



**UNIVERSITI PUTRA MALAYSIA**

***THE RELATIONSHIP BETWEEN PERCEIVED OCCUPATIONAL STRESS AND  
MENTAL HEALTH AMONG NURSES IN HOSPITAL SERDANG:  
A CROSS SECTIONAL STUDY***

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**2020**

# CROSS-SECTIONAL STUDY ON THE RELATIONSHIP BETWEEN PERCEIVED OCCUPATIONAL STRESS AND MENTAL HEALTH AMONG NURSES IN HOSPITAL SERDANG, SELANGOR

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**Introduction:** Nursing profession always associate with occupational stress due to burnout, lack of staff and work on shift. These stressors if it happens in a long period it can give negative impact on nurses' mental health. Thus, this study was conducted to investigate the relationship between perceived occupational stress and mental health among nurses. **Objective:** To determine the relationship between perceived occupational stress and mental health among nurses in Serdang Hospital, Selangor. **Methods:** A cross-sectional study was carried out among 61 nurses in Hospital Serdang, Selangor as the respondents. A self-administered online survey was used in this study. The questionnaire comprises three parts which are socio-demographic, Perceived Stress Scale-10(PSS-10) and General Health Questionnaire-28(GHQ-28). SPSS version 22.0 is used for data entry and analysis. Descriptive analysis, Pearson's correlation, independent T-Test and One-way independent ANOVA were used to evaluate the resulting data.. For this study, the independent variable is the perceived occupational stress while the dependent variable is mental health among nurses. **Results:** The mean age of the respondent was  $27.59 \pm 4.51$  years old, 83.6% (51) were female and 16.4% (10) and 67.2% (41) were married. About 82% (50) respondents were having moderate perceived occupational stress while 11.5% (7) experiences low and only 6.5% (4) of those were encounter with high perceived stress. The normal mental health status is about 27.9% (17) while abnormal is 72.1% (44). Respondents with the perceived occupational stress were showing a relation with the mental health status at ( $p=0.0001$ ) ( $r = 0.448$ ). **Conclusion :** As there is a significant link between perceived occupational stress and mental health in the study population, there is a need to raise awareness and improve stress management among the study population, as this may help to reduce the numbers and improve the mental health status of health care workers, particularly nurses.

**Keywords :** Stress, occupational stress, mental health, nurses, awareness, Selangor

# HUBUNGKAIT ANTARA TEKANAN PEKERJAAN YANG DIHADAPI DAN KESIHATAN MENTAL DI KALANGAN JURURAWAT DI HOSPITAL SERDANG: KAJIAN RENTAS

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**Pengenalan:** Profesion kejururawatan selalu dikaitkan dengan tekanan kerana keletihan, kekurangan kakitangan dan bekerja secara bergilir. Tekanan ini jika ia berlaku dalam jangka masa panjang boleh memberi kesan negatif terhadap kualiti hidup jururawat. Oleh itu, kajian ini dilakukan untuk mengkaji hubungan antara tekanan pekerjaan yang dihadapi dan kesihatan mental di kalangan jururawat. **Objektif:** Untuk mengkaji hubung kait antara tekanan pekerjaan yang dirasakan dan kesihatan mental di kalangan jururawat di Hospital Serdang, Selangor. **Kaedah:** Kajian rentas akan dilakukan dalam kalangan 61 jururawat di Hospital Serdang sebagai responden di mana soal selidik atas talian yang diisi sendiri oleh responden bakal digunakan. Soal selidik ini merangkumi tiga bahagian iaitu sosio-demografi, Skala Tekanan Yang Dirasakan-10(PSS-10) dan Soal Selidik Kesihatan Umum-28 (GHQ-28) SPSS versi 22.0 digunakan untuk menganalisis data. Analisis deskriptif menggunakan Pearson's correlation, independent T-Test dan One-way independent ANOVA akan digunakan untuk menilai data yang dihasilkan. Untuk kajian ini, pemboleh ubah bebas adalah tekanan pekerjaan yang dirasakan sementara pemboleh ubah bersandar adalah kesihatan mental di kalangan jururawat. **Hasil:** Umur rata-rata responden adalah  $27.59 \pm 4.51$  tahun, 83.6% (51) adalah wanita dan 16.4% (10) dan 67.2% (41) telah berkahwin. Kira-kira 82% (50) responden mengalami tekanan pekerjaan yang dirasakan sederhana sementara 11.5% (7) mengalami tekanan rendah dan hanya 6.5% (4) dari mereka yang menghadapi tekanan yang dirasakan tinggi. Status kesihatan mental yang normal adalah sekitar 27.9% (17) sementara yang tidak normal adalah 72.1% (44). Responden dengan tekanan pekerjaan yang dirasakan menunjukkan hubungan dengan status kesihatan mental di ( $p = 0,0001$ ) ( $r = 0,448$ ). **Kesimpulan:** Oleh kerana terdapat hubungan yang signifikan antara tekanan pekerjaan yang dirasakan dan kesihatan mental pada populasi kajian, terdapat keperluan untuk meningkatkan kesedaran dan meningkatkan pengurusan tekanan di kalangan populasi kajian, kerana ini dapat membantu mengurangkan jumlah dan meningkatkan status kesihatan mental pekerja penjaagaan kesihatan, terutamanya jururawat.

**Katakunci :** Tekanan, tekanan pekerjaan, kesihatan mental, jururawat, kesedaran, Selangor

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**Professor Dr Soh Kim Lam**

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Date : 2 October 2021



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## LIST OF ABBREVIATION

COVID-19	2019 novel Coronavirus
Ho	Null hypothesis
JKEUPM	Jawatankuasa Etika Untuk Penyelidikan Melibatkan Manusia
MREC	Medical Research and Ethics Committee
NMRR	National Medical Research Register
PhD	Doctor of Philosophy
PPE	Personal Protective Equipment
PSS-10	Perceived Stress Scale-10
SPSS	Statistical Package for the Social Sciences
UPM	Universiti Putra Malaysia
WHO	World Health Organisation
GHQ-28	General Health Questionnaire-28

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# CHAPTER 1

## INTRODUCTION

*This chapter provides the background of the study, problem statements, and research questions. The objective of this study include the general objective and specific objective. Besides, the null hypotheses, conceptual framework and operational definition also had been discussed in this chapter*

### 1.0 Background

Stress is one of the global health concerns impacting individuals regardless of ethnicity, gender, age and occupational status. Occupational stress is one of the global health concerns impacting individuals regardless of ethnicity, gender, age and occupational status. Occupational stress experience is invariably involved in the execution of every sort of job (Rao & Chandraiah, 2012). Occupational stress is the harmful physical and emotional reactions that may occur when there is a dispute between the employee's job expectations and the amount of control an employee has over meeting these demands. One may end up with mental illness such as depression and anxiety without proper control of stress (Cohen et.al.,2007; Slavich et.al.,2010). Occupational stress in the working population is a significant risk factor for mental health and quality of life (QoL) (Wang et al., 2017). The stress may come either from external or internal causes, such as the working environment, financial, relationship, emotional well-being, and the amount of sleep and rest a person gets. (Sharifah Zainiyah, Afiq, Chow, & Siti Sara, 2011).

Occupational stress in health care personnel is a recognised concern (Burbeck, 2002). Nursing has been represented as a career with high levels of stress (Xianyu & Lambert, 2006). Occupational stress has been found to have had a dangerous impact not only on the health of nurses, but also on their ability to cope with job demands (Parul et al., 2014). This will seriously undermine the provision of quality care and the effectiveness of the delivery of health care services (Lee, 2003; Farrington, 1995). These stressors if it happen in a longer period it can give negative impact toward nurses' mental health (Kent, Hochard, & Hulbert-Williams, 2019). According to Thoits (2010) nurses provide care to the patients, but when their mental is affected by stress, it may give negative impact on their mental health health status. Therefore, this study was conducted to investigate the relationship between perceived occupational stress and mental health among nurses in Hospital Serdang, Selangor.

### **1.1 Problem statement**

Various sources of occupational stress exist among nurses which may directly or indirectly affecting in general and mental health of nurses (Wu et al., 2011). The causes that are obviously relevant in job-related stress are becoming extremely impossible to ignore, i.e., including long working hours, the consistency of relationships with healthcare staff, inadequate management, poor work climate and high workload (Tajvar et. Al., 2015). In addition, the physical atmosphere of hospitals, including temperature, ventilation, and sound levels, has a significant effect on the stress levels of health care employees (Sahraian, 2013). Higher stress levels lead to increased turnover rates and

burnout among this working group. According to Mealer (2012), he published results that indicated that, among 744 ICU nurses, 18% of them had anxiety symptoms, and 11% had the symptoms of depression.

