definition of terms.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Literature review will be presented in this chapter. This literature review will discuss about the sleep quality of nursing students during theory-based courses as well as during practicum-based courses. The articles used in this literature review are from certain online databases such as Google Scholar, Research Gate, PubMed. The keywords used to search for the articles are "sleep", "sleep quality", "nursing students", "nurses" and "clinical practice". The articles were filtered from the year 2014 to 2022. The articles that were published for more than 10 years or with unknown publication date are excluded from this literature review.

2.1 Sleep quality throughout the theory-based courses

Khin (2016) stated that 48.6% of 105 Faculty of Nursing in International Islamic University, Malaysia (IIUM), nursing students at the had a PSQI score of 5 and higher, indicating that they get good sleep. Whereas, 51.4% of them had a PSQI score of less than 5, indicating that their sleep quality is poor. The result showed that there was a significant association between sleep quality and academic performance.

Apart from that, a study conducted by Yilmaz et al. (2017) among 223 nursing students who studied at Uludağ University Faculty of Health Sciences Department of Nursing in Turkey, the total PSQI average of the students was calculated as 6.52±3.17. The total PSQI score of above 5 occupied more than half of the total nursing students who considered as having low sleep quality (56.1%).

Not only this, according to Dharmarathna and Jayamaha (2021), 60.9% of 184 first-year nursing students at the School of Nursing, Colombo, Sri Lanka, participants have a poor sleep quality. The mean value of the global PSQI score was 5.4 ± 2.3. However, this study only involved first year students, the experience being engaged in clinical practice was unidentified or might not as much as second-, third-, fourth-year students and so forth.

Although most of the findings from the studies showed nursing students had poor sleep quality, but there was one study revealed that majority of the nursing students had good sleep quality. It was a study conducted by Mangekar et al. (2022) in India, reported that among 165 nursing students, 32 (18.20%) nursing students had poor quality of sleep and 133 (81.80%) of students had good quality of sleep (Mangekar et al, 2022).

2.2 Sleep quality throughout the practicum-based courses

A study conducted by Kesgin and Çağlar (2020) has highlighted that 431 nursing students who were engaged in clinical practice in Turkey had an average PSQI score of 7.71 ± 3.27, revealing that the students' sleep quality was poor during practicum-based courses. But, according to Kesgin and Çağlar (2020), there was lack of strong relationship between poor sleep quality among the nursing students who were engaged in clinical practice with their stress perceived.

Besides, a study conducted by Rabei et al. (2020) on a total of 95 nursing internship students reported the findings of 90.53% of the students scored global PSQI of 8, indicating poor sleep quality. Rabei et al. (2020) related the sleep disturbance among internship nursing students with the work stress and concluded that nurses who have higher workload were more stressful, thus experiencing more sleep disturbances.

However, a study conducted by Silva et al. (2020) in Brazil reported that 68.18% of twenty-three eighth semester nursing students, who were experiencing the first time of attaching at the hospital without the professor's supervision, had a good sleep quality based on PSQI classification.

2.3 Comparison of sleep quality throughout the theory- and practicum-based courses

A study was conducted on 130 hospital nurses and 130 student nurses in Brunei to compare the prevalence of good sleep quality among them. According to Rahman et al. (2022), hospital nurses were 4.29 times more likely to experience poor sleep than student nurses. Rahman et al. (2022) also stated that although students had significantly good sleep latency, needing less time to fall asleep, they experienced significantly more sleep disturbances, shorter sleep duration and less sleep efficiency.

2.4 Summary

In conclusion, this literature review discussed the sleep quality of UNIMAS nursing students during theory- and practicum-based courses. Majority of the reviewed articles reported that most of the nurses were found to be poor sleepers. Most of the researchers related the poor sleep quality of nurses or students to the stress perceived, anxiety, smoking habit and so on. Despite this, the results of each study might not be able to generalise all the nursing students or staff nurses in the worldwide as the studies were carried out in distinct countries of different cultures, job scopes and workload in the workplaces.

CHAPTER 3

METHODOLOGY

3.0 Introduction

The methodology will be presented in this chapter. This chapter describes research design, research setting, inclusion and exclusion criteria, sample size and sample method, study instrument, ethical consideration, data collection procedure, and data analysis method.

3.1 Research design

A descriptive quantitative cross-sectional study design was chosen to be conducted in this research. According to the Institute for Work & Health (2015), a cross-sectional study design was advantageous in terms of comparing multiple variables simultaneously, enabling the researcher to analyse various factors and their relationships efficiently.

This study aimed to gather information about the sleep quality of UNIMAS nursing students throughout their theory- and practicum-based courses. Hence, by using a descriptive approach, it allowed the collection of data from a group of nursing students, providing a comprehensive understanding of the sleep quality factors that may influence nursing students.

Quantitative method was used to collect data through self-administered, which focused on assessing various aspects of sleep quality, such as duration, latency, disturbances, and overall satisfaction. The use of standardized measurement tools, which was the Pittsburgh Sleep Quality Index (PSQI), was employed to ensure the reliability and validity of the data.

