

UNIVERSITI TEKNOLOGI MARA

**NIGHT SHIFT BEHAVIOURAL
ALERTNESS ON PSYCHOMOTOR
VIGILANCE PERFORMANCE
(PVP) AMONG NURSES AT
UNIVERSITY'S HOSPITAL IN
SELANGOR**

MASTURINA BINTI ABDUL MALEK

Project submitted in fulfilment of the requirements for
the degree of
**Bachelor in Environmental Health and Safety
(Hons.)**

Faculty of Health Sciences

January 2023

ACKNOWLEDGEMENT

In the name of Allah, The Most Gracious, The Most Merciful. Assalamualaikum and Alhamdulillah, all praise to Allah S.W.T The Supreme Lord of the Universe. Peace and blessing to Nabi Muhammad S.A.W., all prophets, and their families. I praise Allah S.W.T. for giving me physical and mental health, maturity of mind, and time in completing the Final Year Project entitled Night Shift Behavioral Alertness on Psychomotor Vigilance Performance (PVP) Among Nurses at University's Hospital in Selangor. Thankfully, I was able to complete my Final Year Project on time.

First of all, I would like to express my sincere thanks and appreciation to both my parents and family for their great support and encouragement to me in completing this project. My deepest gratitude and appreciation to my esteemed supervisor, Dr. Noor Haziqah Bte Kamaludin who provide constant guidance, advice, and motivation throughout my research journey. Not to forget, I would like to thank all the lecturers in the Department of Environmental Health and Safety, Faculty of Health Sciences who always share their thoughts, knowledge, and advice throughout my study at UiTM Puncak Alam. I would also like to extend my thanks to the laboratory assistants for their help in offering me the resources in completing my research.

In this regard, I would like to express my appreciation to Matron Norhaniza bt Kamaludin, Matron Roseerviyana, Sr. Kasmawati bt Sufian, and Sr. Hazean bt Ab Talib for their valuable helps and constructive suggestions during the planning and development of this research work which enabled me to conduct this research at the university's hospital. Their willingness to give time and energy so generously has been greatly appreciated. I would also like to thank all staff nurses from all departments for their biggest contribution to my research project. Finally, the biggest thanks to everyone either directly or indirectly for helping me to complete the Final Year Project for my bachelor's degree in Environmental Health and Safety (Hons).

TABLE OF CONTENTS

TITLE PAGE	
DECLARATION BY STUDENT	i
INTELLECTUAL PROPERTIES	ii
APPROVAL BY SUPERVISOR	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS	xi
ABSTRACT	xii
ABSTRAK	xiii
CHAPTER 1: INTRODUCTION	1
1.1 Background of study	1
1.2 Problem statements	3
1.3 Research objectives	5
1.3.1 General objectives	5
1.3.2 Specific objectives	5
1.4 Research questions	6
1.5 Hypothesis	6
1.6 Scope and limitation	7
1.7 Significance of the study	7
1.8 Conceptual framework	8
CHAPTER 2: LITERATURE REVIEW	10
2.1 Introduction	10
2.2 Factor contribution to shifts work behavioural alertness	10
2.2.1 Shift work	10

ABSTRACT

Night shift work can lead to major health concerns and negatively affect workers' performance. This research aimed to compare the night and day shift environmental factors, measure the behavioral alertness at night and day shifts by using the PVP test as well as determine the relationship between night shift environmental factors with the behavioral alertness among nurses. A cross-sectional study was conducted, and data were obtained by using several instruments including a PVP test application, indoor air quality meter, sound level meter, and lux meter as well as the validated questionnaires. 70 female staff nurses participated in this research. The findings reveal that the environmental indoor quality in the hospital during the night shift and day shift has not exceeded the recommended threshold limits. However, there is a significant difference in behavioral alertness at the night shift (p -value = 0.034) and the day shifts (p -value = 0.017) between the early and the end of the shift. Nurses tend to be unalert at night shifts since their behavioral mechanism changes when working at night shift. This result is supported by questionnaires that stated sleeping problems on the working shift affect their behavioral alertness. Apart from that, the environmental factors that were measured in this study have no correlation with the nurses' alertness since the hospital's indoor environmental factors have not contravened the standard and permissible limits of the regulations. The internal elements of the hospital environment observed in this study have resulted to be safe since the establishment of the hospital has just reached one year, and the management is already considered all important aspects of the hospital environment. In accordance with the World Health Organization's classification of shift work as a risk condition, this research suggested for further studies are required to better analyze shift work on the health, performance, and vigilance state of workers, especially night shift workers.

Keywords: *Night shift, behavioral alertness, circadian rhythm, sleep quality, job performance*

CHAPTER 1

INTRODUCTION

1.1 Background of Study

The duties of nurses differ substantially depending on the healthcare facility in which they work. Therefore, registered nurses are not limited to working in hospitals hence, they can work in clinics, schools, and assisted living facilities, including private residences. (Nelson J., 2020). A nursing unit is a specialized department, generally in a hospital, which provides specific requirements to patients. In a nursing facility, each healthcare professional is qualified to deal with specific conditions or patient categories. Nursing units are classified into numerous types, including intensive care unit (ICU), emergency room (ER), trauma unit, post-anesthesia care unit (PACU), coronary/cardiac care unit (CCU), labor and delivery/postpartum units, dialysis services unit, medical-surgical services unit, neonatal intensive care unit (NICU), neurological intensive care unit (Neuro ICU), pediatric intensive care unit (PICU), surgical intensive care unit (SICU), progressive care unit (PCU), and inpatient psychiatric services unit (Nursing Division Ministry of Health, 2022). Nurses are not only responsible for engaging the patient and family in care decisions, but for providing dietary advice, treatment implications, communication, and education to the patient to avoid injury as well as improve treatment outcomes (Jarrar M., Minai M. S., Al-Bsheish M., Meri A., & Jaber M. 2018).

Malaysia will have approximately 110 thousand registered nurses by 2020, and it is an increase over the previous year. Since 2016, the number of registered nurses in the country has been increasing until now (Hirschmann, 2022). According