A study by Keykaleh et al. (2018) show that the correlation between job stress of the nurses which can be relate to emotional state and patient safety (mean = 1.75 and SD = 0.114) have been at an average level. This optimal level of patient safety can be achieved if nurse stress level is reduce. Well-being, satisfaction and mental health can be affected due to the work related stress in which it disturbed the physiological, psychological, and behavioral of the nurses (Jathanna & D'Silva, 2014).

As we know, nursing play an important role in delivering nursing care to patient. What happen if nursing experienced high perceived occupational stress and mental health disturbance while delivering care to the ill? Logically, if this problem persists, the work-related stress or occupational stress brings damaging effect to nurse's physical and mental health which may directly leads to low level of productivity and competency during work. American Holistic Nurses' Association (2015) reported that nurses experiencing higher rates of workplace stress compare to other professions. The nursing career is viewed as a demanding position with strong consumer pressure and demand that involves intense tasks and workload and has been reported as the primary cause of occupational stress (Mark & Smith, 2011). Moreover, mental disorder such as depression and anxiety was found in the frontline health care staff of COVID-19 (Du et al, 2020). According to study done by Woon & Tiong (2020) at Bentong Hospital, Pahang Malaysia, among 479 nurses, 41.8% of respondents were screened positive for one or more of the following self-



reported symptoms: depression, anxiety, or stress. The high demand in the health care system and shortage of nursing staff increase stress level to nurses. According to Yasin et al. (2019), there is a negative relationship between job resources and job stress. They also state that increase in job demands will affect employees' mental health and physical health and it leads to health problems as well as exhaustion of energy.

Notwithstanding, based on the literature search, only limited studies in Malaysia that investigate the perceived occupational stress level and mental health among nurses during were found. Thus, this study is aimed to fill the research gap and investigate the association between perceived occupational stress level and mental health among nurses during in Serdang Hospital, Malaysia.

## **1.2 Research Objective**

### 1.2.1 General objective

To determine the relationship between perceived occupational stress and mental health among nurses in Serdang Hospital, Selangor.

### 1.2.2 Specific objectives

The specific objectives are to:

- i. Determine the socio-demographic characteristics of nurses in Serdang Hospital, Selangor.
- ii. Identify the perceived occupational stress and mental health of nurses in Serdang Hospital, Selangor.
- iii. Determine the association between socio-demographic characteristics and perceived occupational stress in Serdang Hospital, Selangor.
- iv. Determine the association between socio-demographic characteristic and mental health of nurses in Serdang Hospital, Selangor.
- v. Determine the association between perceived occupational stress and mental health of nurses in Serdang Hospital, Selangor.

## 1.3 Research hypothesis

Null hypothesis

Ho1: There is no significant association between socio-demographic characteristic and perceived occupational stress in Serdang Hospital, Selangor.

Ho2: There is no significant association between socio-demographic characteristic and mental health in Serdang Hospital, Selangor.

Ho3: There is no significant association between perceived occupational stress and mental health among nurses in Serdang Hospital, Selangor..

#### **1.4 Research question**

What is the association between perceived occupational stress and mental health among nurses in Serdang Hospital, Malaysia ?

#### **1.5 Definition of terms**

##### **Perceived Occupational Stress**

Occupational stress has been defined as the reaction that individuals may have when faced with demands for work and demands which are not matched to their strengths and skills and pressing their capability for coping (WHO, 2014). In this study, perceived occupational stress refer to how the nurses feel about the occupational stress as they working as nurse in Serdang Hospital.

##### **Mental Health**

According to the World Health Organization (WHO), mental health is a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.

### 1.6 Conceptual framework

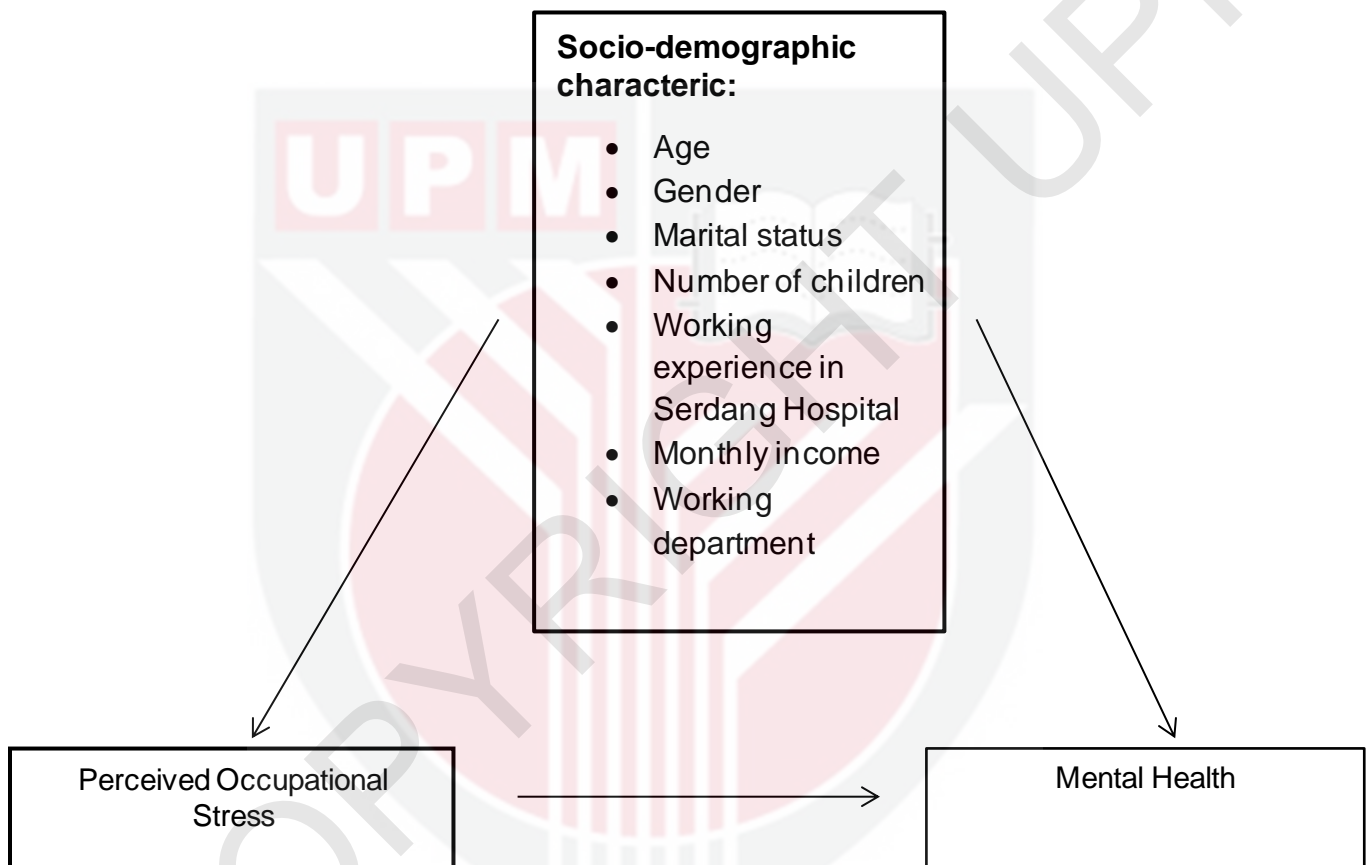


Figure 1: Conceptual framework on relationship between perceived occupational stress and mental health among nurses

Primary independent variable of this study will be perceived occupational stress level among nurses during as it will contribute to the dependent variable, mental health among nurses. This study is aimed to investigate the relationship between the perceived occupational stress levels and mental health among

nurses. Besides that, socio-demographic characteristics of nurses include age, gender, marital stress, number of children, working experience, monthly income, working department will be counted as second independent variable of the study. Thus, this study will test and determine the relationship among these variables to find out the factors that affect the mental health of nurses.

### **1.6 Significant study.**

Based on the result from this study later on, it can give information about occupational stress that nurses experienced in their working life as it might affect their mental health. The data can be used by the higher management to find the solution to decrease the stressor that can contribute to the perceived stress among nurses. Thus, nurses will have a better mental health during their served as healthcare provider. Besides, this study also able to give a data of prevalence about the relationship between the perceived occupational stress and mental health among nurses. These will increase the awareness to nurses about the threat of psychological and physiological disturbance that nurses might face in the future

### **1.7 Summary**

This chapter discussed the background and problem statement of the study. the research objectives and hypothesis have been stated in this chapter. The conceptual framework of the study also has been explained. Further information regarding this study will be discussed in the next chapter.



## **CHAPTER 2**

### **LITERATURE REVIEW**

*This chapter provides an overview of previous studies on medical check-up. It introduce the framework of this study that compromises the main focus of the research described in this thesis.*

## 2.0 Introduction

In this chapter, the researcher will be discussed further about perceived occupational stress and mental health that has been conducted among staff nurses.. The topic will be encountered role of nurses in health care system, factor of occupational stress and also impact of occupational stress towards mental health.

