

**FACTORS AFFECTING NURSES' LEVEL OF JOB
SATISFACTION IN HOSPITAL UNIVERSITI
SAINS MALAYSIA**

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SATISFACTION IN HOSPITAL UNIVERSITI
SAINS MALAYSIA**

by

NURZAIDA BINTI AZIZ

**Dissertation submitted in partial of
fulfilment of the requirements for the
degree**

of Bachelor of Nursing (Honours)

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CERTIFICATE

This is to certify that the dissertation entitled Factors Affecting Nurses' Level of Job Satisfaction in Hospital Universiti Sains Malaysia is the bona fide record of research work done by Ms Nurzaida binti Aziz during the period from September 2019 to August 2020 under my supervision. I have read this dissertation and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation to be submitted in partial fulfilment for the degree of Bachelor of Nursing (Honours).

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DECLARATION

I hereby declare that this dissertation is the result of my own investigation, except where otherwise stated and duly acknowledged. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at Universiti Sains Malaysia or other institutions. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research and promotional purposes.

.....

Nurzaida binti Aziz

Date:

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LIST OF ABBREVIATION

| | |
|------|---|
| USM | Universiti Sains Malaysia |
| SPSS | Statistical Package for Social Sciences |

ABSTRACT

Job satisfaction among nurses will influence the health care services provided as job satisfaction related to job performance. Quality of care given to the patient also associated with the job satisfaction among nurses. A cross sectional study was conducted on 60 respondents. Self- administered questionnaire was given to the respondents that fit the inclusion criteria. The general objective of this study is to determine the factors affecting the level of job satisfaction among nurses in Hospital Universiti Sains Malaysia. In addition, this study was also conducted to determine the association between the socio demographic data (gender, marital status, educational level, age and years of experience), teamwork, intrinsic and extrinsic motivation with the level of job satisfaction among nurses. The data was analysed by descriptive statistics, Fisher exact test and Pearson correlation test using Statistical Package of Social Sciences (SPSS) 24.0. The findings of this study showed that the nurses in Hospital Universiti Sains Malaysia had high level of job satisfaction (n=37, 61.7%), and the remaining had low level of job satisfaction (n=23, 38.3%). In this study, there is no significant association between socio demographic data (gender, marital status, educational level, age and years of experience), teamwork, intrinsic and extrinsic motivation with the level of job satisfaction among nurses in Hospital USM ($p > .05$). High level of job satisfaction among nurses will ensure a good quality of care to be provided to the patients.

ABSTRAK

Kepuasan bekerja dalam kalangan jururawat akan mempengaruhi perkhidmatan penjagaan kesihatan yang disediakan kerana kepuasan bekerja berkait dengan prestasi kerja. Kualiti penjagaan yang diberikan kepada pesakit juga berkait dengan kepuasan bekerja dalam kalangan jururawat. Kajian keratan rentas telah dilakukan ke atas 60 responden. Borang soal selidik diberikan kepada responden yang memenuhi kriteria kajian. Objektif umum bagi kajian ini adalah untuk mengetahui faktor yang mempengaruhi tahap kepuasan bekerja dalam kalangan jururawat di Hospital Universiti Sains Malaysia. Selain itu, kajian ini juga dilakukan untuk mengetahui hubungkait antara data demografik (jantina, status perkahwinan, tahap pendidikan, umur dan durasi pengalaman bekerja), kerjasama, motivasi intrinsik dan ekstrinsik dengan tahap kepuasan bekerja dalam kalangan jururawat. Data dianalisis dengan statistik deskriptif, *Fisher exact test* dan *Pearson correlation*, menggunakan *Statistical Package of Social Sciences* (SPSS) 24.0. Hasil daripada kajian ini telah menunjukkan bahawa jururawat di Hospital Universiti Sains Malaysia mempunyai tahap kepuasan bekerja yang tinggi ($n=37$, 61.7%), dan yang lainnya mempunyai tahap kepuasan bekerja yang rendah iaitu ($n=23$, 38.3%). Kajian ini juga mendapati tiada hubungkait antara data demografik (jantina, status perkahwinan, tahap pendidikan, umur dan berapa tahun pengalaman bekerja), kerjasama, motivasi intrinsik dan ekstrinsik dengan tahap kepuasan bekerja dalam kalangan jururawat ($p > .05$). Tahap kepuasan bekerja yang tinggi dalam kalangan jururawat dapat memastikan kualiti penjagaan yang baik dapat diberikan kepada pesakit.

CHAPTER 1

INTRODUCTION

1.1 Background of the study

According to the World Health Statistics Report from World Health Organization, there are estimated about 29 million nurses and midwives all around the world, with 3.9 million nurses at the United States. World Health Organization (2013) also estimated that by 2020, there will be an additional 1 million of nurses needed. Nurses make up the largest population in the healthcare workforce and they have multiple roles, function and responsibilities such as they provide nursing care and health to the individual, families, group, communities (Abraham, 2018) . They also play important roles in providing treatment and acute care of common illness. Apart from delivering care to the patient, they also have roles in leadership, planning, implementation of policies, specialised service and research (Abraham, 2018).

