JOB DISSATISFACTION AMONG HEALTHCARE WORKER IN NEWLY IMPLEMENTED SHIFT SYSTEM HEALTH CLINIC IN KELANTAN

DR MOHD IKHWAN BIN AZMI

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BY

DR MOHD IKHWAN BIN AZMI

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LIST OF ABBREVIATION

Adj. OR	Adjusted Odds Ratio
CI	Confidence interval
COVID-19	Coronavirus Disease 2019
df	degree of freedom
IBM SPSS	IBM Statistical Package for Social Sciences
JIG	Job in General Scale
JSS	Job Satisfaction Survey
KK	Klinik Kesihatan
KKB	Klinik Kesihatan Bandar
LNPT	Laporan Nilai Preatasi Tahunan
MJS	Measurement of Job Satisfaction
MOH	Ministry of Health
NMRR	National Medical Research Registry
OR	Odd Ratio
WHO	World Health Organisation

LIST OF SYMBOLS

%	Percentage
<	Less than
>	More than
≥	More than and equal to
m	Ratio between two groups
n	Number of samples
α	Alpha
β	Beta

ABSTRAK

Latar belakang: Ketidakpuasan kerja menggambarkan sikap dan perasaan pekerja terhadap pekerjaan mereka. Ia juga terkait dengan komitmen dan produktiviti mereka terhadap organisasi. Terdapat banyak faktor yang berkaitan dengan ketidakpuasan kerja seperti rakan sekerja, penyelia, jenis pekerjaan, persekitaran kerja, gaji dan peluang kenaikan pangkat. Di Malaysia, klinik kesihatan adalah di bawah Kementeriaan Kesihatan Malaysia. Klinik kesihatan merupakan tunggak utama di dalam kesihatan primer yang menawarkan perkhidmatan seperti kesihatan ibu dan anak, pengendalian penyakit kronik, dan servis kecemasan. Sejak Jun 2020, sistem kerja klinik kesihatan yang dilanjutkan waktu operasi telah digantikan dengan sistem dua syif untuk meringankan beban kerja petugas kesihatan dan di dalam memastikan keselamatan pesakit dan juga petugas kesihatan terutamanya ketika pandemik COVID-19 kini.

Objektif: Kajian ini bertujuan untuk menentukan prevalens ketidakpuasan kerja dan faktor-faktor yang terkait dengan ketidakpuasan kerja dalam kalangan petugas kesihatan yang bekerja di klinik kesihatan jenis 2 di Kelantan.

Metodologi: Kajian ini dijalankan secara hirisan lintang di semua klinik kesihatan jenis 2 di negeri Kelantan. Terdapat empat jenis klinik kesihatan jenis 2 di mana dua adalah klinik kesihatan yang mengamalkan sistem syif dan dua lagi mengamalkan sistem bukan syif. Borang kaji selidik yang diberikan akan dijawap oleh petugas kesihatan. Borang kaji selidik terdiri daripada profoma latar belakang petugas kesihatan dan kerja, dan ‘Job Satisfaction Survey (JSS)’. Data juga akan dianalisa menggunakan analisis regresi logistik untuk menentukan faktor-faktor yang terkait dengan ketidakpuasan kerja.

Keputusan: Jumlah petugas kesihatan dari klinik kesihatan jenis 2 di Kelantan yang terlibat adalah 314 orang dengan nilai min (SD) umur adalah 40.63 (7.81) tahun. Majoriti adalah berbangsa Melayu (98.4%) dengan 73.9% responden adalah perempuan. 89.2% telah berkahwin dengan jumlah min (SD) anak adalah 2.68 (1.74) orang dan 69.7% telah melengkapkan tahap pendidikan tinggi. Untuk jumlah tahun bekerja dan pendapatan min (SD) adalah 15.74 (7.58) tahun dan RM4213.79 (1891.95). 90.4% daripada reponden berpuas hati dengan markah laporan nilai penilaian tahunan mereka.

Prevalens ketidakpuasan kerja dalam kalangan petugas kesihatan di klinik kesihatan jenis 2 di Kelantan adalah 4.1%. Secara statistic, tiada kaitan yang signifikan di antara jenis sistem kerja di klinik dengan ketidakpuasan kerja. Dua faktor teratas berkaitan kerja dengan ketidakpuasan kerja adalah keadaan operasi tempat kerja dan ganjaran yang diperoleh. Faktor signifikan yang terkait adalah umur (Adj. OR 0.906; 95% CI:0.826,0.994, *p*-value=0.037) dan kepuasan terhadap markah laporan nilaian prestasi tahunan (95% CI:3.433,63.759, *p*-value=<0.001) apabila faktor lain dikawal.

Kesimpulan: Kajian ini melaporkan prevelen ketidakpuasan kerja dalam kalangan petugas kesihatan di klinik kesiahtan jenis 2 di Kelantan adalah 4.1% dan mempunyai kaitan diantara umur dengan kepuasan kerja dan kepuasan terhadap markah laporan nilaian prestasi tahunan dengan ketidakpuasan kerja. Dua faktor teratas berkaitan kerja dengan ketidakpuasan kerja adalah keadaan operasi tempat kerja dan faedah yang diperoleh. Oleh itu, penambahbaikan dari segi operasi tempat kerja dan faedah yang diperoleh perlu dilakukan untuk meningkatkan lagi kepuasan kerja dalam kalangan petugas kesihatan. Lebih banyak kajian perlu dijalankan terutamanya di peringkat nasional untuk menilai sistem syif di klinik kesihatan secara menyeluruh.