Through the cross-sectional nature of the study, data was collected from participants at a single point in time. This provided insights into the sleep quality of nursing students, allowing for comparisons across different courses and identifying potential associations between sleep quality and other variables, such as stress levels, anxiety level and the presence of roommate or bed partner.

3.2 Research setting

This research was conducted at the Faculty Medicine and Science Health, UNIMAS main Campus, which is located at Kota Samarahan, Sarawak.

3.3 Inclusion and exclusion criteria

a) Inclusion criteria

(i) Universiti Malaysia Sarawak second-, third- and fourth-year nursing students who are willing to participate in this study (as they have ever engaged in practicum-based courses for more than 2 months).

b) Exclusion criteria

(i) Universiti Malaysia Sarawak first year nursing students (as they never engage in practicum-based courses for more than 2 months).

(ii) Post-graduate students and post-registration students (due to their age difference and working experience which may confound the outcome of the study).

(iii) Nursing students who have participated in the pilot study.

(iv) Nursing students who are not willing to participate in the study.

3.4 Sample size and sampling method

This research study involved 176 UNIMAS nursing students, where 63 students from Year 2, 60 students from Year 3, and 53 students from Year 4. Probability simple random sampling method was used in this study. Name lists of UNIMAS Nursing Year 2, 3 and 4 students were obtained. The names on the name list were arranged alphabetically. And then, the students were randomly selected via the random number function (RAND) in Microsoft Excel. Taro Yamane Formula (Yamane, 1973) was used to calculate the sample size, where n represents sample size, N represents population size, e represents acceptable sampling error.

$$n = \frac{N}{1 + N(e)^2}$$

$$s = \frac{175}{1 + 175\ (0.05)^2}$$

$$= 121.74$$

$$\approx 122$$

To cover the missing data in the sample, another 10% of attrition rate was added.

$$122 + \frac{110}{100} = 134.2$$

$$\approx 135$$

Hence, the total sample size is 135 respondents.

3.5 Study instrument

This study used self-administered questionnaire to collect data from the respondents. English language was used in the questionnaire. The questionnaire consisted of 5 sections: Section A, B, C, D and E.

In Section A, participant's socio-demographic data was obtained, which includes age, gender, race, year of study, and duration of practicum the participants have gone so far (in weeks). The stress level and anxiety level of the participants were being questioned as a baseline data. This part contained multiple-choice or require respondents to fill in the blanks.

In Section B, the sleep quality of the participant throughout the theory-based courses was assessed by using modified Pittsburgh Sleep Quality Index (PSQI) which was developed by Buysse et al. in 1989. It was measured on 4-point Likert scale. The period "in the past month" in the questionnaire was altered to "throughout the theory-based courses so that it was tailored to the study objectives. This part consisted of 19 self-assessment questions which evaluated the following 7 components: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, usage of sleep medication, and daytime dysfunction. Each item was scored from 0 to 3, where 0 represents "not during the theory-based courses", 1 represents "less than once a week", 2 represents "once or twice a week" and 3 represents "three or more times a week". There was no negative statement or reverse scoring.

Section C assessed the sleep quality of the participant throughout the practicum-based courses. It was assessed by using modified Pittsburgh Sleep Quality Index (PSQI) which was developed by Buysse et al. in 1989 as well. The period "in the past month" in the questionnaire was altered to "throughout the practicum-based courses so that it was tailored to the study objectives. This part consisted of 19 self-assessment questions which evaluated the following 7 components: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency,

sleep disturbances, usage of sleep medication, and daytime dysfunction. Each item was scored from 0 to 3, where 0 represents “not during the practicum-based courses”, 1 represents “less than once a week”, 2 represents “once or twice a week” and 3 represents “three or more times a week”. There was no negative statement or reverse scoring.

Section D only consisted of 1 question, which asking the participant whether having a bed partner or a roommate or not. The questionnaire would be ended here if the participant answered “No bed partner or roommate” in this section. However, if the participants were having a roommate or bed partner, the participants were required to ask their roommate or bed partner to answer the Section E.

Section E of this questionnaire was filled by the bed partner or the roommate of the participant. If the participants did not have a roommate or bed partner, this section only need to be left empty. This section asked the bed partner or roommate whether the participant has: loud snoring, long pause between breaths while asleep, leg twitching or jerking while sleeping, episodes of disorientation or confusion during sleep, or other restlessness while sleeping throughout the theory- and practicum-based theory courses. The scoring in this section was not contribute to the calculation of the index score.

Regarding the scoring in Section B and C, the total scores of the 7 components are derived, each scored from 0 (no difficulty) to 3 (severe difficulty).

i. Scoring for component 1(subjective sleep quality) will be obtained from the response of Question 9.

ii. Scoring for component 2 (sleep latency) is contributed by the sum of Question 2 and 5a sub scores

iii. Scoring for component 3 (sleep duration) refers to the response to Question 4.