As the nursing profession has crucial role in the hospital, their quality of work and the continuation of their nursing profession in the same hospital will be depending on their work satisfaction (Ni et al., 2010). Nurses' job satisfaction will influence the healthcare services as performance related to the job satisfaction (Kane et al.,2007; Shekelle, 2013). In the emergence of department, professional nurses play important roles in the provision of health care globally (Admasu, Abdela, Temamen, Dagmawit, 2018). The productivity and quality of care provision with healthcare organization is closely linked with the performance of healthcare worker including professional nurses (Admasu et al., 2018). Nurses' job satisfaction are either directly or indirectly has a positive correlation with the quality of care that they delivered and a reverse correlation of job satisfaction is job withdrawal (Ibrahim, El-Khedr, & Nosek, 2013). The nurses tend to

withdraw from their patients, nursing task and conscience when they are not satisfied with their job (Ibrahim et al., 2013). Thus, it is necessary for the nurses to feel satisfied with their job because job satisfaction is directly related to the nurses' performance and retention (Ibrahim et al., 2013).

Job satisfaction requires special attention in the healthcare system as it is an important organizational factor (Ibrahim et al., 2013). In the previous years, there are a lot of studies had been done in order to identify the factors affecting level of nurses' job satisfaction, nurses' turnover or intent to leave (Asegid, Belachew, & Yimam, 2014) . Variety of factors had been studied on how it affects nurses' level of job satisfaction such as motivation, teamwork, stress, inadequate salary and benefits, professional status, inadequate opportunity for training, education and development (Banibakr, Shafie, Mohammad, & Alkuwaisi, 2019). These factors have significant relationships with nurses' level of job satisfaction (Banibakr et al., 2019). One of the previous studies identified that extrinsic factors such as monthly payment contribute the most to the nurses' level of job satisfaction (Zahaj, Saliq, Metani, Nika, & Alushi, 2016). Meanwhile, other studies also identified that training, continuation of education lead to job satisfaction (Zahaj et al., 2016). If these desires are not encountered, it will lead to job dissatisfaction (Zahaj et al., 2016). Furthermore, one of the study on the nurses that working in paediatric intensive care units revealed that poor communication, lack of autonomy are the factors that contribute to the nurses' job dissatisfaction (Ibrahim et al., 2013).

1.2 Problem statement

Turnover become a serious problem challenge in healthcare settings. The shortage of nurses is one of the biggest obstacles in achieving efficiency and effectiveness in the health system (Nasurdin, Ling, & Khan, 2018). Increased in staff turnover, absenteeism and decreased efficiency in healthcare services are the result of low level of job satisfaction (Abraham, 2018). One of the studies in public hospital in West Shoa zone found that majority of the health workers including nurses are not satisfied with their job (Mengistu & Geleto, 2015). Based on the study, it is revealed that management style, salary, training opportunity, performance evaluation, and participation in decision making have significant influence on nurses' job satisfaction (Mengistu & Geleto, 2015).

According to the qualitative study on job satisfaction of Malaysian registered nurses, it is revealed that the nurses are not satisfied with their reward, salary, benefit. Critical care nurses believed that they should be paid extra money for their speciality as they deal with very ill patients and with highly technical equipment (Atefi, Abdullah, & Wong, 2016). Indeed, it is highlighted which is Malaysian nurses had been identified as being most underpaid and undervalued public nurses in the region (Masroor & Fakir, 2010). One of the studies at the private hospital in Malaysia also stated that nurses had too much work but were underpaid (Yew, Yong, Tey, Cheong, & Ng, 2018).

Likewise, a previous study in Malaysia's private hospital revealed that the nurses satisfied with the team spirit and cooperation among the fellow nursing staff, but they are not satisfied with the physician because they show less respect and nurses wish that the physician not to look down on them (Yew et al., 2018). Malaysian nurses also reported that they did not have a clear job description. Due to the unclear job description, Malaysian nurses play multiple role in their wards and a career development should be established, extended and explored so that a clear job description can be gain in order to

attract, satisfy the nurses to return to work (Atefi et al., 2016). They also received lack of support from the management. A few studies on nurses' job satisfaction had been done in Malaysia but it only covers certain public and private hospital in the north and central region of peninsular of Malaysia. Thus, it means that the studies that had been done does not represent the whole nurses' population in Malaysia because it only covers certain areas.