Kata kunci: ketidakpuasan kerja, petugas kesihatan, klinik kesihatan, sistem syif

ABSTRACT

Background: Job dissatisfaction reflects an employee's feelings and attitudes toward their job, and it is related to the productiveness and commitment of one's employees to the organisation. There are numerous factors that contribute to job dissatisfaction, including co-workers, supervisors, work types and environments, pay, and promotion. Health clinics run by the Ministry of Health in Malaysia are one of the most significant primary care facilities, offering a wide range of services such as maternal and child health, chronic illness management, and emergency services and response. Since June 2020, the extended hour health clinic working hour has been replaced by a new dual-shift hour working system to reduce the workload on healthcare workers and safeguard the safety of healthcare workers and patients in the face of the COVID-19 pandemic.

Objectives: The purpose of this study is to determine the prevalence of job dissatisfaction and its associated factors among healthcare workers in Kelantan's type 2 health clinic.

Methodology: This is a cross-sectional study conducted at all Kelantan's type 2 health clinics, which include two shift system health clinics and two non-shift system health clinics. The proforma will be completed by the respondent, which includes sociodemographic and job-related factors, as well as the Job Satisfaction Survey (JSS). Multiple logistic regression would be used to analyse the data to determine the associated factor related to job dissatisfaction.

Results: For Kelantan's type 2 health clinic, the mean (SD) age of the 314-healthcare worker was 40.63 (7.81) years old. The majority race was Malay (98.4%), and 73.9% were female. 89.2% of the respondents were married, with a mean (SD) child of 2.68 (1.74), and 69.7% of those had completed their education up to the tertiary level. In

terms of employment year, the mean (SD) was 15.74 (7.58) year with a mean (SD) monthly income of RM4213.79 (1891.95), and 90.4% were satisfied with their yearly performance mark.

Job dissatisfaction was reported to be 4.1% among healthcare workers in Kelantan's type 2 health clinic. There was no statistically significant association between clinic's working system and job dissatisfaction. Operating conditions and benefits were the top two sources of job-related facets dissatisfaction. When controlling for other variables, age in year (Adj. OR 0.906; 95% CI:0.826,0.994, *p*-value=0.037) and satisfaction of yearly performance mark (95% CI:3.433,63.759, *p*-value=<0.001) were found to have a significant association with job dissatisfaction among healthcare worker in Kelantan's type 2 health clinic.

Conclusion: This study found the prevalence of job dissatisfaction among healthcare worker in Kelantan's type 2 health clinic was 4.1% with a significant relationship between age in years with job satisfaction and satisfaction of yearly performance mark with job dissatisfaction. It was also discovered that among those who were dissatisfied, the top two job-related factors were operating conditions and benefits. As a result, improvements can be made in term of operating conditions and benefits to increase job satisfaction among healthcare workers. To properly evaluate this new dual-shift system working hour at health clinics, more research at the national level is needed.

Keywords: Job dissatisfaction, healthcare worker, health clinic, shift system

CHAPTER 1

INTRODUCTION

1.1 Background

Job satisfaction was defined by Locke (1976) as a pleasant or positive emotional state. It was the result of an evaluation of one's job or job experiences. Thus, it reflects the employee's feelings and attitudes toward their job. It consists of the cognitive (or evaluative), affective (or emotional), and behavioural psychological response to one's job (Hulin & Judge, 2003). It is critical to address job satisfaction issues because high levels of job satisfaction are linked to employee productivity and commitment to the organisation.

Numerous factors can influence job satisfaction. It can be divided into two types: intrinsic factors, which include co-workers, supervisors, and the work itself, and extrinsic factors, which include pay and promotion (Judge *et al*., 2001). Bui (2017) discovered three factors that are positively associated with job satisfaction and two factors that are negatively associated with it in a study on the relationship between personal trait and job satisfaction. These are the three positive factors:

1) Agreeableness. This refers to the trait of cooperation and likeableness.

2) Extraversions. This refers to how assertive, active, enthusiastic, energetic, and dominant traits individuals are.

3) Conscientiousness is a trait characterised by a high level of organisation, hard work, and inspiration in pursuit of a predetermined goal.

It was, however, negatively correlated with:

1) Neuroticism. Which refer to the lack of positive psychological adjustment and emotional stability

2) Openness to experience which characterised by intelligence and unconventionality.

Job dissatisfaction was linked to the worker's level of autonomy in terms of how they must act in light of their skillset and work demands. It was also related to the psychological demand that employees must meet in order to complete their tasks. Aside from that, the social support that employees receive at workplace plays a role in their overall job dissatisfaction (de Sousa *et al*., 2019). The HERMES (Health and Employment Review: A Meta-Analysis Study) project discovered that job satisfaction was more connected with psychosocial difficulties than physical complaints. Low job satisfaction is connected with emotional fatigue, low self-esteem, and elevated levels of anxiety and depression (Faragher, Cass & Cooper, 2013).

Malaysia's healthcare system consists of both government-funded public and private sectors. The public sector is served by the rural health clinic, health clinic, secondary and tertiary hospitals (Quek, 2014). The health clinic is an important community health institution because it offers a wide range of primary care services, including maternity and child health services, chronic disease management, and emergency services and responses. The working hours in the health clinic are based on a flexible work schedule that needs employees to work nine hours a day for five days. This working hour, however, varies for specific health clinics that give service until 10 p.m. and on certain weekends until noon, which are referred to as extended hour health clinic. The Malaysian Ministry of Health (MOH) has introduced a new dual shift working structure to relieve the strain on healthcare workers working in an

extended hour health clinic and to maintain social distance between them and patients. The new dual shift system, which operates from 8 a.m. to 5.00 p.m. and 12.30 p.m. to 9.30 p.m., has been phased in since June 2020. (Bernama, 2020).