### 2.1 Nurses role in health care system

Nursing encompasses autonomous and collaborative care of individuals of all ages, families, organisations and neighbourhoods, ill or healthy, and in all environments, independent and collaborative treatment. Nursing includes health promotion, disease prevention, and the care of individuals who are ill, disabled and dying. Advocacy, promotion of a safe environment, research, participation in health policy shaping and in the management of patient and health systems (ICN, 2014). According to American Nursing Association, nursing is define as health and capabilities protection, promotion and optimization, disease and injury prevention, suffering relief through the diagnosis and treatment of human response, and advocacy in the care of people, families, communities and populations.

Nursing is well placed in the health care system to contribute to optimal performance for patients and families (Smolowitz et al., 2015). According to Trinkoff et al. (2006), nurses held a bunch of obligation under which sometime they might ignored themselves in order to offer health care to the clients.

Trinkoff et al. (2006) reported that 11% of nurses not able to take a break during their shifts. According to Carlowe (2019) nurses could not have had adequate breaks, meals or even toilets, as they try to satisfy the demands of their patients. Short breaks can improve performance and decrease subjective fatigue during field studies of workers ranging from airline pilots to data entry personnel (Roger, Hwang & Scott, 2004). The role of nurse in health care system very crucial as they are with patients throughout the continuum of life.

## **2.2 Factors of occupational stress among nurses**

Everyone experience stress and most often occur within the healthcare provider when they interact with patients who are not healthy emotionally and psychologically due to pain or disability that people have. Nurses are the largest group of healthcare providers who are at high risk of depression when they encounter and deliver medical treatment every day. According to American Psychology Association, stress can be described as a physical and mental reaction to internal and external stressors until a person becomes exhausted and unable to cope with it. Stress has been categorized as an antecedent or stimulus, as a consequence or response, and as an interaction. Occupational stress may be described by negative emotional and physical responses and its happens when the job expectations do not meet with working capital, resources or requirements.

Nursing is one of the stressful profession. In addition, in the era of pandemic of Coronavirus 2019 (COVID-19), the nurses experiences great challenges in treating the ill. During the COVID-19 pandemic, more than half of the staff



nurses encountered mild to high stress as nurses are responsible for delivering health services to patients while they encounter higher risk of exposure to COVID-19 patients (Tselebis et al. 2020). Other study also proved that 84% of frontline healthcare professionals manifested moderate to severe stress during this outbreak (Jahrami et al., 2020). This matter also raises the burden and concerns of medical professionals in a growing number of COVID-19 incidents (Lai et al., 2020). This pandemic increase the stress level to the extent that raise burnout to the current nurses.

Moreover, the challenging aspects in this work have severely impacted nurses (Golshiri et al., 2012). Other than facing with the COVID-19, there are several factor that affect the stress level of nurses. Workload, patient treatment, working interactions with superiors, nurses' skills, capacities and responsibilities and policies as stressors for nurses (Bailey, 1985). In addition, common demographic factors (e.g. age, marital status, level of education, salary), high workload due to insufficient manpower and time limitations, reducing job performance due to irregular working time or shifts, and social demands (e.g. hospitals and patients), patient attitude (e.g. bad patient behaviour) and task conflict (e.g. conflict with patients) are attributable to occupational stress among nurses (Wu et al. 2010; McCarthy et al. 2010). This matter also supported with study by Sharma et al, (2014) the nurse's job has traditionally been recognized as stress-filled based on the physical labour, misery, operating hours, scheduling, and interpersonal relationships that are fundamental to the work nurses do. This proved that nurses having a high perceived occupational stress while performing their duty.

### **2.3 The impact of occupational stress on mental health among nurses**

Stress is a state in which the body and brain respond to every demand it encounters. Stress may motivate the person to take part in the task and get rid of the stress or demand the unattended task caused. But if the stress is prolonged, it may unconsciously affect the mental health of a person.. Previous studies have revealed that occupational stress is associated with the increased risk of developing physical strain and psychological problems (e.g. depression, anxiety, exhaustion, tiredness, insomnia), decreased work capacity and quality of life for the employees (De Jonge et al. 2000; Kudielka et al. 2005; Wu et al. 2010). Other study also show that the medical workers experienced insomnia together with depressive and anxiety symptoms (Zhang et al. 2020). This is also supported by Karabulut et al. (2020), the study result showed significant association between perceived stress and anxiety.

Most individuals can deal with stress for brief stretches, but the physiological condition of constant stress causes prolonged changes. Indeed, stress has been identified by epidemiological research as one of the key risk factors for the emergence of opioid use and as a good indicator of high drug use cravings and relapses (Sinha, 2008; Mantsch et al. 2016). Dittman (2008) states that approximately 5% of registered nurses are alcoholics and 3% are dependent on drugs.

Furthermore, a study by Du et al. (2020) reported that mental disorder such as depression and anxiety was found in the frontline health care staff of COVID-19. This significantly increased the risk of infection and transmission of the

disease. Thus, nurses are highly exposed to psychological and mental disturbance caused by stress during the pandemic (Gorbalenya et al., 2020).

## **2.4 Summary**

In a nutshell, this chapter discussed the nurses role in healthcare system, factors of occupational stress and also impact of occupational stress toward mental health among nurses. Moreover, the methodology of this study will be discuss on chapter 3.

## **CHAPTER 3**

### **METHODOLOGY**

*This chapter discusses in detail the research methodology that has been used in this study to determine the relationship between socio-demographic data and awareness on medical check-up with practice on medical check-up among community in Serdang.*

### **3.0 Introduction**

This chapter will mark out the design of the study and methods that will be utilized for the study, including study location, sampling frame, sample size, sampling method, respondent criteria, study instrument, variability and reliability, data collection procedure, Study flowchart, data analysis, and ethical consideration.

### **3.1 Study Design**

A cross sectional study has been chosen for this study to determine the perceived occupational stress level and mental health among nurses during in Serdang Hospital, Malaysia. A cross sectional study can be defined as an observational study designed for investigation of a population at one specific point in time where the outcomes and exposure of the study present at the same time (Wang & Cheng, 2020). Besides that, cross sectional study enable the researcher to look at various characteristics of participant at once and investigate the association between these variables. Indeed, the prevalence could be estimated based on the study (Setia, 2016). Thus, a cross sectional study is suitable to assess the occupational stress level among nurses, the mental health among nurses and the association between these variables together with different socio-demographic characteristic of nurses.

### **3.2 Location Of Study**

This study will be conducted at Serdang Hospital. This hospital is located at district of Sepang in the state of Selangor, Malaysia. This hospital is fully funded by government which providing medical services to approximately 570,000 residents in the area of Putrajaya, Serdang, Kajang and Bangi roughly (Serdang Hospital, 2020). Furthermore, this study will be conducted at any general wards: medical ward, surgical ward, geriatric ward, paediatric ward, obstetric ward and critical care units such as emergency department and intensive care units: ICU, CCU and NICU in Serdang Hospital, Selangor to give a comparison of view from the stress level and mental health of frontline nurses and non-frontline nurses. This hospital has also operated as a teaching hospital for medical students from the Putra Malaysia University Faculty of Medicine and Health Sciences (UPM). Thus, Serdang Hospital was then selected as a research venue.

### **3.3 Study Sampling**

This study will involve number of respondent from nurses in Serdang Hospital, Selangor from different age, ethnicity and religion. There are several inclusion and exclusion criteria of the respondent for this study :

### 3.3.1 Study Population

This study will be conducted among nurses who are employed under Serdang Hospital, Selangor.

### 3.3.2 Study Duration

Duration of this study will start from January 2021 to October 2021, while data collection period will probably start from April 2021 to July 2021.

## 3.4 Sampling Method

In this study, non-probability sampling method, convenient sampling will be used where the sample is selected based on convenience and the inclusion criteria which will be stated in 3.5. According to the Taherdoost (2016), the selected participants from convenient sampling method is the one who are often readily and accessibility. It is commonly used as the researcher is readily approach to the sample and collect data in a quicker time frame and low cost required. Hence, the researcher is using convenient sampling method in this study to approach the nurses who are under employment of Serdang Hospital, Selangor.. The sample selection process is continue until the require sample size are reach. Convenience sampling method is the researchers enroll subjects in this process based on their availability. It is called convenient sampling because the researcher select the sample elements based on their convenient accessibility and proximity (Elfil and Negida, 2017). Inclusion and exclusion are play an important role in this sampling method for participant's recruitment in this research.

### **3.5 Participant Criteria**

#### **3.5.1 Inclusion Criteria**

- Malaysian
- Nurses who employed to work in Serdang Hospital
- Nurses who work more than 6 months

#### **3.5.2 Exclusion criteria**

- The nurses who working less than 6 months in Hospital Serdang as they still not fully adapts with the working environment in the Hospital Serdang
- The nurses who involve directly in management

### **3.6 Sample Size**

The sample size was based on population sampling which is the process of taking a subset of subjects that was representative of the entire population of staff nurses in Serdang Hospital, Selangor.