1.3 Significance of the study

The finding if this study will fill the gap in the body of knowledge as well as providing information on the factors that can affect the nurses' job satisfaction in Malaysia (Banibakr et al., 2019). The study on nurses' level job satisfaction in tertiary hospital in Malaysia will contribute to the literature on job satisfaction among the nurses in the tertiary health care of a developing country (Yew et al., 2018). The results of this study will act as the reflection on the highest and lowest job satisfaction level among the nurses that currently working in Malaysia (Banibakr et al., 2019). It will also help the administrator to recognize and identify the level of job satisfaction and the factors that can improve the job satisfaction and work performance among the nurses (Banibakr et al., 2019). Besides, this study also will provide meaningful information for the hospital management where the hospital may find many ways to encounter the problems or factors that can influence nurses' job satisfaction (Banibakr et al., 2019). This study also like eye opening to the country and suggest the importance of nurses' job satisfaction and its contributing factors to the healthcare delivery system (Asegid et al., 2014).

Apart from that, the result from the study in Cyprus public general hospital on motivation and job satisfaction among medical and nursing staffs indicate that intrinsic motivators such as work meaningfulness, respect and strong interpersonal relationship have positive effects on the quality of service (Lambrou, Kontodimopoulos, & Niakas, 2010). The result of this study also could potentially give important contribution in term of human resources management policies to be applied in the healthcare settings. It implies that the hospital administrator could start the effort in motivating the healthcare professional as previously mentioned that intrinsic motivators have positive impact on the quality of services.

A study on the Malaysian nurses indicate nurses job satisfaction is influenced by the nurses' personal values, and beliefs and helping sick people can make the nurses felt honoured and happy (Atefi et al., 2016). Nurses felt satisfied when they got recognition from the patients and family and satisfied from the patient positive outcomes (Archibald, 2006; Stuart et al., 2008). These statements are supported by a study on the nurses working in the operation theatre at government hospital of Eastern Ethiopia which suggest that the common reasons given for the job satisfaction among the nurses were helping others, providing good quality of care, recognition that they got from the good work, patient outcome, and the amount of responsibilities that the nurses received (Admasu et al., 2018). Furthermore, the result of this study will encourage the efforts within the healthcare settings to improve the teamwork as it has a positive impact on the staff satisfaction. The result of this study also will highlight the need to enhance the nursing teamwork on the patient care units (Admasu, Abdela, Temamen, & Dagmawit, 2018; Kalisch, Lee, & Rochman, 2010)

1.4 Research questions.

- 1) What is the level of job satisfaction among nurses in Hospital USM?
- 2) Are there any association between gender, marital status and education level, age, years of experience, teamwork, intrinsic and extrinsic motivation with level of job satisfaction among nurses in Hospital USM?

1.5 Research objectives

1.5.1 General objective

- 1) To determine factors affecting the level of job satisfaction among nurses in Hospital Universiti Sains Malaysia.

1.5.2 Specific objectives

The specific objectives of this study are:

- 1) To determine the level of job satisfaction among nurses in Hospital Universiti Sains Malaysia.
- 2) To determine the association between gender, marital status and education level, age, years of experience, teamwork, intrinsic and extrinsic motivation with the level of job satisfaction among nurses in Hospital USM.

1.6 Research hypothesis

1. H₀: There are no significant association between gender, marital status and education level, age, years of experience, teamwork, intrinsic and extrinsic motivation with the level of job satisfaction among nurses in Hospital USM.

H_A: There are significant association between gender, marital status, education level, teamwork, intrinsic and extrinsic motivation with the level of job satisfaction among nurses in Hospital USM.

1.7 Conceptual and operational definition

Job satisfaction: Refers to attitude, feeling and beliefs that people have about their work. It is a positive and favourable attitude towards the job. It is also defined as how the employees feel about their job and different aspects of their jobs (Admasu et al., 2018). Besides, job satisfaction also can defined as a positive affective orientation towards employment (Zahaj et al., 2016). In this study, it refers to how the nurses in Hospital Universiti Sains Malaysia feel about their job, whether they are satisfied or not which will be measured using five points of Likert scale.

Teamwork: Teamwork can be defined as a cooperative process that allows extraordinary result to be achieved by ordinary people (Scarnati, 2001). It is also defined as individual who are working together in a cooperative environment to achieve common team goals through sharing of knowledge and skills (Tarricone & Luca, 2002). In this study, it refers to nurses' teamwork which will be measured using Likert scale.

Intrinsic motivation: Intrinsic motivation is defined as doing something because it inherently interesting and enjoyable (Ryan & Deci, 2000). In this study, intrinsic motivation refers to significant and meaningful goal, earned respect as a person, job-related pride and respect, appreciation for good work, job meaningfulness, growth and development that will be measured in the questionnaire using Likert scale.

Extrinsic motivation: Extrinsic motivation is defined as doing something because it could lead to separable outcomes (Ryan & Deci, 2000). In this study, extrinsic motivation refers to exercising authority, clear duties and responsibilities, control over job decisions, adequate salary and benefits, pension, good working environment,

adequate leaves, achievement related promotion, effective teamwork, supervisors support, interpersonal relationship, and physical safety that will be measured in the questionnaire using Likert scale.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter review the current literature regarding the factors affecting nurses' job satisfaction. The conceptual framework used in this study also will be discussed in this chapter.