According to Family Health Development Unit, MOH under the Primer Infrastructure Development Sector, the health clinic can be divided into seven types depend on its catchment population and its daily average number of patients per day. This health clinic types will determine the service provided by that clinic (Table 1.1).

Table 1.1: Health clinic type

Clinic type	Catchment Population	Daily average number of patients/days	Service provided
KK1	>50,000	>800	Out-patient department, accident & emergency, maternal & child health, dental, rehab, X-ray, lab and pharmacy
KK2		500 – 800	
KK3	>30,000 – 50,000	300 - 500	
KK4	>20,000 – 30,000	150 - 300	Out-patient department, accident & emergency, maternal & child health, dental, rehab, X-ray, lab, pharmacy, ABC (alternative birth centre) (*optional*), sick bay (*optional*)
KK5	>10,000 – 20,000	100 - 150	Out-patient department, accident & emergency, maternal & child health, dental, mini lab, pharmacy, ABC (alternative birth centre) (*optional*), sick bay (*optional*)
KK6	>5,000 – 10,000	50 - 100	Out-patient department, accident & emergency, maternal & child health, mini lab, pharmacy, ABC (alternative birth centre) (*optional*), sick bay (*optional*)
KK7	<5000	< 50	

Dual shift working system was implemented in four extended hour health clinics in Kelantan: *Klinik Kesihatan Bandar Kota Bharu* (type 1), *Klinik Kesihatan Bandar Pasir Mas* (type 2), *Klinik Kesihatan Bachok* (type 2) and *Klinik Kesihatan Wakaf Bharu* (type 3). It was necessary to assess and analyse healthcare workers' acceptance of this new working hour shift system. Therefore, it is critical to assess the level of satisfaction of healthcare workers working in this dual-shift system health clinic in Kelantan.

1.2 Statement of the problems

Shift system is a new working hour system established by the Ministry of Health (MOH) at selected health clinics since June 2020. In Kelantan, it was implemented at four extended hour health clinics: *Klinik Kesihatan Bandar Kota Bharu*, *Klinik Kesihatan Bandar Pasir Mas*, *Klinik Kesihatan Wakaf Bharu*, and *Klinik Kesihatan Bachok*.

Its introduction may cause job dissatisfaction among healthcare worker that have to comply to this new type of dual-shift system. Job dissatisfaction may negatively impact one's job performance, thus can reflect negatively in the healthcare delivery service. As a result, a study is needed to determine the prevalence of job dissatisfaction and its associated factors among healthcare workers in Kelantan's type 2 health clinics, particularly those working in shift system health clinic.

1.3 Rationale of the study

The acceptance of this new shift system by healthcare workers had to be evaluated and analysed. Hence, determining the level of satisfaction of healthcare workers working in shift system health clinic, particularly in Kelantan, is essential. The findings can be used by the Ministry of Health (MOH) to improve the shift system by addressing the issues that healthcare workers face in order to provide better service in the future.

1.4 Research questions

1. What is the prevalence of job dissatisfaction among healthcare workers working in Kelantan's health clinics?

2. Is there any different in job dissatisfaction among healthcare workers working in the newly implemented shift system versus those who work in the non-shift system? What are others associated factors with job dissatisfaction?

1.5 Objectives

1.5.1 General Objective

To determine the prevalence and factors associated with job dissatisfaction among healthcare workers working in Kelantan's type 2 health clinic.

1.5.2 Specific Objectives

1. To determine the prevalence of job dissatisfaction among healthcare workers in Kelantan's type 2 health clinic.
2. To identify the factors associated with job dissatisfaction among healthcare workers in Kelantan's type 2 health clinic.

1.6 Research hypothesis

H_A: There is a significant factor associated with job dissatisfaction among healthcare workers in Kelantan's type 2 health clinic.

CHAPTER 2

LITERATURE REVIEW

2.1 Job dissatisfaction among healthcare workers

Job dissatisfaction is significant because it influences workers' commitment to their jobs as well as their psychological burden, which in turn affects their performance. It can be influenced by either sociodemographic or job-related factors. It is critical to assess and manage job dissatisfaction, particularly among healthcare workers, because it reflects on the healthcare delivery service. Various studies on job dissatisfaction among healthcare workers have been conducted around the world. Two studies conducted in Ethiopia in 2011 and 2018 on healthcare workers found that the prevalence of job dissatisfaction ranged from 46.2 and 46.0% accordingly (Yami *et al.*, 2011; Gedif *et al.*, 2018). Manan *et al*. (2012) reported that 48% of registered pharmacists in Negeri Sembilan, Selangor, and Perak were unsatisfied with their jobs. In the other light, Aidalina M. (2015) who studies the brain drain phenomenon of physicians in the public and private sector in Selangor and Kuala Lumpur found that 35.6% were dissatisfied with their work and 55% of those responding felt neutral with regard to public-sector job satisfaction. This dissatisfaction and neutrality drove them to leave the public sector and work in the private sector. As a result, it is critical to address job dissatisfaction because it determines the likelihood of them remaining motivated and working without any intention of leaving the public sector.