Estimation of sample size is according to Krejcie & Morgan (1970).

$$S = \frac{X^2(1-P)}{d^2(N-1) + X^2P(1-P)}$$

Where:

S = required sample size

X = z value (1.96 for 95% confidence level)

N = population size ( Estimated 900 staff nurses in Serdang Hospital)

P = population proportion (assumed to be 0.50 since this would provide the maximum sample size).

d = degree of accuracy expressed as a proportion (0.05)

Hence,

$$S = \frac{X^2(1-P)}{d^2(N-1) + X^2P(1-P)}$$

$$S = \frac{(1.96)^2(900)(0.50)}{(1-0.50)(0.05)^2(900-1) + (1.96)^2(0.50)(1-0.50)}$$

$$S = 269$$

The sample of 269 respondent considered as representative of the population to warrant accurate generalization and meet the eligibility criteria.

### 3.7 Study Instrument

#### 3.7.1 Questionnaire



The questionnaire is in English language and it consists of Section 1, Section 2 and Section 3.

#### Section 1 : Socio-demographic data

Section 1 is about socio-demographic characteristics of the respondent. It consists of age, sex, marital status, number of children, working experience, monthly income and working department. In Section 2, the questionnaire will assess perceived occupational stress of nurses. Meanwhile in Section 3, the questionnaire will assess the mental health of nurses.

#### Section 2 : Perceived Occupational Stress Among Nurses

Perceived Stress Scale-10 (PSS-10) was developed by Sheldon Cohen and his fellow by 1983 and it is a commonly used psychological measuring tool to assess the perception of stress (Cohen, Kamarck & Mermelstein, 1983). It consists of 10 items and the questions in this scale ask the participants about their feelings and thoughts during the last month. The participants will be answer how often is their feeling or thought occurred during the last month. Score 0 indicates never, score 1 indicates almost never, score 2 indicates sometimes, score 3 indicates fairly often and score 4 indicates very often. A total of 0-40 score will be obtained and the higher scores indicates higher perceived stress.

- Scores ranging from 0-13 consider as low stress.

- Scores ranging from 14-26 consider as moderate stress.
- Scores ranging from 27-40 consider as high perceived stress.

### Section 3 : Mental Health Among Nurses

The mental health of nurses will be evaluate with General Health Questionnaire-28. The GHQ-28 is one of the most widely used and validated questionnaires to screen for emotional distress and possible psychiatric morbidity The GHQ-28 is a 28-item measure of emotional distress in medical settings. Each item is accompanied by four possible responses: *Not at all*, *No more than usual*, *Rather more than usual*, and *Much more than usual*. Total score is 84, below 24 will be normal and 24 and above will indicate abnormal mental status.

#### **3.8 Validity and Reliability**

Previous studies have been conducted to assess the validity and reliability of both instruments. A general rule of thumb was used to interpret the reliability where Cronbach's alpha value of 0.7 and above is considered acceptable.

The original English version of PSS-10 has been validated and manifested good reliability with 0.78 of Cronbach's alpha. Meanwhile, according to Al-Dubai, Alshagga, Rampal, & Sulaiman, (2012), the original English version of PSS-10

has been translated and back-translated into Malay version and the translation procedure has been repeated until satisfactory translation was obtained. Regarding to the study, Malay version of PSS-10 has been demonstrated as a reliable and valid instrument among medical students in Malaysia with a Cronbach's alpha coefficient of 0.78 which was acceptable and similar to the original version. Moreover, another study has been conducted to evaluate the validity and reliability of Malay version PSS-10 among medical residents and railway workers and manifested validated and a Cronbach's alpha of 0.70 for medical residents and 0.71 for railway workers (Al-Dubai, Barua, Ganasegeran, Rizal & Rampal, 2014). Furthermore, numerous studies have investigated reliability and validity of the GHQ-28 in various clinical populations. Test-retest reliability has been reported to be high (0.78 to 0.9) (Robinson and Price 1982) and interrater and intrarater reliability have both been shown to be excellent (Cronbach's  $\alpha$  0.9–0.95) (Failde and Ramos 2000).

### **3.9 Data Collection Procedure**

Once ethical consent has been received, data collection will be collected online using Google form, as physical data collection in Malaysia during this pandemic situation should be reduce. The Google form link will be disseminate and share online through social media such as Whatapps, Facebook or E-mail among nurses who are currently working in Serdang Hospital, Selangor. A complete Participant Information Sheet (PIS) will be provided on the first page of the online survey form to make sure the participants meet the inclusion criteria of the study. Besides that, the participants will have to click agree after they have