2.2 Review of literature

2.2.1 Socio demographic and nurses' job satisfaction

This study will measure the relationship between socio demographic data and nurses, job satisfaction. A study done by Abraham (2018) in India, nurses with higher qualification level and older age have lower job satisfaction compared to those nurses that have low qualification level and younger age This is because nurses with degree holder have higher expectations to the job and task requirements (Abraham, 2018) . The findings of this study contrarily to the study in Iraq which revealed that nurses with high education level and older age have higher level of job satisfaction (Ebrahim, 2017). The same study in Iraq also revealed that males are less satisfied than females in term of job satisfaction (Ebrahim, 2017). Result of another study shows that nurses with working experience less than 6 years and married were found to have higher significantly mean total job satisfaction compared to the nurses that have more than 6 years working experience and single nurses (Atefi, Khatijah, Wong, & Mazlom, 2015).

2.2.2 Nurses' teamwork and job satisfaction

Teamwork can be defined as a cooperative process that allows extraordinary results to be achieved by ordinary people (Scarnati, 2001). One study shows that there is a significant positive relation between the teamwork and job satisfaction which was the higher correlation between the variables (Banibakr et al., 2019).

Interactive effort among all team members is essential in achieving interprofessional teamwork which can be gain by good communication and respect the role of all team members. Each team member should give contribution, not only in technical skills such as knowledge and experience but also in non-technical skills which include communication, team size and the psychological mind set (Vermeir et al., 2017). The team performance will be influenced by the way the team is run (Vermeir et al., 2017). The connection between teamwork and job satisfaction refers to the working environment where the nurses being cooperative in delivering nursing care to the client in the hospital (Banibakr et al., 2019).

There is also a study on effect of teamwork on the staff job satisfaction, comparing nurses and physician who are working within different level of teamwork on the emergency department (Ajeigbe, McNeese-Smith, Leach, & Phillips, 2013). In this study, it shows that the interventional group that practice teamwork have higher level of job satisfaction compare to the control group that does not practice teamwork (Ajeigbe et al., 2013).

Poor communication among healthcare providers often lead to reduced patient safety. Thus, effective communication and teamwork among the healthcare professional are vital in providing high quality of care and increase patient's safety (Vermeir et al., 2017). There is a significant association between communication and job satisfaction among nurses, decreased the turnover intention and burnout risk (Vermeir et al., 2017). Communication can affect job satisfaction and low level of job satisfaction can result in nurses' high turnover, which will eventually influence the quality of care given to the patient (Vermeir et al., 2017). Furthermore, nurses' satisfaction also influenced patient's satisfaction (Vermeir et al., 2017). The higher the job satisfaction, the higher the

motivation which in turn associated with higher patient satisfaction about receiving care at the healthcare settings (Vermeir et al., 2017).

Deficient communication can arise if the team members do not communicate about the critical information, conflicting relationship, or lack of clarity on roles and description about the job. Use of different terminologies or the provision of incomplete information may lead to the information being misinterpreted. A lot of factors can contribute to communication failure and this will eventually lead to unintended patient's harm (Mckee et al., 2012). Besides, poor communication among healthcare professional will result in discontinuity of care and compromise patient's safety (Vermeir et al., 2015). Standardized communication and secure environment are needed so that each team member have a room to express their concern regarding the patient's safety. These are importance due to the complexity of the medical care and limitation of the human actions. Thus, if the standardized communication and secure environment being reinforce, all the team members can express their thought and speak freely, as well as use critical language to create alertness and avoid confusion from happening (Brock et al., 2013; Kalisch et al., 2010; Leonard, Graham, & Bonacum, 2004).

Inadequate communication also could lead to several potentially negative consequences for all involved in the healthcare process such as continuity of care, the connection of separate and discrete elements of care into a longitudinal process. Insufficient communication or lack of information could result in potentially preventable adverse effects and subsequently affecting patient's safety (Vermeir et al., 2015). Delays in consultation response, acceptance of referral, diagnoses and treatment also could happen if there is poor communication between the healthcare (Vermeir et al., 2017).

2.2.3 Intrinsic, extrinsic motivation and job satisfaction

Motivation is defined as the reason that underlies the behaviour (Ryan & Deci, 2002). Intrinsic motivation is defined as motivation that is animated by personal enjoyment, interest, or pleasure (Lai, 2011). Extrinsic motivation is defined as doing something because it could result to a separable outcome (Ryan & Deci, 2000). There are few factors which can affect the healthcare services delivered by the healthcare professionals. These factors include health infrastructure, health service delivery system and human resources for health. From the previous study, the human resources factor is identified as the important component in delivering health services. The key aspect of health system performance is the presence of highly motivated and qualified staff (Mbindyo, Blaauw, Gilson, & English, 2009). Health workers' job satisfaction is important in creating employee motivation and increasing their efficiency because this will eventually determine the performance of the employee as well as higher level of patient satisfaction (Mengistu & Geleto, 2015). Contrarily, job dissatisfaction among the healthcare workers will result in burn out and staff turnover. This may cause shortage of staffs of health facilities (Willis-Shattuck et al., 2008).