Dissatisfaction with one’s job can have a negative impact on the workers, the organisation, and the people who receive the services. In addition to poor job performance and absenteeism in healthcare, it may jeopardise patient safety and care (Lee, 2012). Job dissatisfaction can also have an impact on job performance and

increase the likelihood of an accident or injury on the job. This causality will become more pronounced as the shift working system is implemented. Costa (2010) discovered that the relative risk of work accident and injury increases by 18% in the afternoon and 30% in the night shift as compared to the morning shift. Aside from that, working in a shift work system raised the chance of developing several types of cancers, metabolic disorders, and cardiovascular disease (Costa, 2010; Wang *et al*., 2011).

According to a systematic review and meta-analysis, the risk ratio of a coronary event among shift workers will increase by 1.24 unit. (Vyas *et al*., 2012). Gharagozlou *et al*. (2014) discovered that the majority of nurses working in an Iranian hospital were unhappy with the shift system since they were forced to work in it. The satisfied nurses were pleased with the shift system because it allowed them to manage their leisure, social, and work lives; nevertheless, they also claimed that the work system has an unfavourable impact on their social lives.

2.2 Sociodemographic factors associated with job dissatisfaction

2.2.1 Age

One of the factors related to job dissatisfaction among healthcare workers is age. Job dissatisfaction was associated with both being a young and an old professional (nearing retirement age). There is vast research regarding findings in regard of age and job dissatisfaction. According to several research, healthcare workers under the age of 35 are more likely to be dissatisfied with their jobs compares to workers aged 35 and above (Goetz *et al*., 2012; Manan *et al*., 2015). However, there are some researches revealed that healthcare workers beyond the age of 40 are more likely to be dissatisfied with their jobs (Behmann *et al*., 2012; Carrillo-Garca *et al*., 2013). Furthermore, several researches found no link between age and employment satisfaction. Lu *et al.*

(2016) and Zhou *et al.* (2018) conducted two research in China and discovered no significant relationship between job satisfaction and age.

2.2.2 Gender

Females make up the majority of Malaysia's healthcare workforce. According to the Human Resources for Health Country Profiles 2015, Malaysia has 97% female nurses, 75% female pharmacists, and 60% female doctors (MOH, 2015). Gender dominance and job dissatisfaction among healthcare workers are the subject of a conflicting study. According to some studies, there is no gender difference in job dissatisfaction (Behmann *et al*., 2012; Goetz *et al*., 2012; Manan *et al.*, 2015). However, other research reveal that females are more prone than men to be dissatisfied with their jobs (Aidalina M, 2015; Chowdhury & Chakraborty, 2017). Moreover, a study found that men are more dissatisfied with their jobs than women (Carrillo-Garca *et al*., 2013).

2.2.3 Race

Race is one of the significant factors in job dissatisfaction. Numerous studies indicate that the dominant race, regardless of nation, is more likely to be satisfied with their job than the minority race. According to an American study, black nurses are 1.2 times more likely than white colleagues to be dissatisfied with their jobs (Doede, 2017). Similarly, according to a local study, non-Bumiputera doctors are 2.95 times more likely than Bumiputera doctors to be dissatisfied with their jobs, leading them to leave the public service (Aidalina M, 2015).

2.2.4 Marital status

Gedif *et al*. (2018) have found that married healthcare workers are 1.79 times more satisfied than unmarried healthcare worker with their jobs. Even so, one studies show that overall employment satisfaction or dissatisfaction does not influenced by marital

status (Khamlub *et al*., 2013). On the other side, Yong Lu *et al*. (2016) and Sarabi *et al*. (2019) have also conducted two studies, found that there was no important relationship between job satisfaction and marriage.

2.2.5 Number of children

According to Razak & Bernal (2018), there was no significant relationship between the number of children and overall job satisfaction among nurses working in Sweden's public hospitals' emergency departments. However, Alemeddine *et al*. (2017) discovered that healthcare workers without children were considerably more satisfied in their jobs than healthcare workers with children when they investigated job satisfaction among healthcare workers in primary healthcare centres in Lebanon.

2.2.6 Education level

According to Benyazin *et al.* (2015), there was a considerable positive relationship between education level and job satisfaction. They discovered that a degree holder had 0.375 more units of job satisfaction than a diploma holder. Likewise, a China study discovered a positive relationship between education level and job happiness. It discovered that individuals with bachelor's degrees or higher were more prone than those with fewer qualifications to be satisfied with their jobs (Zhou *et al*., 2018). Yong Lu *et al*. (2016) and Yohanes *et al*. (2020) identified a different study. They observed that higher education participants are less likely to be satisfied than people with lower educational standards. However, there was a study that did not find a link between education level and job satisfaction (Razak & Bernal, 2018).

2.2.7 Monthly income

Job dissatisfaction is positively influenced by income. According to various studies, the higher the income, the greater the level of job satisfaction. It was primarily due to

their colleagues' and patients' increased level of experience and trustworthiness (Behmann *et al*., 2012; Manan *et al*., 2015; J. Li *et al*., 2017; Gedif *et al*., 2018).

2.2.8 Year of employment

The longer the worker experiences, the more likely the worker is to be satisfied with their job. According to Manan *et al*. (2015), those who work for more than seven years were more pleased. This finding is similar to that of Khamlub *et al*. (2013), who discovered that individuals who have worked for more than five years were more satisfied with their jobs than those who have worked for less than five years. Although, Behmann *et al.* (2012) found a negative relationship between years of employment and job satisfaction. It was discovered that those who have worked for more than ten years are less satisfied with their jobs than young professionals.