read through all the information to provide the willingness in participating the study. Thus, consent will be automatically obtained when the participants click agree and submit the survey. To ensure the confidentiality of the participants, all data collected will only available for the researcher only. The respondent just need to answer only once and no follow up procedure after that. The data collection will be completed in three months.

```
graph TD; A["The Google form will be spread to the nurses who are currently working in Serdang Hospital, Selangor via WhatsApp."] --> B["A complete Participant Information Sheet (PIS) will be included in the first page of the online survey to ensure the eligibility of the participants."];
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The Google form will be spread to the nurses who are currently working in Serdang Hospital, Selangor via WhatsApp.

A complete Participant Information Sheet (PIS) will be included in the first page of the online survey to ensure the eligibility of the participants.

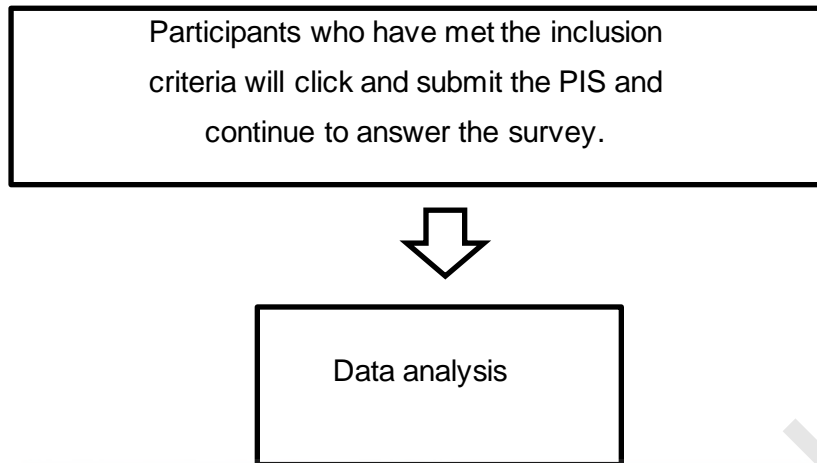


Figure 2: Data Collection Flowchart (Online through Google form)

### 3.11 Data analysis

Data were analyzed by using IBM Statistical Package for the Social Sciences (SPSS) version 22.0 for Windows. Descriptive and Pearson's correlation analysis will be used to evaluate the data.

Objectives	Identified variables	Type of variables	Statistic
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To determine the socio-demographic characteristic of nurses	Age, gender, Marital status, number of children, Working experience, monthly income and working department.	Continuous and categorical.	Descriptive analysis.
To identify the perceived occupational stress of nurses	Perceived occupational stress	Continuous	Descriptive analysis.
To identify the mental health among nurses	Mental health.	Continuous	Descriptive analysis.

<b>Objective</b>	<b>Independent variable (Type of data)</b>	<b>Dependent variable (Type of data)</b>	<b>Statistic (parametric)</b>
To determine the association between socio-demographic characteristic and	socio-demographic characteristic:	Perceived occupational stress (continuous)	Pearson's correlation
	Age (continuous)		

perceived occupational stress			Independent T-Test
	Gender (categorical)		Independent T-Test
	Marital status (categorical)		Pearson's correlation
	Number of children (continuous)		Independent T-Test
	Working experience in Hospital Serdang (categorical)		Pearson's correlation
	Monthly income (continuous)		One-way independent ANOVA
	Working department (categorical)		
To determine the association between socio-demographic characteristic and mental health	socio-demographic characteristic:	Mental health (continuous)	Pearson's correlation
	Age (continuous)		
	Gender (categorical)		Independent T-Test
	Marital status (categorical)		Independent T-Test
	Number of children		

	(continuous)		Pearson's correlation
	Working experience in Hospital Serdang (categorical)		Independent T-Test
	Monthly income (continuous)		Pearson's correlation
	Working department (categorical)		One-way independent ANOVA
To determine the association between perceived occupational stress mental among nurses	Perceived occupational stress (continuous)	Mental health (continuous)	Pearson's correlation

### 3.12 Ethical Consideration

Ethical approval and permission to carry out this study is obtain from Jawantankuasa Etika Untuk Penyelidikan Melibatkan Manusia (JKEUPM), Universiti Putra Malaysia, National Medical Research Register (NMRR) for Medical Research and Ethics Committee (MREC) from Ministry of Health



Malaysia, and Director of Hospital Serdang, informed consent for participants, and permission from Matron and Sister in-charge at wards in Hospital Serdang.

All respondents were given the respondents information sheets and they have the authority whether to participate or not in this study. All information obtained from the respondents were treated highly confidential, and only used for the purpose of this study. As this research is survey study, the data will keep by the researcher for at least five years and will be permanently destroys or delete after period. For any hardcopy information available, the information were kept in locked drawer by the researcher supervisor's office.

The cost for the printing questionnaire, transportation and incentives are by using self-funding. Otherwise, only funding from the nursing department will be received. It is the step on how to avoid the conflict. The participants who are answering my questionnaire will be given a pen as the incentive for them for willing to participate in this study.

### **3.13 Summary**

To sum it up, this chapter described the design and methods that were utilized in this study, including study location, sample, the instrument used and data analysis



## **CHAPTER 4**

### **RESULT**

*This chapter presents the results of this study that aimed to determine the relationship between socio-demographic data, perceived occupational stress and mental health status among nurses in Serdang*

*Hospital, Selangor.. All the data had been analysed using IBM Statistical Package for the Social Science (SPSS) 22.0.*

#### **4.1 Introduction**

In this chapter, it consists of descriptive data and inferential data of the study which includes demographic characteristic of staff nurses, perceived stress and quality of life. All the data have been analyze using parametric statistic as the data is normally distributed.

#### **4.2 Response Rate**

A total of 61 respondents responded to the online survey through Google form. No respond rate could be calculated as this study was conducted using online platform without specially send to any particular respondents. The power of this study is 90% with margin of error 5%.

#### **4.3 Socio-demographic data of nurses in Hospital Serdang (n=61)**

Table 4.3.1 shows, out of 61, 10 (16.4%) represented male respondent and 51 (83.33%) represented female repondents. Most of the respondents are already married 41 (67.2%) while the balance 20 (32.8%) respondent are still single. Majority of the respondents came from Intensive Care Unit (ICU) department 16 (26.2%), followed by

Medical Ward 14 (23%), Surgical 9 (14.8), Pediatrics 9 (9.8), Coronary 3 (4.9%), Nephro Ward 3 (4.9%), Obstetrics And Gynaecology 3 (4.9%), Orthopaedic Ward 3 (4.9%), Pediatrics Intensive Care Unit 2 (3.3%), Cardio Ward 1 (1.6%) and Coronary Care Unit 1 (1.6%)

Table 4.3.1: Socio-Demographic data of the nurses in Hospital Serdang (n=60)

<b>Socio-demographic Characteristics</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>	<b>Mean</b>	<b>± Standard deviation</b>
<b>Age</b>	61	100	27.59	4.51
<b>Gender</b>				
<b>Male</b>	10	16.4		
<b>Female</b>	51	83.6		
<b>Marital status</b>				
<b>Single</b>	20	32.8		
Married	41	67.2		
Number of Children	61	100	0.77	0.99
Monthly income	61	100	2414.75	402
<b>Working department</b>				
ICU	16	26.2		
CCU	3	4.9		
Peadiatrics	6	9.8		
Surgical	9	14.8		
Medical	14	23		
O&G	3	4.9		
Cardio ward	1	1.6		
CICU	1	4.9		
Nephro	3	4.9		

Ortho	3	4.9
Picu	2	3.3



#### **4.4 Level of perceived occupational stress among nurses in Hospital Serdang**

Table 4.4.1 shows the frequency and percentage for level of perceived occupational stress of the respondents. The levels of perceived occupational stress have been divided into three which are low stress, moderate and high stress . Majority of the respondents which is 50

(82%), were having moderate stress while 7 (11.5%), respondents were recorded with low stress and the balance 4 (6.5%) recorded with high stress.

**Table 4.4.1 Level of perceived occupational stress among nurses in Serdang Hospital**

<b>Variable</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Level of perceived occupational stress</b>		
Low stress	7	11.5
Moderate stress	50	82
High Stress	4	6.5

#### **4.5 Status of mental health among nurses in Hospital Serdang**

Table 4.5.1 shows the frequency and percentage for status of the mental health of the respondents. The status of mental health have been divided into two which are normal and abnormal. Majority of the respondents which is 44 (72.1%), were having abnormal mental health

while 17 (27.9%), respondents were recorded with normal mental health status.

Table 4.5.1 Status of mental health among nurses in Serdang Hospital

Variable	Frequency (n)	Percentage (%)
<b>Mental health</b>		
Normal	17	27.9
Abnormal	44	72.1

#### **4.6 Relationship between socio-demographic characteristics and perceived occupational stress**

Table 4.6.1 shows that there was no relationship between the entire socio-demographic characteristics which are age, gender, marital status,

number of children, monthly income and working department with the perceived occupational stress. The correlation between age, number of children and monthly income with perceived occupational stress have been analyze using Person's correlation. Results shows weak correlation between these variables as the coefficient value lies at 0.09, -0.11 and -0.09 respectively. Besides, gender, marital status and working department also show no significant p-value 0.405, 0.405 and 0.344 respectively which indicate that these variables are not influence the perceived stress of the respondents.

Table 4.6.1 Relationship between socio-demographic characteristics and perceived occupational stress