Job satisfaction among the employees can help the organization to achieve the organizational goals. Apart from that, the quality of the healthcare services also influenced by the employees' job satisfaction. Meanwhile job dissatisfaction will give negatives impact to the organizational productivity (Mengistu & Geleto, 2015). Decrease in productivity, absenteeism, turnover, increase number of work accident, decline in the mental and physical health, conflict, non-conformance to procedures and policies are the results of job dissatisfaction (Aksu & Aktas, 2005). One of the findings in a study on critical care nurses revealed that professional development was one of the main factors that influence their job satisfaction (Atefi et al., 2016). The critical care nurses stated that

in order to cope with the complex needs of acutely ill patients, they should improve their skills and knowledge (Atefi et al., 2016). They reported higher satisfaction when they are given chances to gain knowledge and learn (Atefi et al., 2016).

2.3 Conceptual framework of the study

This study will use two factor theory by Frederick Herzberg (1959). Herzberg defined two set of factors which is motivation factors and hygiene factors (refer to diagram 2.1). Motivation factors are intrinsic factors that will influence job satisfaction while hygiene factors are extrinsic factors that will prevent employees' job dissatisfaction (Yusoff, Kian, & Idris, 2013). Herzberg explained that hygiene factors are not necessarily result in employees' satisfaction. Hence, to increase the performance and productivity of the employees, the motivation factors should be addressed (Yusoff et al., 2013). Hygiene factors refer to maintenance factors and it is comprised of physiological, safety, love needs from Maslow's hierarchy of need. The factors are not directly related to job but the condition that surround doing the job (Baah & Amoako, 2011). Hygiene factors are necessary to prevent dissatisfaction, as well as starting point of motivation but they are not direct motivators (Baah & Amoako, 2011). Administration and company policy, technical supervision, interpersonal relationship between supervisor, peers and subordinates, salary, personal life, job security, status as well as work conditions are a part of hygiene factors (Baah & Amoako, 2011). Hygiene factors are needed to ensure reasonable level of satisfaction but may also contribute to dissatisfaction.

Meanwhile, motivation factors compromised the physiological need for growth and recognition (Baah & Amoako, 2011). It is the actual factors that contribute to the employees' job satisfaction. If motivation factors absence, they do not really cause dissatisfaction, but when present, they will result in good performance as they contribute to strong level of motivation (Baah & Amoako, 2011). Therefore, they are called satisfier

or motivators. Achievement, recognition, advancement, the work itself, the possibility of personal growth and responsibility are parts of motivation factors (Baah & Amoako, 2011).

When hygiene and motivation factors are combined, they lead to these situations,

1. High hygiene and motivation will result in ideal situation where the employees are highly motivated and have few complaints (Baah & Amoako, 2011).
2. High hygiene and low motivation will result in employees having few complaints but not highly motivated (Baah & Amoako, 2011).
3. Low hygiene and high motivation will result in employees motivated but have a lot of complaints. This is explained by situation where the jobs are exciting and challenging but the working condition and salaries are not (Baah & Amoako, 2011).
4. Low hygiene and low motivation will result in worse condition where employees having lot of complaints and not highly motivated (Baah & Amoako, 2011).