2.2.9 Yearly performance mark

Satisfaction of yearly performance mark or known as 'Laporan Nilaian Prestasi Tahunan' (LNPT) for public servant in Malaysia government was one of the factors that influenced job satisfaction. According to Malaysia's Public Service Department, LNPT aims to increase worker motivation and performance, identify worker potential, used for promotion, training and placement for the worker and affect their salary increment. The evaluation was done yearly by the supervisor to the worker as a form of providing feedback whereby they identify which area the employees have to improve, help them in providing more training support and learn new skills to perform their job (Qureshi *et al.*, 2019).

A study by Winarto Y. & Chalidyanto D. (2020) found a strong correlation between perceived supervisor support and job satisfaction which showing significant relationship. Other than that, aside from lowering burnout and increase job satisfaction

in the workers, the superior support also strongly helps them to be more confident in accomplishing their work objectives (Charoensukmongkol P., Moqbel M. & Gutierrez-Wirsching S., 2016).

2.2.10 Job Related Factors

Job related aspects of job dissatisfaction can be divided into two categories: intrinsic variables, which include co-workers, supervision, and the work itself, and extrinsic reasons, which include salary and advancement (Judge *et al*., 2001). Job dissatisfaction is frequently linked to poor performance. It reveals that workload, work method, roles, work and family conflict, and physical environment or job-related stressors are the most important factors (Sang Long *et al*., 2014).

According to a study conducted by Gedif *et al.* (2018) among healthcare professionals working in Ethiopia's University Hospital, individuals who work under democratic leadership styles are 2.19 times more likely to be satisfied with their jobs than those who work under autocratic leadership. Healthcare professionals who got appropriate supportive supervision were 2.05 times more pleased with their job than those who did not get enough supportive supervision. Likewise, further research backs up the findings of leadership and supervision when it comes to job satisfaction or dissatisfaction. According to Alexander *et al*. (2016), the highest degree of satisfaction among Greek medical professionals was related to the interaction between superiors and colleagues, as well as work responsibility and acknowledgment. They were, on the other side, dissatisfied with the workload, working conditions, and uncertainty of carrier advancement. Nevertheless, according to one study, working conditions and having administrative responsibilities had no substantial impact on job satisfaction (Lu *et al*., 2016).

Workplace fairness and working environment are also major intrinsic elements that affect job satisfaction. Fairness and work, both of which can contribute to occupational stress, were the most important predictors of job satisfaction. There was a considerable link between work dissatisfaction and occupational stress. Occupational stress is caused by a variety of factors including teamwork, personal, working circumstances, and a low level of job control (Fiabane *et al*., 2012). A research by Behmann *et al.* (2012) of primary care physicians in Germany discovered that patient factor and working environment were highly associated to job satisfaction, while administrative chores were highly connected to job dissatisfaction. According to a study in India, job-related elements that contributed to job dissatisfaction include working conditions, promotional considerations, and the benefits and rewards that worker received from their jobs (Chowdhury & Chakraborty, 2017).

Workers factors may play a significant impact in job dissatisfaction. According to Yami *et al*. (2011), the rate of job dissatisfaction among healthcare workers at Jimma University Specialised Hospital was 46.2%. It was due to a lack of motivation, a low wage, a lack of training possibilities, and a shortage of human resources. Autonomy, interaction, and remuneration that workers received from their jobs were also shown to be the most important factors in job satisfaction by Curtis (2012) and Sarabi (2019).

Locally, Rahman (2019) discovered that job dissatisfaction was correlated with administrative task overloads in a study of private and public primary care physicians. Aside from that, Aida (2016) discovered that Malaysian family physicians were dissatisfied with their physical working conditions, salary, and recognition for their efforts. Besides that, Manan *et al*. (2012) discovered that pharmacists who were given the opportunity to be creative at work were three times more likely to be satisfied with

their jobs. It was also discovered that it was critical to assign appropriate personnel to specific jobs based on their qualifications and skills. It should reduce job dissatisfaction, which will contribute to stress and burnout.

2.3 Shift system health clinic

According to the International Labour Organisation (ILO), shift work is a working time in which workers in the workplace succeed each other so that a business can run for a longer period of time. By introducing a shift work system, the employer can extend the operating times and thereby enhance the operation time coverage. However, it will incur additional administrative and labour costs, as well as have a detrimental impact on safety and health due to the unpredictable working hours. Since June 2020, a dual shift system health clinic from 8.00 a.m. to 5.00 p.m. and 12.30 p.m. to 9.30 p.m. has been implemented in selected health clinics throughout Malaysia (Bernama, 2020). According to the ILO definition, it is to extend the operation of the health clinic and lessen the burden on the healthcare workers who work in that health clinic.

Several studies have discovered a correlation between shifting work and chronic disease. Wang *et al*. (2011) conducted a systematic and critical review, grading the strength of the evidence using a modified Royal College of General Practitioners (RCGP) three-star system, and came to the following conclusions. There is some evidence (RCGP two-star) of a connection between long-term night work (≥20 years) and an increased risk of developing breast cancer. There is, nevertheless, limited evidence (RCGP one-star) for a correlation between shift work, either night or non-night shift work, and other cancer sites. Shift work and cardiovascular disease and metabolic syndrome received a two-star rating from the RCGP because it suggested a connection. However, more research is needed to determine the connection.

2.4 Instrument measuring job dissatisfaction

Van Sanne *et al*. (2003) conducted a systematic review and discovered that the validity and reliability of measures used to measure job satisfaction could be categorised into three categories. The categories are multidimensional instruments for specific jobs, instruments for jobs in general, and global item job satisfaction instruments. Following their reviews, they found only seven instruments that met the quality criteria for validity and reliability that was set, which were 'Job Satisfaction Survey" (JSS), 'Job in General Scale' (JIG), 'Measure of Job Satisfaction' (MJS), 'Nurse Satisfaction Scale' (NSS), 'Andrew and Whitney Job Satisfaction Questionnaire' and 'Emergency Physician Job Satisfaction Instrument' (EPJS).

