

**PSYCHOLOGICAL STATUS AND WELL BEING
AMONG EMERGENCY DEPARTMENT NURSES IN
HOSPITALS IN MALAYSIA**

by :

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**Dissertation Submitted In Partial Fulfillment of the
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LIST OF ABBREVIATIONS

APEX	Accelerated Programme for Excellent
BM	Bahasa Malaysia
DASS 21	Depression Anxiety Stress Score – 21 Item Questionnaire
ED	Emergency Department
HUSM	Hospital Universiti Sains Malaysia
IQR	Inter Quartile Range
MLR	Multiple Linear Regression
PTSD	Post Trauma Stress Disorder
SLR	Single Linear Regression
UK	United Kingdom
US	United States

**STATUS PSIKOLOGI DAN KESEJAHTERAAN DI KALANGAN
JURURAWAT JABATAN KECEMASAN DI HOSPITAL-HOSPITAL DI
MALAYSIA**

ABSTRAK

Objektif kajian: Kajian ini bertujuan untuk menentukan status psikologi khususnya tahap kemurungan, kebimbangan dan stres di kalangan jururawat yang berkerja di Jabatan Kecemasan di hospital-hospital di Malaysia serta hubungannya dengan faktor-faktor demografi. **Methodologi:** Penyelidikan kaji selidik ini telah dijalankan di Jabatan Kecemasan di tujuh hospital di Malaysia. Seramai 168 jururawat yang memenuhi kriteria inklusi telah disertakan dalam kajian ini. Setiap jururawat tersebut telah diberikan satu set borang soal selidik yang mengandungi latar belakang demografi dan borang DASS 21 untuk pengumpulan data. **Keputusan:** Keputusan dari 168 jururawat menunjukkan sejumlah 23 jururawat (14.3%) mencatatkan tahap kemurungan sederhana, Seorang jururawat (0.6 %) telah merekodkan tahap untuk kemurungan yang teruk dan seorang jururawat (0.6%) juga untuk tahap kemurungan yang sangat teruk. Seramai 36 jururawat (21.4%) merekodkan tahap kebimbangan yang sederhana dengan 8 jururawat (4.8%) merekodkan tahap kebimbangan yang teruk dan seramai 5 jururawat (3%) merekodkan tahap kebimbangan yang amat teruk. Sedangkan untuk tahap stres, hanya 2 jururawat (1.2%) merekodkan tahap tekanan sederhana. Antara faktor-faktor demografi diuji, hubungan statistic yang signifikan ditemui antara kemurungan dan kebimbangan dengan jantina.

Kesimpulan: Status psikologi, terutamanya kemurungan, kebimbangan dan tahap stres di kalangan jururawat Jabatan Kecemasan secara umum adalah rendah. Didapati bahawa tahap kemurungan dan kebimbangan lebih dipengaruhi oleh faktor-faktor demografi berbanding tahap tekanan.

**PSYCHOLOGICAL STATUS AND WELL BEING AMONG EMERGENCY
DEPARTMENT NURSES IN HOSPITALS IN MALAYSIA**

ABSTRACT

Objective: To determine the psychological status, particularly the level of depression, anxiety and stress level among Emergency Department (ED) nurses in hospitals in Malaysia and its association to demographic factors. **Methods:** A survey research was conducted in the ED of seven hospitals in Malaysia. A total of 168 nurses from the ED who fulfilled the inclusion criteria were included in the study. Each nurse was given a set of questionnaire consisting demographic background and the DASS 21 for data collection.

Results: The results from 168 nurses showed a total of 23 nurses (14.3%) recorded scores for moderate depression, 1 nurse (0.6%) recorded a score for severe depression and another 1 nurse (0.6%) recorded a score for extremely severe depression respectively. A total of 36 nurses (21.4%) recorded moderate anxiety, with 8 nurses (4.8%) recorded severe anxiety and 5 nurses (3%) recorded extremely severe anxiety. Stress levels score showed 2 nurses (1.2%) recorded moderate stress levels and none was recorded for severe – extremely severe stress. Among the demographic factors tested, gender was a significant factor associated with depression ($\beta = 6.134$, $p = 0.031$) and anxiety ($\beta = 6.780$, $p = 0.015$) respectively. **Conclusion:** The psychological status, particularly depression, anxiety and stress level among ED nurses were generally low. The depression and anxiety level was noted to be more affected by demographic factors compared to stress level.