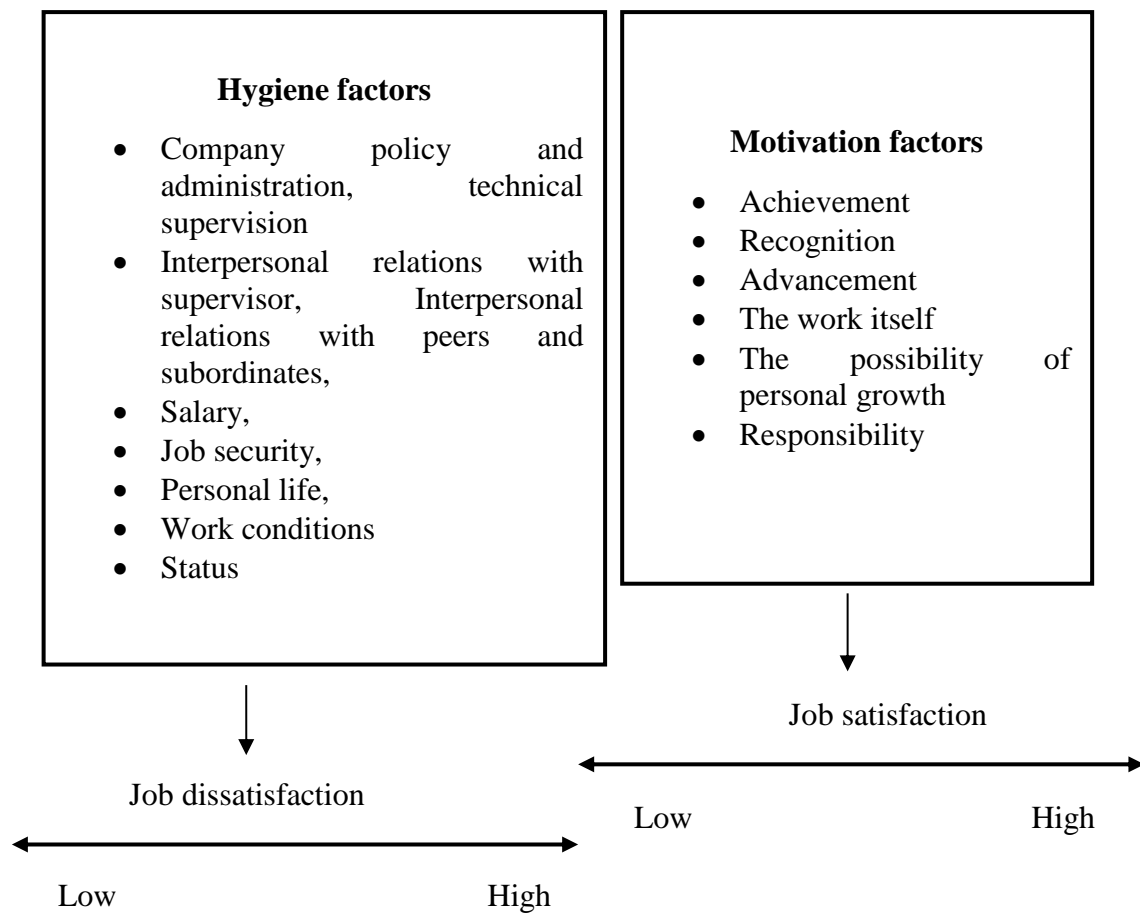


Figure 2.1: Two factor theory by Frederick Herzberg (1959)

In this study, the hygiene factors represent the extrinsic factors which include exercising authority, clear duties and responsibilities, control over job decision related to utilizing money, procurement and human resources, adequate salary and benefits, pension, good working environment, adequate leaves, achievement-related promotion, effective teamwork, supervisor's support, interpersonal relationship, physical safety (refer to diagram 2.2). Meanwhile the motivation will represent intrinsic factors which include, significant and meaningful goal, job-related pride and respect, appreciation for good work, job meaningfulness, growth and development, earned respect as a person. Both intrinsic and extrinsic factors will influence nurses' level of job satisfaction that being measure in this study. These intrinsic and extrinsic factors will be asked in the questionnaire that will be distribute later.