2.4.1 Job Satisfaction Survey (JSS)

Paul E. Spector developed the Job Satisfaction Survey (JSS) questionnaire in 1985 as a multidimensional instrument. This questionnaire is commonly used to assess job satisfaction in many fields, including healthcare, education, and social services. It has nine facets and a 36-item scale to evaluate employee attitudes toward the job and its various aspects. The facets are as follows:

1. Pay (pay and remuneration)
2. Promotion (promotion opportunities)
3. Contingent Rewards (appreciation, recognition, and rewards for good work)
4. Operating Procedures (operating policies and procedures)
5. Supervision (immediate supervisor)
6. Nature of Work (job tasks themselves)
7. Fringe Benefits (monetary and non-monetary fringe benefits)

8. Communication (communication within the organisation)

9. Co-workers (people you work with)

Each item has six options, varying from “strongly disagree” to “strongly agree.” It calculated and scored the Likert scale of minimum and maximum score as satisfied (144–216), ambivalent (109–143), and dissatisfied (36–108). (Spector, 1985).

Based on Spector’s (1985) published data, the internal consistency (Cronbach’s alpha); which refers to how well items of a scale relate to one another; done on a sample of 2870 revealed that among all facets, the Cronbach’s alpha ranged from 0.60 to 0.82, indicating that the internal consistency ranged from questionable to good. However, the JSS Cronbach’s alpha value was 0.91, indicating excellent internal consistency. The validity was contrasted using the Job Descriptive Index (JDI), and the scales corresponded well with each other (van Saane *et al*., 2003).

Table 2.1: Job satisfaction survey reliability test (n=2870)

Facet	Cronbach’s alpha
Pay	0.75
Promotion	0.73
Contingent Rewards	0.76
Operating Procedures	0.62
Supervision	0.82
Nature of Work	0.78
Fringe Benefits	0.73
Communication	0.71
Co-workers	0.60
Total Score	0.91

In 2012, a reliability and validity study of JSS in military healthcare workers was conducted, and the Cronbach’s Alpha for overall JSS was 0.86. (Gholami Fesharaki *et al*., 2012). Van Saane *et al*. (2003) discovered that JSS reliability of internal consistency was 0.91 and test-retest reliability was 0.71. As a result, JSS was

identified as a preferred questionnaire with documented reliability and validity (Inoyatova, 2021).

2.4.2 Other instrument measuring Job Dissatisfaction

2.4.2.1 Measure of Job Satisfaction (MJS)

The MJS is a multidimensional tool used in the community nursing sector to assess specific tasks. It contains 38 items with a five-point Likert scale ranging from ‘very satisfied’ to ‘satisfied,’ ‘neutral,’ ‘dissatisfied,’ and ‘very dissatisfied.’ MJS is divided into seven subscales: personal satisfaction, workload satisfaction, professional support satisfaction, training satisfaction, remuneration satisfaction, prospect satisfaction, and standard of care satisfaction (Traynor & Wade, 1993).

2.4.2.2 Job in General Scale (JIG)

JIG falls under the global item job satisfaction instrument. It was created as a complementary to the ‘Job Descriptive Index’ (JDI), which consists of 18 items to which the respondent must respond with yes (agree), not sure, or no (does not agree). It has five facets: the work itself, the pay, the opportunities for advancement, the supervision, and the people with whom one works (Ironson *et al*., 1989).