Keywords: *Emergency Department, Nurse, Depression, Anxiety, Stress*

CHAPTER 1 : INTRODUCTION

1.1 LITERATURE REVIEW

1.1.1 Background

Occupational stress is a recognized problem amongst health care workers. Stress can lead to serious ill health, affect career longevity, and cause personal distress. Emergency departments (ED) are on the front line of hospital services, where the workload can be unpredictable and chaotic. The ED operates 24 hours a day and due to this nature, it receives a variety of patients presenting with complaints of common cold to acute life threatening injuries. Therefore emergency work has been identified as one of the most stressful work environments. [1, 2]

Emergency workers such as paramedics and nurses face particular challenges such as unpredictable workload, high patient attendances, limited resources, repeated exposure to traumatic events, potentially violent situations, and critical decision making often based on incomplete information from patients or relatives. [3] Hence, emergency workers demonstrate higher levels of psychological stress which are already elevated above the general population. The demands that these emergency workers are exposed too lead to a range of social, physical and psychological responses which may be extremely stressful. [4]

The implications of work-related stress include the effects on worker satisfaction and productivity, their mental and physical health, absenteeism and its economic cost,

the wider impact on family function and finally, the potential for employer liability. While depression is the most likely adverse psychological outcome, the range of other possible psychological problems include ‘burnout’, alcohol abuse, unexplained physical symptoms, ‘absenteeism’, chronic fatigue and sick building syndrome. [5]

A recent study in the US by Bently in 2013 was able to estimate the prevalence of depression, anxiety, and stress among a large cohort of nationally certified EMS professionals. In the study with more than thirty thousand respondents, the DASS-21 classified that 6.8% EMS professionals as depressed, 6.0% as anxious, and 5.9% as stressed. A further analysis showed that emergency paramedics had an increased risk of depression and anxiety for those with more than 16 years of working experience. [6]

A study in UK by Burbeck in 2002 particularly among ED consultants revealed that over 44% of respondents indicative of possible psychiatric cases, compared with respondents in other studies of UK based consultants and general working population which were 28% and 18% respectively. This study did not find that protective factors identified in similar occupational groups applied to ED consultants, for example, being married or being older and more experienced. In addition, a significantly higher proportion of female respondents had scores indicative of depression compared with their male colleague. [3]

In our country itself, a study of stress among ward nurses in a general hospital has been done by Sharifah in 2011. This study showed that 24.6% of the respondents perceived occupational stress and a significant relationship of the prevalence of stress

and the type of department the nurses worked in with the highest level of stress in the medical department. Unfortunately, the emergency nurse wasn't included in this study. [7]

Previously work related stress in the ED has been linked to only depression and burnout. However, Laposa in 2003 has extended the symptoms to possibility development of anxiety disorders, such as post-traumatic stress disorder (PTSD). A study among personnel mostly emergency nurses from a hospital in a large Canadian urban centre was done. As much as 12% respondents met full criteria and another 20% met all of the major criteria for a diagnosis of PTSD. Three sets of factors have been shown to contribute to stress in ED personnel; organizational characteristics, patient care, and the interpersonal environment with the last being the most significant. Surprisingly there were no significant relationships between the total stress score with age, number of years working in the health services profession, number of shifts per month, nor the number of overtime shifts per month. [8]

A study on mental health problem among ambulance workers was done by Bennet in UK in 2004. This study examined the prevalence of PTSD, depression, and anxiety in a sample of emergency ambulance personnel. Among respondents, the overall rate of PTSD was 22%. Levels of PTSD did not differ according to grade, but men had a higher prevalence rate than women (23% compared with 15%). [9]

Meanwhile, another study in Brazil exclusively done to study the prevalence of stress among ED nurses noted that up to 40% of nurses were in the 'alert high level stress' category. This high score mainly attributed from areas related to activities

related to staff administration, coordination of activities in the unit and nursing care provided to patients. The study concluded most of the emergency nurses involved which were from relatively young age population of less than 40 years old perceived administrative activities as major stressors. [10]

Besides stress due to the heavy workload, the prevalence of workplace of violence in the ED is another contributing factor to the stress and depression amongst the staff. A study by Kwok in the Hong Kong in 2006 showed that the highest incidence of workplace violence occurs in psychiatric wards, ED, and high dependency unit. The reported percentage of nurses being abused in psychiatric wards and accident and emergency departments is an astonishing 98% and 100% respectively. [11] The ED is recognized as an area at special risk of violence due to its 24-hour accessibility. The lack of adequately trained, armed, or visible security guards, and a highly stressful environment are some of reasons why the ED is vulnerable to violence.