Socio-demographic	Perceived occupational stress		
	Means	r-value	P-value



<b>Characteristics</b>		
Age		0.09 0.489
Gender		0.405
Male	21.70(20.01-23.38)	
Female	19.94(18.11-21.77)	
Marital status		0.405
Single	21.55(20.10-22.99)	
Married	19.58(17.37-21.79)	
Number of Children		-0.11 0.936
Monthly income		-0.09 0.488
Working department		0.344
Icu	20.87(18.92-22.82)	
Ccu	25.33(23.89-26.76)	
Paediatric	22.16(18.62-25.70)	
Surgical	17.44(11.48-23.39)	
Medical	22.78(19.98-25.58)	
O&G	15.66(1.98-29.34)	
Cardio Ward	1.66(0.23-3.10)	
Ortho	19.33(17.89-20.76)	
Picu	1(-11.70-13.70)	

Note: analyze using Pearson's correlation

analyze using Independent T-test

analyze using One-way independent ANOVA

#### **4.7 Relationship between socio-demographic characteristics and mental health status of nurses in Hospital Serdang**

Table 4.7.1 shows that there was no relationship between the entire socio-demographic characteristics which are age, gender, marital status, number or children, monthly income and working department with

the perceived occupational mental health status. The correlation between age, number of children and monthly income with mental health status have been analyzed using Person's correlation. Results show weak correlation between these variables as the coefficient value lies at 0.184, 0.281 and 0.175 respectively. Besides, gender, marital status and working department also show no significant p-value 0.101, 0.237 and 0.431 respectively which indicate that these variables are not influence the mental health status.

Table 4.7.1 Relationship between socio-demographic characteristics and mental health status

Socio-demographic Characteristics	Mental Health Status		
	Means (95% CI)	r-value	P-value
Age		0.184	0.184
Gender			0.101

Male	21.70		
Female	19.94		
Marital status			0.237
Single	19.58		
Married	21.55		
Number of Children		0.281	0.281
Monthly income		0.176	0.175
Working department			0.431
ICU	32.00(27.53-36.46)		
CCU	12.33(-40.73-65.39)		
Paediatric	32.33(24.35-40.31)		
Surgical	21.22(9.50-32.93)		
Medical	29.21(24.26-34.16)		
O&G	13.00(6.42-19.57)		
Nephro	34.33(31.46-37.20)		
Ortho	33.00(-1.42-67.42)		
Picu	2.00(-23.41-27.41)		

Note: analyze using Pearson's correlation  
analyze using Independent T-test  
analyze using One-way independent ANOVA

#### **4.8 Relationship between perceived occupational stress and mental health status**

Table 4.8.1 shows the relationship between perceived occupational stress and mental health status. There is a significant correlation between perceived occupational stress and mental health status at r-value 0.448. The positive value indicates that when the score of perceived occupational stress increase the status of mental health

deteriorates. These two variables show a significant relation at p-value 0.0001.

Table 4.8.1 Relationship between perceived occupational stress and mental health status

Variables	Mental health status	
	r-value	p-value
Perceived occupational stress	0.448**	0.0001

Note: analyze using Pearson correlation

\*\*Significant at p-value<0.01

## CHAPTER 5

### DISCUSSION

#### 5.1 Introduction

This chapter was presented to discuss the result of the study. The perceived occupational stress and its relationship with the socio-demographic data and

mental health status among nurses in Serdang Hospital were discussed further in this study.

## **5.2 Level of perceived occupational stress among nurses**

In this study, the prevalence of stress among nurses with moderate level stress was 50 (82%), 7 (11.5%) were having low stress while and the balance 4 (6.5%) recorded with high level of stress during the past month. The previous finding from the study that conducted by Bodke and Dhade (2018) to nurses in Dr. Sgankarrao Chavan Government Medical College and Hospital, India was found similar that the reported data 152 (85.39%) were moderate and 14 (7.86%) were found under severe stress. Similar findings also found by Alharbi et al. (2019), they found that 134 (87.0%) of nurses working in Saudi Hospital are having moderate stress, 18 (11.7%) having low stress and 2 (1.3%) having severe stress. The minimal variation in percentage of perceived stress score recorded between the other study shows that the most of the nurses are having moderate stress despite working in different settings, hospitals and country.

There are various sources of stress to nurses. According to the study by Siti & Huda (2018) done at Serdang Hospital, Malaysia. The most of the nurses had just a few years of experience, and they were still adjusting to their new daily duties and had limited capacity to deal with difficult situations which cause rise in stress. Working experience was found to be substantially linked with burnout in this study, with burnout ( $\chi^2 = 4.393$ ,  $df = 1$ ,  $p = 0.039$ ) whereby nurses with

working experience less than 10 years were experiencing higher burnout level (26.8%) as compared to those who works more than 10 years (18.3%).

### **5.3 Mental health among nurses in Serdang Hospital**

In this study, score 0-22 will be considered to be good mental health and 23-84 score will be considered as mentally in poor health. Based on the result, majority of the nurses 44 (72.1%) was in mentally poor health and the remaining 17 (27.9%) was in good mental health. This finding indicate that more nurses working is Serdang Hospital have poor mental health as compared to normal mental health. Other study using same questionnaire (GHQ-28) from Jaafarpour & Azadi (2014) among nurses at Iran Hospital shows that 43.2% have poor mental health and 56.8% have good mental health. Another study conducted by Ardekani et al. (2008) reported that nurses working at hospital in Shiraz 45.4% of the nurses were found to have poor mental health and remaining 54.6% of the nurses have a good mental health. This variation in the percentage of mental health among nursing staff may due to hospital settings and work environment during they study conducted.

In 2021, pandemic issue Covid-19 in Malaysia have not resolved yet due to certain obstacles. The daily case reported from Department of Statistics Malaysia with more or less of 20 000 each day served a great challenge to nursing staff in Malaysia. Since July 2021 Ministry of Health (MOH) announced that Serdang Hospital become hospital to treat Covid-19 patient. A study conducted among nurses who working during Covid-19 by Verghese et al. (2021) reported an increased prevalence of poor mental health outcomes, such as anxiety (32%), depression (35%), and insomnia (38.3%), was found among

nurses throughout the world. This shows that working environment can differ the result of mental health among the nurses.

#### **5.4 The relationship between socio-demographic characteristics and perceived occupational stress**

In this study, the entire socio-demographic variables including age, gender, and marital status, number of children, monthly income, and working department had no significant association with perceived occupational stress in this study. The findings of Bodke and Dhande (2018) are similar in that no socio-demographic variables (age, sex, marital status, or family size) are statistically significant with stress. Conversely, Masa'Deh et al. (2017) discovered a statistically significant link between working department and nurse stress levels. This difference arises from the unbalanced distribution of respondents in each department in the current study, preventing SPSS from correctly capturing the data.

#### **5.5 Relationship between socio-demographic characteristic and mental health status**

In this study, the entire socio-demographic variables including age, gender, and marital status, number of children, monthly income, and working department had no significant association with mental health status in this study. This indicates that none of the socio-demographic data affect the mental health status among the nurses in Serdang Hospital. According to the study done by Ardekani et al. (2008), the result shown that there is no significant between age

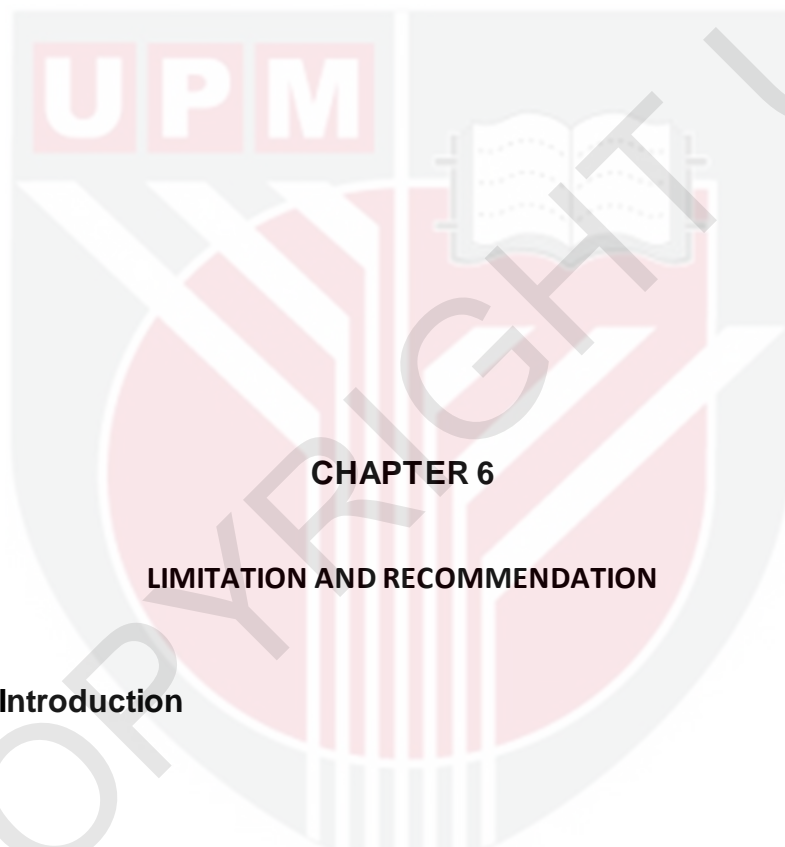
and mental health of the nurses with P-value 0.001 but the study revealed that the female nurses were more likely than male nurses to suffer from a mental illness illnesses ( $p = 0.002$ ) and Mental illnesses were shown to be considerably greater in married people than in single people ( $p = 0.0001$ ). Another study discovered that female nurses were 2.7 times more likely than male nurses to suffer from mental illnesses (Suzuki *et al.*, 2004) These results were not in line with the other study as result from this study only collect a twenty percent from a total population.

### **5.6 Relationship between perceived occupational stress and mental health status among nurses in Serdang Hospital Serdang**

In this study, a significant association was found between perceived occupational stress and mental health among nurses in Serdang Hospital at p-value 0.0001 and it is positive correlation between these two variables at r-value 0.448. This indicate that nurses with increase perceived stress will have increase in mental health issue status as the correlation mean that the data is a positive relationship. Nurses' perceived stress not only caused by occupational environment, it may widely caused by variety of factors, including familial problems, psychiatric disturbances, financial difficulties and others. A study revealed by Sampaio (2021) when compared to women, men had a lower