2.5 Conceptual framework

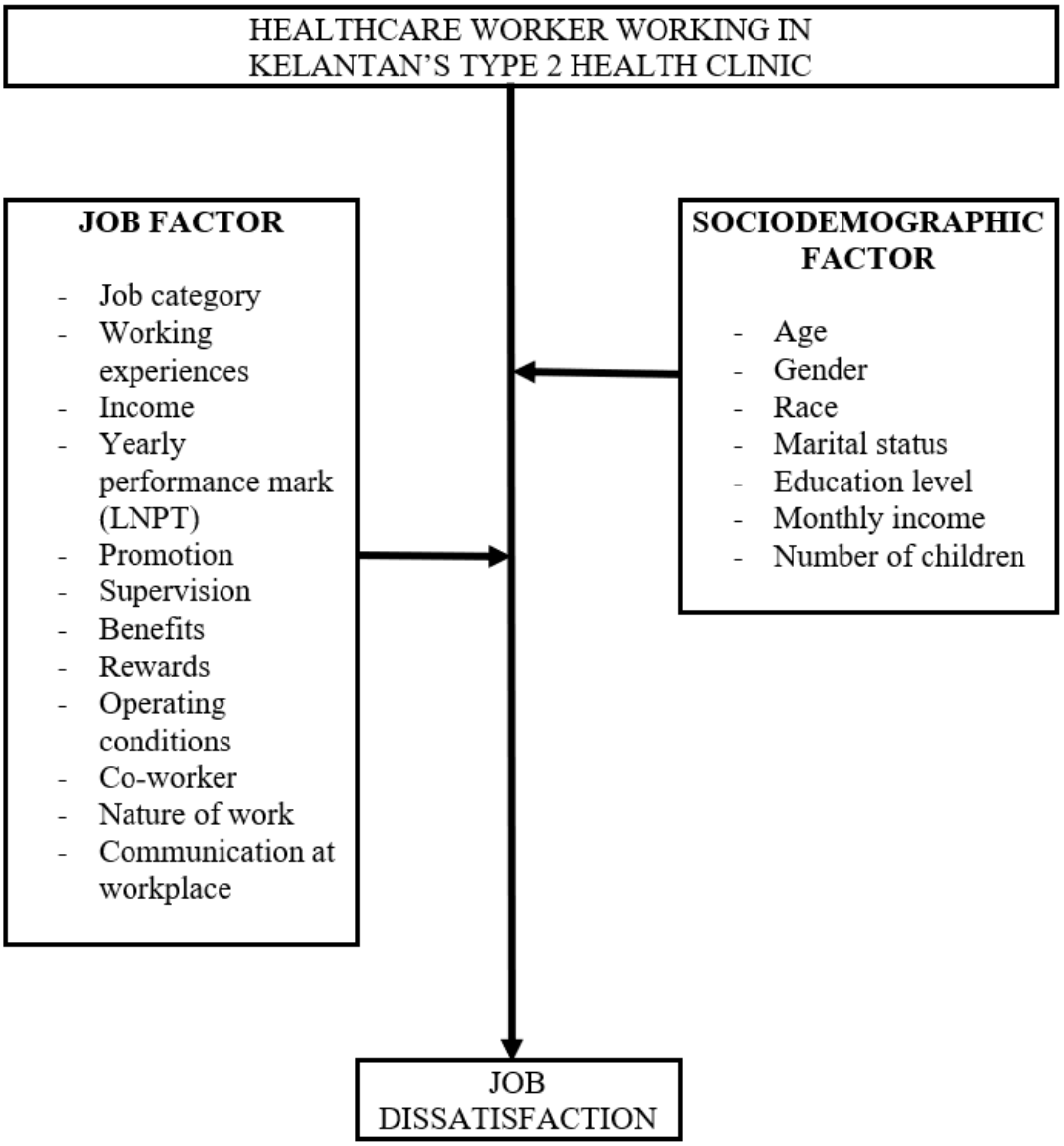

Figure 2.1: Conceptual framework

CHAPTER 3

METHODOLOGY

3.1 Study design

This was a cross-sectional study.

3.2 Study location

This study was conducted at all type 2 health clinics in Kelantan, which were as follows:

1. *Klinik Kesihatan Bandar Pasir Mas* (KKB Pasir Mas)
2. *Klinik Kesihatan Bachok* (KK Bachok)
3. *Klinik Kesihatan Pengkalan Chepa* (KK Pengkalan Chepa)
4. *Klinik Kesihatan Tanah Merah* (KK Tanah Merah)

3.3 Reference population

All healthcare workers in Kelantan's type 2 health clinics were included.

3.4 Source population

All healthcare workers in Kelantan working in the type 2 shift system at KKB Pasir Mas and KK Bachok, as well as non-shift system at KK Pengkalan Chepa and KK Tanah Merah.

3.5 Sampling frame

All healthcare workers who met the study criteria.

3.6 Inclusion criteria

The inclusion criteria were 18 years of age or older and a healthcare worker who had been working in their current type 2 health clinic in Kelantan for at least three months.

3.7 Sample size determination

The following sample size was determined based on the study objective:

3.7.1 Specific objective 1

A single proportion formula was used to calculate the sample size. The sample size was calculated with an additional allowance 10% probability of dropping rate.

Single proportion formula:

$$n = \left(\frac{Z}{\Delta}\right)^2 p\,(1-p)$$

The following was a description of each of these parameters:

CI = 95%

Zα = 1.96

Δ = 0.05

P = 0.48; job dissatisfaction value (Manan *et al.*, 2015)

It was estimated that a total sample size of 421 would be sufficient to address the specific objective 1.

3.7.2 Specific objective 2

Calculation of sample size for specific objective 2 for each variable of factor associated with job dissatisfaction used a two-proportion formula of power and sample size calculation software. Table 3.2 shows some of the factors associated with job dissatisfaction. A summary of the sample size calculations for some of the factors associated with job dissatisfaction. P0, P1, n, m, significant level, and power of the test was the parameters used to calculate sample size.

For each variable, the sample size was calculated with a 10% allowance probability of dropping rate. The following was a description of each of these parameters:

P0 = proportion of satisfied in subject

P1 = estimated proportion of dissatisfaction in subject

m = ratio of satisfaction in subject per dissatisfaction in subject

α = value of standard normal distribution cutting off probability α (1.96 for $\alpha = 0.05$ (two-tailed))

β = value of standard normal distribution cutting off probability β (0.8 for 80% power)

n = sample size for dissatisfaction in subject

Table 3.1: Summary of sample size calculation for some of the factors associated with job dissatisfaction

Variables	Po	P1	m	n	2n+10%	Reference
Gender	0.30	0.52	1	77	169	(Aidalina M, 2015)
Income	0.50	0.65	3	113	249	(Li *et al.*, 2017)
Working experience	0.50	0.69	2	78	172	(Aidalina M, 2015)

According to the two calculations above, for specific objective 1 and specific objective 2, the largest sample size used in this study for job dissatisfaction was 421.

3.8 Sampling method

There was no sampling method used.

3.9 Research tool

3.9.1 Proforma checklist

Data collection via proforma checklist were factors associated with job dissatisfactions which were age, gender, race, marital status, education level, number of children, number of people living together in the same household, job title, salary

per month, years of employment and satisfaction with their yearly performance mark (LNPT).