In Malaysia, the field of Emergency Medicine is relatively still new. With the introduction of Emergency Physicians, the role of ED in Malaysia has immensely increased and still growing. The Malaysian ED is no longer just a triaging centre but the first liner in patient's care and the first responder not only for pre hospital care, but also for disaster. This increasing role has turned the department to be sophisticated and therefore exposing ED personnel to similar risk of occupational stress as in other countries. As poor psychological condition may diminish job satisfaction and inevitably results in negative attitudes toward one's work, family, patients and colleagues, it is about time that such study to be conducted in our own hospital settings

and conditions. Hopefully with the outcome of this study we may be able to identify the problems objectively and later lead to solutions to overcome it.

1.1.2 Depression

Depression is a common mental disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration. Depression can be long-lasting or recurrent, substantially impairing an individual's ability to function at work or school or cope with daily life. At its most severe, depression can lead to suicide.[12]

Depression is an epidemic in nursing, but no one will talk about it. Depression is an abnormal emotional state, a mental illness that affects our thinking, emotions, perceptions, and behaviors in pervasive and chronic ways. Depression does not necessarily require a difficult event or situation, a loss, or a change of circumstance as a trigger. In fact, it often occurs in the absence of any such triggers. Nurses' deal with depression by doing more, keep moving, not standing still, and most importantly not putting their feelings into words. [13]

1.1.3 Anxiety

Anxiety is an overall feeling of uneasiness and worry that can be hard to control. It is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. Anxiety can occur when there is

perceived danger or difficult everyday life experiences (e.g., finances and relationships) or a specific fear (e.g., heights, spiders, and flying). They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat. [14]

Anxiety can be a normal reaction to stress or threat, and it may help one to deal with stressful or threatening situations. However, when it becomes excessive and persistent, it becomes a disabling medical condition known as anxiety disorder, which if left untreated, can get worse. Studies have shown that in general, the prevalence of anxiety in nurses is higher than that of the whole population although it may vary greatly from country to country or between different nursing specialties. Results of these studies indicated that hospital nursing is a profession that predisposes the workers to mental impairment such as anxiety. [15]

1.1.4 Stress

Is a non-specific response of the body to any demand for change. Stress can be defined as a negative emotional experience accompanied by predictable biochemical, physiological and behavioral changes that are directed toward adaptation either by manipulating the situation to alter the stressor or by accommodating its effects. [16]

Stress is a naturally occurring phenomenon in the life of a nurse. As a nurse, one regularly witnesses the pain and suffering of others. They work under demanding conditions in stressful environments. Staffing issues, budgetary constraints, and regulatory scrutiny complicate the care that is provide. Managing stress in nursing is important to execute proper nursing duties and roles.

1.2 METHODOLOGY

1.2.1 Study Design and Participants.

This was a cross-sectional study conducted in the Emergency Department at seven hospitals in Malaysia. All ED nurses at the time of data collection who met the inclusion and exclusion criteria was included in the study. This study was conducted from July 2015 until March 2016.

1.2.2 Inclusion / Exclusion Criteria

Inclusion criteria :

All ED Nurses in hospitals with Emergency Physicians in Malaysia at the time of study.

Exclusion criteria:

- i. Any ED Nurses who refuse to involve in this study.
- ii. Any ED Nurses who worked less than 6 months in the Emergency Department
- iii. Any ED Nurses diagnosed with preexisting psychiatric illness

1.2.3 Sampling Method and Sample Size

Multistage random sampling was done for this study. Initially seven tertiary hospitals with Emergency Physicians was randomized using simple random sampling.

Subsequently a list of ED nurses was acquired from the chosen hospitals and again will be randomized using simple random sampling.

Sample size determination for mean proportion as for specific objective 1 was done based on the formula [17] :

$$N = \left(\frac{Z \sigma}{\Delta} \right)^2$$

Δ

N = Sample Size

Z = 1.96

σ = Standard Deviation

Δ = Precision

Standard deviation for stress of was obtained from a literature review which was 7.84055. [7] Precision for this study was 1.5 based on expert opinion. Parameter for sample size calculation (standard deviation) could not be obtained for depression and anxiety as no literature was available. The sample value required based on calculation was N=105.

Sample size to determine the associated factors to depression, anxiety and stress condition was calculated using G Power version 3.1.7, with p 0.05, study power 0.80, expected number of predictors 7, medium effect size is estimated as 0.15 [18] and the value that was acquired was N = 103.

After considering 20% for nonresponse rate, the total number of nurses required in this study was N=123.

1.2.4 Research Tools

The Depression, Anxiety and Stress 21 Items Questionnaire (DASS 21) was used in this study. It is a shorter version of the DASS 42. DASS questionnaire is a set of three self-reported scales designed to measure the negative emotional states of depression, anxiety and stress. [19]

In the DASS 21 questionnaire, each subject is required to report the presence of any symptoms in the previous one week. Questions on DASS 21 will be answered on a Likert Scale of four.