mean stress score and the stress levels of senior nurses and nurse specialists were also lower than low experienced nurses. Other than that, Racic et al. (2019) found that a high level of perceived stress (OR, 0.624; CI 95 percent, 0.507-0.704, p0.001), the presence of depression (OR, 0.800; CI 95 percent, 0.513-1.087, p0.001), and a bad quality of life were all predictors of trait anxiety (OR, 0.073; CI 95 percent, 0.018-0.128, p=0.020). Another study found that among Iranian nurses, there was a substantial inverse relationship between felt stress and marital satisfaction ( $r = 0/446$ , P 0.001) and mental health ( $r = 0/612$ , P 0.05). (Mehrara, Mazaheri & Hasanzadeh, 2019). These two studies show that stress has a significant impact on a person's mental health. Nurses work in a variety of settings and have a lot of personal responsibility. Nurses are typically the very first point of contact for patients and their relative, organising treatment and showing compassion through tough moments. Nurses must have a solid mental health condition in order to provide optimal care to patients and prevent medical errors.



## **CHAPTER 6**

### **LIMITATION AND RECOMMENDATION**

#### **6.1 Introduction**

This study is a cross-sectional study that had been conducted within a short period of time by using convenience sampling for data collection and with pandemic that happen in this country and all around world. Thus, there are several limitations that have been identified during research period that will be discussed in this chapter.

## **6.2 LIMITATION**

There are several limitations that need to be acknowledged. Firstly, the method for data collection need to be change from simple random sampling to convenient sampling due to COVID-19 pandemic and Restricted Movement Order (RMO) that happen in this country. It is difficult to get the respondent through WhatsApp and media social rather than giving the questionnaire by hand.

Besides, this study does not reflect all nurses in Malaysia since it only focused on perceived occupational stress and mental health status among nurses in Serdang Hospital only. It impeded the ability to generalize study result and cannot be adapted in other population. Lastly, limited study on perceived occupational stress among nursed in Malaysia had caused difficulties in making comparison and discussion can be done on the finding in this study.

## **6.3 Recommendation**

This study had concluded that higher perceived occupational stress does affect the mental health status and there is significant association between these two variables among nurses working at Serdang Hospitals. By that, higher nursing management should be made aware

of this problem so that further steps may be taken to help nurses enhance their capacity to deal with stress effectively.. Nurse with healthy mental state during working will be able to provide better care to the patient and their life will be more meaningful.

Besides, more study on nurses should be done in Malaysia to identify arising problems that can affect their quality of care, working satisfaction and mental state. This is because nurse in Malaysia is less addressed that caused them to be less appreciated by the society. Nurse is actually a very crucial role in health care systems as they were the backbone in the hospital that working 24 hours in week to provide care to the patient. Thus, by knowing nurse problems and difficulties in ensuring the patient to get proper care in the hospital, to some extent it will help them to rise and correct their image in the eye of the society.

Lastly, society's attitude regarding care for their family member in the hospital need to be correct as they thought that nurse should do everything including change diaper and feeding. That corrected but family member also need to learn to be involve in that process as they the one will be doing it as the patient discharge from the hospital. Hence, it more or less can educate the society to be responsible toward their family member who admitted in hospitals.

#### **6.4 Conclusion**

Stress is limited to small levels to increase performance, but too much of it can be harmful to one's health and, as a result, one's quality of life.

There is a strong link between perceived occupational stress and mental status in this study. Despite the fact that the majority of nurses in Serdang Hospital are under moderate stress, they continue to work hard. Thus, improving nurses' mental health can result in better healthcare services for the society.

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## APPENDICES

### APPENDIX 1 : QUESTIONNAIRE



UNIVERSITI PUTRA MALAYSIA  
FACULTY OF MEDICINE AND HEALTH SCIENCES  
DEPARTMENT OF NURSING

BACHELOR OF NURSING

RESEARCH TITLE:

**PERCEIVED OCCUPATIONAL STRESS AND MENTAL HEALTH AMONG NURSES  
IN SERDANG HOSPITAL, SELANGOR, MALAYSIA:**

**A CROSS SECTIONAL STUDY**

RESEARCHER:

MOHAMAD FIRDAUS BIN ALI (194848)

SUPERVISOR:

PROFESSOR DR. SOH KIM LAM



#### **INSTRUCTION:**

This study is conducted for academic purposes. All information will be kept private and confidential. Thank you for your cooperation in answering this questionnaire.

SECTION 1: SOCIO-DEMOGRAPHIC

Please fill in or tick (✓) in the spaced provided

1. Age : \_\_\_\_\_

2. Sex :

Male

Female

3. Marital status :

Married

Single

4. Number of children : \_\_\_\_\_ (child/children)

(No child/children)

5. Working experience in Hospital Serdang

Less than 6 months

More than 6 months

6. Monthly income : \_\_\_\_\_

7. Working department : \_\_\_\_\_

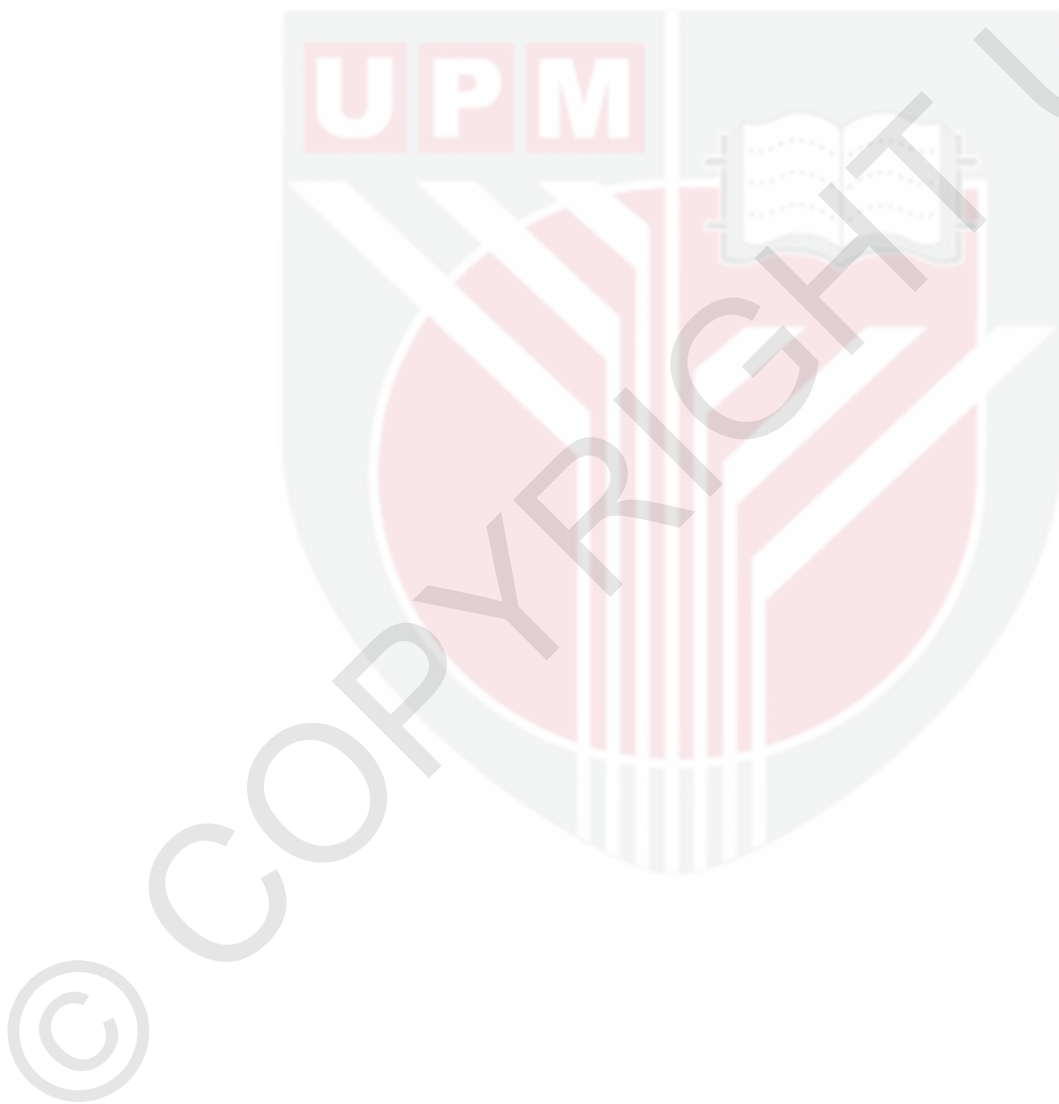
## SECTION 2 : PERCEIVED OCCUPATIONAL STRESS

This questionnaire is designed to access the perceived occupational stress level. Please choose the most appropriate answer by ticking (/) in the column provided.

No	Questions	0 Never	1 Almost Never	2 Sometimes	3 Fairly Often	4 Very Often
1.	In the last month, how often have you been upset because of something that happened unexpectedly?					
2.	In the last month, how often have you felt that you were unable to control the important things in your life?					
3.	In the last month, how often have you felt nervous and stressed?					
4.	In the last month, how often have you felt confident about your ability to handle your personal problems?					
5.	In the last month, how often have you felt that things were going your way?					
6.	In the last month, how often have you found that you could not cope with all the things that you had to do?					
7.	In the last month, how often have you been able to control irritation in your life ?					

8.	In the last month, how often have you felt that you were on top of thing?					
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9.	In the last month, how often have you been angered because of things that happened that were outside of your control?					
10.	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					



### SECTION 3 : MENTAL HEALTH - GENERAL HEALTH QUESTIONNAIRE-28

#### (GHQ-28)

Please fill in or tick (✓) in the spaced provided

Num	Have you recently ?	Better than usual	Same as usual	Worse than usual	Much worse than usual
1.	Been feeling perfectly well and in good health ?				
2.	Been feeling in need of a good tonic ?				
3.	Been feeling run down and out of sorts ?				
4.	Felt that you are ill ?				
5.	Been getting any pains in your head ?				
6.	Been getting a feeling of tightness or pressure in your head?				
7.	Been having hot or cold spells ?				
8.	Lost much sleep over worry ?				
9.	Had difficulty in staying asleep once you are off ?				
10.	Felt constantly under strain ?				
11.	Been getting edgy and bad-tempered ?				
12.	Been getting scared or panicky for no good reason ?				
13.	Found everything getting on top of you ?				
14.	Been feeling nervous and strung-up all the time ?				
15.	Been managing to keep yourself busy and occupied ?				
16.	Been taking longer over the things you do ?				
17.	Felt on the whole you were doing things well?				
18.	Been satisfied with the way you've carried out your task ?				
19.	Felt that you are playing a useful part in things ?				
20.	Felt capable of making decisions about things ?				



Num	Have you recently ?	Better than usual	Same as usual	Worse than usual	Much worse than usual
21.	Been able to enjoy your normal day-to-day activities ? ?				
22.	Been thinking of yourself as a worthless person ?				
23.	Felt that life is entirely hopeless ?				
24.	Felt that life isn't worth living ?				
25.	Thought of the possibility that you might make away with yourself ?				

26.	Found at times you couldn't do anything because your nerves were too bad ?				
27.	Found yourself wishing you were dead and away from it all ?				
28.	Found that the idea of taking your own life kept coming into your head ?				



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**END OF QUESTIONS**



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## **APPENDIX 2 : PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM PARTICIPATION INFORMATION SHEET**

### **1. Title of study:**

The association between perceived occupational stress and mental health among nurses in Serdang Hospital, Selangor, Malaysia.

### **2. Name of Investigator and Institution:**

Mohamad Firdaus Bin Ali, Faculty of Medicine and Health Science, Universiti Putra Malaysia (UPM)