3.9.2 Job Satisfaction Survey

Each respondent received a self-administered questionnaire of the Job Satisfaction Survey (JSS) – bilingual (Malay and English) version (Appendix C). Paul E. Spector developed the JSS questionnaire. It had nine components: pay, promotion, contingent rewards, operating procedures, supervision, nature of work, fringe benefits, communication, and co-workers. It had six options per item, ranging from "strongly disagree" to "strongly agree." A summated rating scale format was used, with items written in both directions, so approximately half must be reverse scored. We calculated and scored satisfied (144 – 216), ambivalent (109 – 143), and dissatisfied (36 – 108) on the Likert scale. The Malay validated version of JSS was done by Tan Soo Luan in 2010. Paul Spector, PhD, had provided permission to use both the English and Malay versions of the questionnaire via email (Appendix D).

3.10 Data collection

This studied used primary data. A trained researcher approached eligible participants at the studied sites. This trained researcher provided the participant with detailed information about the research. One of our team members then examined the information sheet and answer any questions. They had enough time to consider their involvement in this studied. A written consent form required from participants who satisfy the criteria and agreed to participate in this studied. All questions in the questionnaires must be answered.

The questionnaire includes sociodemographic and job factor data, as well as the Job Satisfaction Survey (JSS) questionnaire in English and a validated Malay version.

The questionnaires would then take about 15 minutes to complete by the respondents. The trained researcher also clarified any unclear questions in the respondent's native language.

3.11 Operational definition

1. Healthcare worker: a person whose work involves contact with patients or with blood or other body fluids from patients in a healthcare, laboratory, or public-safety situation at a health clinic.
2. Job dissatisfaction: defined as those who score ≤ 108.

3.12 Statistical analysis

IBM SPSS version 26 was used for data entry and analysis. First, the data was imported into an Excel datasheet. Then it was checked, reviewed, and cleaned. Preliminary descriptions of the data had been created to ensure that the data was synchronized, and that no information was missing. The data set also had been error-checked.

3.12.1 Descriptive analysis

Sociodemographic factors (age, gender, race, marital status, education level, clinic's working system, number of children, monthly income, years of employment and satisfaction of yearly performance mark) and job-related factors (pay, promotion, supervision, benefits, rewards, operating conditions, co-workers, nature of work and communication) were describe in frequency (n) and percentage (%) for categorical variables, mean and standard deviation (SD) for normally distributed numerical variables and median and interquartile range (IQR) for not normally distributed data. The prevalence of job dissatisfaction among health workers working in Kelantan's type 2 health clinic was determined.

3.12.2 Factor associated with job dissatisfaction in type 2 health clinic

The statistical analysis for Specific Objective 2 was carried out using simple logistic regression and multiple logistic regression. Job dissatisfaction resulted in a binary variable coded “0” for satisfaction and “1” for dissatisfaction. Ambivalence was excluded from the analysis.

The variables investigated in this study were age, gender, race, marital status, education level, number of children, clinic’s working system, monthly salary, years of employment, and satisfaction with their yearly performance mark (LNPT). As numerical variables, the age, number of children, monthly income, and years of employment were examined. Gender was classified as “male” or “female,” race was categorised as “Malay” or “non-Malay,” marital status was classed as “marriage” or “single/divorce,” clinic’s working system was classed as “shift” or “non-shift” and education level was categorised as “secondary level” or “tertiary level.” Whereas satisfaction with their yearly performance mark (LNPT) was divided into two categories: “satisfied” and “dissatisfied.” All variables with a *p*-value of less than 0.25 or of clinical importance that term as preliminary variables were selected for multiple logistic regression from the univariate analysis that was simple logistic regression.

Multiple logistic regression was performed to identify the factors associated with job dissatisfaction among healthcare workers working in a type 2 shift system health clinic in Kelantan. After comparing the model using auto-selection of Backward and Forward Likelihood Ratio approaches, a preliminary main effect model was developed. The correlation matrix and standard error relative to the regression coefficient were examined to determine multicollinearity. If the correlation between variables is weak, the absence of multicollinearity is assumed. All possible two-way

interactions between variables were also investigated. Following all of the preceding steps, the preliminary final model was obtained.

The Hosmer and Lemeshow goodness of fit test, classification table, and receiver operating characteristic (ROC) curve were used to assess the model's fitness. The model was fit according to the Hosmer and Lemeshow goodness of fit test, which had a *p*-value greater than 0.05. The model was fit based on a classification table with an overall correctly classified percentage of 80.0% or higher and a ROC curve with an area under the curve of 0.7 or higher.

The enter method was used to determine the final model. The adjusted odds ratio (Adj. OR) and 95% confidence interval (CI) were calculated and used to assess the strength of association between the outcome variable and its factors. A *p*-value of less than 0.05 was set as the level of significance.

3.13 Ethical consideration

This was a primary data collection project involving healthcare workers from a type 2 health clinic in Kelantan. The Director of the Kelantan State Health Department granted permission for this study to be carried out. IBM SPSS version 26 software was used to store and process the data. The data was only accessible to members of the research team. After the study was finished, the data was saved on a CD and locked away in a cabinet. It was kept for at least three years after the study was finished before being destroyed.

Ethical approval was obtained from Jawatankuasa Etika Penyelidikan Manusia of Universiti Sains Malaysia USM/JEPeM/2 0110577 (Appendix E), Human Research and Ethics Committee (HREC), and National Medical Research Registry, Ministry of Health Malaysia NMRR-20-2574-57270 (IIR) (Appendix F).