- 0 point - Did not apply to me at all - **NEVER**
- 1 point - Applied to me to some degree, or some of the time - **SOMETIMES**
- 2 points - Applied to me to a considerable degree - **OFTEN**
- 3 points - Applied to me very much, or most of the time - **ALMOST ALWAYS**

Once the scores are collected, it would be calculated based on the domain that it represents. The results will then be interpreted using the following table to determine its level of severity. Further interpretation will be done based on the DASS manual provided by the author

Severity	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely severe	28+	20+	34+

Table 1: DASS 21 severity ratings

Currently, the DASS 21 questionnaire has been translated and validated into Bahasa Malaysia (BM). [20, 21] In terms of permission, the DASS21 questionnaire has been made a public domain and can be copied without restriction. This has been clearly stated in the DASS website [22] that the questionnaire can be used without permission as long as citation has been made to the corresponding website.

1.2.5 Data Collection

The questionnaire was distributed to nurses. It is a self-reported questionnaire. The questionnaire will be submitted to the investigator after completion. Upon completion of this study, if a significant parameter is detected, a debriefing among the ED personnel will be done in order to discuss the study findings and possibilities of its causes. Suggestions for improvements will also be taken. All results including the study and discussion findings will then be forwarded to the department as well as hospital managements.

In the debriefing later, further assistance will also be offered to personnel believed that they suffering from any form depression, anxiety or stress. However, personnel may need to come forth personally since the study subjects are kept anonymous. Assistance will be provided in terms of referral to appropriate bodies such as the psychiatry and social welfare departments.

1.2.6 Statistical Methods

Data was entered and analysed by using SPSS version 22.0. The continuous variables will be described either in mean and standard deviation. Categorical variables was described in frequency and percentage. Multiple linear regression method will be used to compare the mean of Depression, Anxiety and Stress scale among ED nurses in hospitals in Malaysia.

1.3.7 Ethical Approval

Ethical approval was obtained from Human Research Ethical Committee, Universiti Sains Malaysia on 10th March 2015 (Ref: USM/JEPeM/14100389) and Medical Research and Ethics Committee, Ministry of Health Malaysia on 1st Jun 2015 (Ref: (5) KKM/NIHSEC/P15-467).

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CHAPTER 2 : OBJECTIVES

2.1 OBJECTIVES

The general objective of this study was to determine the psychological status and well being of ED Nurses in hospitals in Malaysia.

The specific objectives were :

1. To determine the mean level of depression, anxiety and stress condition of ED nurses in Hospitals in Malaysia using DASS 21 questionnaire
2. To determine the associated factors to depression, anxiety and stress condition (sociodemographic factors e.g age, gender, race)

CHAPTER 3 : MANUSCRIPT

The prepared manuscript is included in the following pages. The manuscript was prepared following the Singapore Medical Journal guidelines as attached at the end of the manuscript.

3.1 Manuscript

3.1.1 Title Page

PSYCHOLOGICAL STATUS AND WELL BEING AMONG EMERGENCY DEPARTMENT NURSES IN HOSPITALS IN MALAYSIA

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3.1.2 Abstract

PSYCHOLOGICAL STATUS AND WELL BEING AMONG EMERGENCY DEPARTMENT NURSES IN HOSPITALS IN MALAYSIA

OBJECTIVE:

To determine the psychological status, particularly the level of depression, anxiety and stress level among Emergency Department (ED) nurses in hospitals in Malaysia and its association to demographic factors.

METHODS:

A survey research was conducted in the ED of seven hospitals in Malaysia. A total of 168 nurses from the ED who fulfilled the inclusion criteria were included in the study. Each nurse was given a set of questionnaire consisting demographic background and DASS 21 for data collection.

RESULTS:

The results from 168 nurses showed a total of 23 nurses (14.3%) recorded scores for moderate depression, 1 nurse (0.6%) recorded a score for severe depression and another 1 nurse (0.6%) recorded a score for extremely severe depression respectively. A total of 36 nurses (21.4%) recorded moderate anxiety, with 8 nurses (4.8%) recorded severe anxiety and 5 nurses (3%) recorded extremely severe anxiety. Stress levels score showed 2 nurses (1.2%) recorded moderate stress levels and none was recorded for severe - extremely severe stress. Among the demographic factors tested, gender

was a significant factor associated with depression ($\beta = 6.134$, $p = 0.031$) and anxiety ($\beta = 6.780$, $p = 0.015$) respectively.