### **3. Name of sponsor:** Self-sponsor

### **4. Introduction**

COVID-19 outbreak has becoming a global health issue which significantly threaten the medical facilities, thus, the perceived occupational stress level and mental health among nurses become a hot topic to be discussed. Long term of perceiving stress and mental health problem has becoming a big challenge for the nurses. Therefore, this study aims to assess the perceived occupational stress level and mental health among nurses.

You are invited to participate in a research study because you have criteria for this study. The details of the research trial are described in this document. It important that you understand why the research is being done and what it will involve. Please take your time to read through and consider this information carefully before you decide if you are willing to participate. Ask the researcher if anything is unclear or if you like more information. After you are properly satisfied that you understand this study and that you wish to participate, you must sign this informed consent form. To participate in this study, you may be required to provide your researcher with information on your health history; you may harm yourself if you are not truthful with the information provided.

Your participation in this study is voluntary. You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time. If you withdraw, any data collected from you up to your withdrawal will still be used for the study. Your refusal to participate or withdrawal will not affect any medical or health benefits to which you are otherwise entitled.

This study has been approved by the Medical Research and Ethics Committee, Ministry of Health Malaysia.

### **5. What is the purpose of the study?**

This study is conducted to study the perceived occupational stress and mental health among nurses in Serdang Hospital, Selangor.

A total of 269 subjects like you will be participating in this study. The whole study will last about 3 months which is from April 2021 until July 2021 and your participation will be about 10-15 minutes only.

### **6. What are my responsibilities when taking part in this study?**

It is important for you to answer all of the questions asked by the researcher honestly and completely. If your condition or circumstances change during the study, you must tell the researcher. As for your safety, you need to follow the instruction given to make sure the process is going well.

### **7. What are the potential risks and side effects of being in this study?**

There is no risk and side effect when you participate in this study.

### **8. What are the benefits of being in this study?**

#### **a. To you as the subject?**

The information that you provided regarding your experiences and feeling on occupational stress and mental health are valuable and much appreciated. It has no direct benefit to the respondent, but it will create awareness among respondents and improve the quality of care

for the patients. There will be no payment given to the respondent as this participation is voluntary. Besides, this study is also conducted by an undergraduate student and it is a self-sponsor.

**b. To the investigator?**

The information and data obtained from this study will allow the researcher to assess the perceived occupational stress and mental health among nurses. The researcher able to identify the perception and the relationship between occupational stress level and mental health among nurses. Besides, the findings from the study can suggest for any improvement to be done so that the nurses able to increase the awareness on perceived occupational stress and poor mental health will direct affect the patient's care.

**9. Who is funding this research?**

This study has no funding as it is a self-sponsor.

**10. Can the research or my participation be terminated early?**

The researcher can terminate this study and your participation anytime if not fulfil the inclusion criteria of participants. If this study to be ended early, you will be informed immediately.

**11. Will my information be kept private?**

Yes. All information obtained from this study will be kept and handled confidentially per applicable laws and/or regulations. Your identity will not be revealed without your permission throughout the activities in this study include presentation and publication. However, anyone who is related to this study includes research staff, qualified monitors and auditors, the sponsors and its affiliates and governmental or regulatory authorities has the right to inspect and photocopy your related record when necessary.

## **12. Who should I call if I have questions?**

If you have any problems, please do not hesitate to contact one of the people listed below.

### **i. Researcher**

Mohamad Firdaus Bin Ali

Contact no.: 0176551815

Email:mfirdausalii@gmail.com

### **ii. Supervisor**

Professor Dr Soh Kim Lam

Contact no.: +60397692429/2430

Email: sklam@upm.edu.my

If you have any questions about your rights as a participant in this study, please contact the Secretary of Medical Research & Ethics Committee, Ministry of Health Malaysia at +60322874032.



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## INFORMED CONSENT FORM

**Title of Study:**

Perceived occupational stress and mental health among nurses in Serdang Hospital,  
Selangor, Malaysia

**By signing below I confirm the following:**

- I have been given oral and written information for the above study and have read and understood the information given.
- I have had sufficient time to consider participation in the study and have had the opportunity to ask questions and all my questions have been answered satisfactorily.
- I understand that my participation is voluntary and I can at any time free withdraw from the study without giving a reason and this will in no way affect my future treatment. I am not taking part in any other research study at this time. I understand the risks and benefits, and I free to give my informed consent to participate in the conditions stated.
- I understand that I must follow the study doctor's (investigator's) instructions related to my participation in the study.
- I understand that research staff, qualified monitors and auditors, the sponsor or its affiliates, and governmental or regulatory authorities, have direct access to my medical record to make sure that the study is conducted correctly and the data are recorded correctly. All personal details will be treated as STRICTLY CONFIDENTIAL.
- I will receive a copy of this subject information/informed consent form signed and dated to bring home.
- I agree/disagree\* for my participation in this study.

**Subject:**

Signature:

I/C number:

Name:

Date:

**An investigator conducting informed consent:**

Signature:

I/C number:

Name:

Date:

**Impartial witness:** *(Required if contents of the participant information sheet are orally communicated)*  
Signature:

Name:  
*to the subject*

I/C number:  
Date:



## APPENDIX 3 : Approval Letter from Medical Research & Ethics Committee (MREC)



JAWATANKUASA ETIKA & PENYELIDIKAN PERUBATAN  
(MEDICAL RESEARCH & ETHICS COMMITTEE)  
KEMENTERIAN KESIHATAN MALAYSIA  
MINISTRY OF HEALTH MALAYSIA  
Kompleks Institut Kesihatan Negara (NIH)  
No.1, Jalan Setia Murni U13/S2,  
Seksyen U13 Bandar Setia Alam,  
40170 Shah Alam, Selangor.



Tel.: +(6)03-33628888/ 33626205

Ref. : KKM/NIHSEC/P21-380(12)  
Date : 21-May-2021

MOHAMAD FIRDAUS BIN ALI  
UNIVERSITY PUTRA MALAYSIA (UPM)

Dear Dato/ Dri/ Sri/ Madam,

### LETTER OF ETHICAL APPROVAL:

**NMRR-21-221-58159 (IIR)**

**THE RELATIONSHIP BETWEEN PERCEIVED OCCUPATIONAL STRESS AND MENTAL HEALTH AMONG STAFF NURSES IN SERDANG HOSPITAL, SELANGOR: A CROSS SECTIONAL STUDY**

This letter is made in reference to the matter above.

2. The Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (MOH) has provided ethical approval for this study. Please take note that all records and data are to be kept strictly **CONFIDENTIAL** and can only be used for the purpose of this study. All precautions are to be taken to maintain data confidentiality. Permission from the District Health Officer / Hospital Administrator/ Hospital Director and all relevant heads of departments /units where the study will be carried out must be obtained prior to the study. You are required to follow and comply with their decision and all other relevant regulations including the Access to the Biological and Benefit Sharing Act 2017.

3. The investigators and sites involved in this study are:

**Hospital Serdang**

Mohamad Firdaus Bin Ali (Principal / Coordinating Investigator)  
Associate Professor Dr. Soh Kim Lam

4. The following study documents have been received and reviewed with reference to the above study:

**Documents received and reviewed with reference to the above study:**

1. Cover letter to MREC (Version 5, dated 20-05-2021)
2. Declaration of Conflict of Interest (COI) (Version 1, dated 22-02-2021)
3. Protocol (Version 5, dated 20-05-2021)
4. English: Patient Information Sheet/ Informed Consent Form (Version 3, dated 20-05-2021)
5. Malay: Patient Information Sheet/ Informed Consent Form (Version 3, dated 20-05-2021)
6. Questionnaire (Version 1, dated 19-02-2021)
7. Follow-up Review Report (Version 1, dated 20-05-2021)
8. IA-HOD-IA and CV of:
  - Mohamad Firdaus Bin Ali
  - Associate Professor Dr. Soh Kim Lam