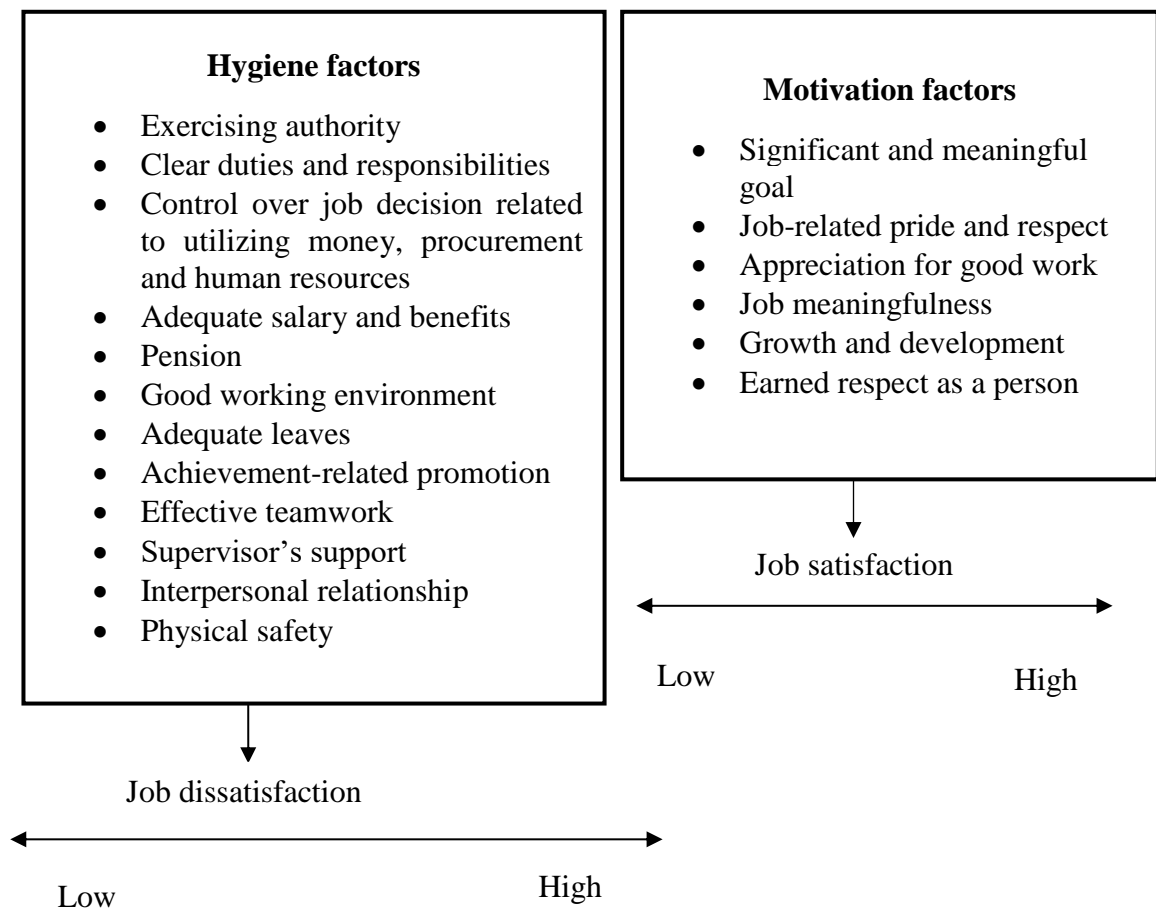


Figure 2.2 Two factor theory adapted by Frederick Hezberg

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes about the research design, population setting, sampling plan and data collection method. Apart from that, this chapter also explains about data analysis plan and instrument for data collection.

3.2 Research design

This research design for this study was cross- sectional study. This study used a set of self-administered questionnaires. Cross sectional study design was chosen because this study design takes place at single point in time and it allowed the researcher to observe numerous characteristics at once such as age, gender and others. Cross sectional study also measured the outcome and exposure of the study participants in the same time.

3.3 Research location

This study was conducted at Hospital Universiti Sains Malaysia. The nurses who working at Hospital USM will be recruited to participate in this study based on the inclusion criteria.

3.4 Research duration

The respondents were the nurses who are currently working at Hospital Universiti Sains Malaysia from February 2020 to April 2020. The duration of for data collection was from February 2020 until March 2020.

3.5 Research population

In this study, the nurses were selected as respondents based on the inclusion and exclusion criteria as stated. The total population of the nurses from the chosen ward are 176 nurses.

3.6 Sample criteria- Inclusion and exclusion criteria

3.6.1 Inclusion and exclusion criteria

Inclusion criteria:

- Staff nurses in Hospital Universiti Sains Malaysia.
- Able to understand English.

Exclusion criteria:

- Head nurses and supervisors
- Attachment nurses


3.7 Sample size estimation

The population size for nurses in Hospital USM from February 2020 to April 2020 was 176. The sampling size was determined by using Raosoft sample size calculation software. Based on the formula, a confidence level was set 95%. The recommended sample size for this study was 121 nurses. By considering the probability of drop out, another 10% is added. Therefore, the total number of participants in this study were

$$= 121 + \text{drop out of } 10\%$$

$$= 121 + ((10 \div 100) \times 121)$$

$$= 121 + 12 = 133 \text{ nurses.}$$


Raosoft®

Sample size calculator

What margin of error can you accept?
5% is a common choice

5%

The margin of error is the amount of error that you can tolerate. If 90% of respondents answer yes, while 10% answer no, you may be able to tolerate a larger amount of error than if the respondents are split 50-50 or 45-55.
Lower margin of error requires a larger sample size.

What confidence level do you need?
Typical choices are 90%, 95%, or 99%

95%

The confidence level is the amount of uncertainty you can tolerate. Suppose that you have 20 yes-no questions in your survey. With a confidence level of 95%, you would expect that for one of the questions (1 in 20), the percentage of people who answer yes would be more than the margin of error away from the true answer. The true answer is the percentage you would get if you exhaustively interviewed everyone.
Higher confidence level requires a larger sample size.

What is the population size?
If you don't know, use 20000

176

How many people are there to choose your random sample from? The sample size doesn't change much for populations larger than 20,000.

What is the response distribution?
Leave this as 50%

50%

For each question, what do you expect the results will be? If the sample is skewed highly one way or the other, the population probably is, too. If you don't know, use 50%, which gives the largest sample size. See below under **More information** if this is confusing.

Your recommended sample size is

121

This is the minimum recommended size of your survey. If you create a sample of this many people and get responses from everyone, you're more likely to get a correct answer than you would from a large sample where only a small percentage of the sample responds to your survey.

Online surveys with **Vovici** have completion rates of 66%!