CONCLUSION:

The psychological status, particularly depression, anxiety and stress level among ED nurses were generally low. The depression and anxiety level was noted to be more affected by demographic factors, specifically gender compared to stress level.

Keywords:

Emergency Department, Nurse, Depression, Anxiety, Stress

3.1.3 Introduction

Occupational stress is a recognized problem amongst health care workers. Stress can lead to serious ill health, affect career longevity, and cause personal distress. Emergency departments (ED) are on the front line of health services, where the workload can be unpredictable and chaotic. Emergency department operates 24 hours a day and due to this nature, it receives a variety of patients presenting with complaints of common cold to acute life threatening injuries. Therefore emergency work has been identified as one of the most stressful work environments. (1, 2)

Emergency nursing is a specialty area of the nursing profession like no other. Emergency nursing is a specialty in which nurses care for patients in the emergency or critical phase of their illness or injury and are adept at discerning life-threatening problems, prioritizing the urgency of care, rapidly and effectively carrying out resuscitative measures and other treatment, acting with a high degree of autonomy and ability to initiate needed measures without outside direction, educating the patient and his family with the information and emotional support needed to preserve themselves as they cope with a new reality. (3)

Work in ED can be extremely busy, constantly changing and unpredictable. Repeated exposure to unexpected death, trauma, violence, access block and overcrowding are regular occurrences and contribute to the stressful environment of ED. (4) In contrast to most other areas of nursing whereby a patient arrives with a diagnosis applied by a physician, emergency nurses work with patients when a diagnosis has not yet been established and the cause of the problem is not known.

Besides attending to the patients, the emergency nurses also has to attend to anxious family members waiting to know regarding the outcome. Nurses spend a considerable amount of time during their working day involved in intense interactions with people, and the nature of the work is physically demanding. Therefore the stress levels at work are reasonably high.

Nurses plays an important role in ED and is synonymous with caring and compassion. Patients' satisfaction with nursing care is one of the most important predictors of overall satisfaction with hospital care, a global outcome measure of health system performance. Understanding the linkages between caring, patient satisfaction with nursing care, and patient satisfaction with the hospital experience is currently more important than ever. Just as high levels of nurse caring and compassion have been linked to high levels of patient satisfaction, so have high levels of nurse burnout and job dissatisfaction been linked to patient dissatisfaction. Burnout contributes to negative health outcomes for health care workers such as psychological distress, somatic complaints, and alcohol and drug abuse. In context of organizations, the cost of burnout among staff includes increased employee absenteeism, increased employee turnover, decrease performance, poor patient feedback on social media and difficulty in recruiting and retaining staff. (5)

ED has been long in existence in Malaysia. However, the field of Emergency Medicine is relatively still new comparatively with other fields. With the emergence of Emergency Physicians since the year 2002, the role of ED in Malaysia has immensely increased and still growing. The number of locally trained and certified emergency physicians increases each year and this indirectly reflects improvement in

the emergency care provision in the hospitals that are staffed by the physicians. (6)

The ED is now no longer just a triaging center but the first liner in patient's care and the first responder not only for pre hospital care, but also for disaster. This increasing role has turned the department to be sophisticated and therefore exposing ED personnel to similar risk of occupational stress as in other countries. As poor psychological condition may diminish job satisfaction and inevitably results in negative attitudes toward one's work, family, patients and colleagues, it is about time that this study to be conducted in our own hospital settings and conditions. Therefore, the study aimed to determine the levels of depression, anxiety and stress level among Emergency Department (ED) nurses in hospitals in Malaysia and its association with demographic factors

3.1.4 Methods

A cross sectional study was carried out in seven public hospitals with Emergency Physicians in Malaysia. Multistage random sampling was done for this study. Initially seven tertiary hospitals with Emergency Physicians were randomized using simple random sampling. Subsequently a list of ED nurses was acquired from the chosen hospitals and again was subjected to randomization using simple random sampling technique. Eligibility criteria excluded staff nurses whom had working experience of less than 6 months in ED, pre-existing psychiatric illness or those that simply refused to participate. Ethical approval was obtained from Human Research Ethical Committee, Universiti Sains Malaysia (Ref: USM/JEPeM/14100389) and Medical Research and Ethics Committee, Ministry of Health Malaysia (Ref: KKM/NIHSEC/P15-467).

A sample size of 126 with 20% addition of respondents to overcome non-response bias was obtained from calculation. Data was then collected using the Depression, Anxiety and Stress 21-items Questionnaire (DASS 21). DASS questionnaire is a set of three self-reported scales designed to measure the negative emotional states of depression, anxiety and stress. Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-