Alternate scenarios

| | | | | | | | |
|-------------------------------|-------|-------|-------|-----------------------------------|-----|-----|-----|
| With a sample size of | 100 | 200 | 300 | With a confidence level of | 90 | 95 | 99 |
| Your margin of error would be | 6.46% | 0.00% | 0.00% | Your sample size would need to be | 107 | 121 | 140 |

Figure 3.1: Sample size calculation by Raosoft Software

Stratified Random Sampling Formula: $n_h = \left(\frac{N_h}{N} \right) * n$

n_h = Sample size for h^{th} strata

N_h = Population size for h^{th} strata

N = Size of entire population

n = Size for entire sample

Table 3.1: number of respondents by each ward

| Ward | Target population | Stratified random sampling method | Simple random sampling method |
|-----------|-------------------|-----------------------------------|-------------------------------|
| 2 Zamrud | 16 | $16/176 \times 133 = 12$ | 12 |
| 4 Selatan | 21 | $21/176 \times 133 = 16$ | 16 |
| 5 Utara | 8 | $8/176 \times 133 = 6$ | 6 |
| 5 Selatan | 6 | $6/176 \times 133 = 5$ | 5 |
| 2 Akik | 11 | $11/176 \times 133 = 8$ | 8 |
| 2 Topaz | 18 | $18/176 \times 133 = 14$ | 14 |
| 2 Baiduri | 12 | $12/176 \times 133 = 9$ | 9 |
| 8 Selatan | 27 | $27/176 \times 133 = 20$ | 20 |
| 2 Delima | 39 | $39/176 \times 133 = 29$ | 29 |
| 1 Fairuz | 18 | $18/176 \times 133 = 14$ | 14 |
| Total | 176 | 133 | 133 |

3.8 Sampling method

This study used simple random sampling method. The sample was chosen from the population. This study chose simple random sampling method in order to avoid bias as this method allows equal probability of the respondents being chosen. The respondents selected based on the inclusion and exclusion criteria.

The nurses from wards 4 Selatan, 2 Zamrud, 2 Delima, 1 Fairuz, 2 Akik, 2 Topaz, 2 Baiduri, 8 Selatan, 5 Utara and 5 Selatan were randomly selected from the list name. List name of the nurses were obtained from the head nurse (sister) of the specific wards. The nurses with the odd number from the list name will be selected as a participant in this study. Nurses who do not meet the inclusion criteria were deleted from the list.

3.9 Research instrument

A self-administered questionnaire was used in this study (Banibakr et al., 2019) (Appendix B). It was written in English. The questionnaire was categorized into four parts as follow:

Part A:

Part A consist of socio demographic data which comprises of five questions that include age, year of experience, gender, marital status and education. Respondents need to tick the answer in the space provided.

Part B:

This part consists 14 questions. It is used to measure the quality of the team in the nurses' unit. Each item is rated on Likert Scale of 1 represent never, 2 represent rarely, 3 represent occasionally, 4 represent average, 5 represent often, 6 represent very often and 7 represent always.

Part C:

This part measured the intrinsic and extrinsic motivation. There are 18 questions in this part. Each item is rated on Likert Scale of 1 represent not at all, 2 represent little bit, 3 represent moderately, 4 represent very, and 5 represent extremely.

Part D:

This part required the respondents to tick the answer in the space provided. This part measured nurses' level of satisfaction.

3.9.1 Validity and reliability

A self-administered questionnaire was adopted (Banibakr et al., 2019). The alpha coefficient for nurses' teamwork questionnaire is 0.940. The alpha coefficient for intrinsic and extrinsic motivation is 0.876 (Banibakr et al., 2019). Acceptable range for alpha coefficient was 0.6-0.7, greater than 0.8 indicate a good level (Ursachi, Horodnic, & Zait, 2015). The alpha coefficient for this questionnaire was greater than 0.8. Thus, it was acceptable to use this questionnaire.

3.10 Variable

3.10.1 Variable measurement

The independent variable was selected based on socio-demographic data. It consists age, year of experiences, gender, marital status and education level. The respondents of the study ticked in the box that suit them the best. Other independent variable nurses' teamwork, intrinsic and extrinsic motivation. For nurses' teamwork questions, the respondent ticked the option based on 7 points of Likert scale. For the intrinsic and extrinsic motivation questions, the respondents ticked the option based on 5 points of Likert scale.

The dependent variable for this study was nurses' job satisfaction. The respondents ticked their option based on five points of Likert scale which consisted very dissatisfied-1, somewhat dissatisfied-2, neutral-3, somewhat satisfied-4, very satisfied-5.

3.10.2 Variable scoring

There were four parts in the questionnaire used in this study. Part A is sociodemographic part containing six questions which the respondents ticked their choice on the space provided.

Part B contains 14 questions that used to measure the nurses' teamwork. This part uses 7 points of Likert Scale (Never-1, Rarely-2, occasionally-3, average-4, often-5, very often-6, always-7). Respondents who scored above half of the score were considered as having good teamwork while those who score below than half of the score were considered as having poor teamwork (Nuru, Zewdu, Amsalu, & Mehretie, 2015)

Table 3.2: Scoring method for nurses' teamwork.

| Nurses' teamwork | Score |
|------------------|-------|
| Poor teamwork | 14-49 |
| Good teamwork | 50-98 |

Part C contains 18 questions on intrinsic and extrinsic motivation. This part used 5 points of Likert Scale (not at all- 1, little bit-2, moderately-3, very-4, extremely-5). Respondents who scored above half of the score were considered as having good motivation while those who score below than half of the score were considered as having poor motivation (Nuru et al., 2015)