

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

The majority of industries and business establishments that operate 24 hours a day are developing critical infrastructure to satisfy the endless demand of the urban world nowadays. This is because twenty-four-hour services have become a vibrant aspect of the society worldwide. It is imperative for various industries, such as healthcare, factory, security, mining, and transport, in order to get the availability of workers on a twenty-four-hour basis (Azmi et al. 2020; Downey 2014). Therefore, it requires the workers to work regularly according to shift schedules (Golden 2015). In Malaysia, one-third of the existing workforce is projected to be employed in shifts. Shift work can be defined as working in a routine that incorporates inconsistent or atypical hours, namely night schedule and rotating shifts, in contrary to standard daytime working hours (Harrison et al. 2020).

Working in shifts subsequently contributes to the misalignment of the biological clock. The disturbance of circadian rhythm leads to the development of various diseases. Indeed, the possible health hazards brought on to the workplace by the nature of working hours are also identified. There were 34 meta-analyses with 24 systematic reviews as well as several narrative reviews that revealed that shift workers were related with a higher risk of getting type 2 diabetes (relative risk range 1.09 – 1.40), coronary

heart disease (relative risk 1.23), stroke (relative risk 1.05), weight gain as well as cancer (relative risk range 1.01 – 1.32) (Kecklund & Axelsson 2016). As the prevalence of metabolic syndrome among Malaysian adults was reported to be between 25% to 40% by Ghee and Kooi (2016), significant measures should be taken to protect the workers vulnerable to health hazards posed by the working environment.

On top of that, several countries namely Canada, Australia and the United Kingdom have also stated that shift work with three or more days of concurrent night shifts is related to multiple health complications such as heart diseases, obesity, cancers and mental health. Furthermore, the Department of Occupational Safety and Health Malaysia confirmed that those who work in shifts are at greater risk of memory loss and brain power loss. Hence, all the reported problems generate a significant burden on the direct medical costs of the country as well as indirect costs, namely loss of production due to morbidity and premature mortality. It is not possible to eradicate shift work in our culture, therefore, approaches need to be implemented to make essential resources accessible while keeping shift workers and those around them secure.

Shift workers could find it challenging to start and maintain an active lifestyle (Loef et al. 2017). There are many consequences of an inactive lifestyle towards health, with definite proof of the efficacy of physical activity in preventing chronic non-communicable diseases and premature mortality (Fuzeki & Banzer 2018). Not only that, shift work generally results in altered eating habits with the consumption of food over twenty-four-hour span, even at night. Meanwhile, those with a more traditional daytime timetable of work are more prone to have three meals in 24 hours with food taken

throughout the day (Souza et al. 2019). There were also more psychological and mental health problems reported by shift workers working in night shifts. Working environments portray a progressively authentic part of mental and psychological well-being in fluctuating social situations (Vogel et al. 2012). Psychosocial variables include various factors such as mental health, sleep quality, quality of life, work engagement, job satisfaction, physical workload or social support in the workplace (Paquet et al. 2013).

## **1.2 Statement of the Problem**

Circadian disruption may influence the shift workers' health by altering a number of behavioural and physiological processes, such as physical activity and eating habits, which lead to the diseases development (Moreno et al. 2019). Although the consequences of shift work on physical health has been widely studied, its association with psychosocial well-being is much less published (Nea et al. 2015). Therefore, it is important to provide research that defines the psychosocial well-being of shift workers such as mental health, job satisfaction, work place welfare and quality of life to establish timetable design and work hazards prevention techniques that have a protective impact on safety and longevity. We are moving towards substantial reform of the workforce structure promoting health and disease prevention to ensure the global population not just lives longer but also lives better. This initiative is consistent with the sustainable

development objective of maintaining active lifestyle and encouraging well-being for people of all ages.

Empirical research is still inadequate on the negative impact that investigates the association between physical activity and eating habits of shift workers with their psychosocial well-being (Cleary et al. 2020; Oftedal et al. 2019; Azmi et al. 2020). This study is crucial in presenting scientific evidence to promote a healthy lifestyle for shift workers in order to sustain shift workers' health. In general, this study seeks to determine the physical activity and eating habits of healthcare shift workers and their relationship with their psychosocial well-being. This study aims to produce baseline data on workplace hazards pertaining to physical activity and eating habits and their relationship with psychosocial well-being as a reference point. The findings of this study may propose specific recommendations on shift scheduling and programmes that are needed to improve psychosocial well-being and mitigate health risks among shift workers. In addition, the shift workers may obtain benefits from the outcome provided in this study, particularly on the healthy lifestyle modification of physical activity, eating habits and psychosocial well-being maintenance.

Previous studies documented that the quality of sleep and inactivity among shift workers are related with their poor psychosocial well-being (Lim et al. 2020; James et al. 2017; Kim et al. 2017). Nevertheless, studies determining the relationship between sleep quality, lifestyle practice and inactivity among shift workers are still scarce. It is significant to obtain a better insight of this relationship because changes in lifestyle practice may enhance sleep and have long-term health and well-being advantages for

shift workers (Binks et al. 2021). This is in accord with a recent study that found an association between wellness and sleeps in shift workers, with higher self-reported wellness scores being linked to a better quality of sleep (Park et al. 2019).

### 1.3 Research Questions

Research Question 1: What are the level of physical activity and eating habits of shift workers?

Research Question 2: What are the psychosocial well-being status of shift workers in terms of mental health (depression, anxiety and stress level), quality of life, work engagement, and sleep quality?

Research Question 3: Do socio-demographic factors affect the psychosocial well-being of shift workers?

Research Question 4: Does shift workers' psychosocial well-being have a significant association with their physical activity and eating habits?

Research Question 5: What are the content and face validity levels of the developed module on psychosocial well-being maintenance among the shift workers?

#### **1.4 Research Hypotheses**

Research Hypothesis 1: Shift workers' psychosocial well-being has a significant association with their physical activity and eating habits.

Research Hypothesis 2: Shift workers' psychosocial well-being is associated with socio-demographic factors.

#### **1.5 Objectives of the Study**

Generally, the main objective of this study is to determine the shift workers' psychosocial well-being and its association with the physical activity and eating habits of hospital shift workers in Klang Valley.

The specific objectives of this study are as follows:

Specific Objective 1: To determine the physical activity level and eating habits of hospital shift workers in Klang Valley.

Specific Objective 2: To determine the psychosocial well-being status of hospital shift workers in Klang Valley in terms of mental health (depression, anxiety and stress level), quality of life, work engagement and sleep quality.

Specific Objective 3: To determine the factors (socio-demographic factors, physical activity and eating habits) that are associated with the psychosocial well-being of hospital shift workers in Klang Valley.

Specific Objective 4: To develop a module on psychosocial well-being maintenance for hospital shift workers in Klang Valley and assess its content and face validity.

#### **1.6 The Significance of the Study**

The results from this study are beneficial to give valuable data about how working in shifts influences physical activity and eating habits, hence its relationships with shift workers' psychosocial well-being. To date, the timetable of the shifts in Malaysia has not been planned based on any empirical evidence and the preventive interventions to ensure the well-being of the shift workers are also limited. As a framework for creating timetable and disease prevention strategies for policymakers and shift workers, the findings of this study should produce novel empirical evidence. This may commit to the body of knowledge, and consequently help the Ministry of Health and policymakers in other industries to make decisions related to the shift workers' well-being.

Furthermore, the research may act as a guideline on the health consequences of working in shifts. The results can be applied especially to Malaysian healthcare shift workers as a recommendation for the development of the shift timetable and schedule.

Therefore, the standard operating protocol and policy of working shifts may include early preventive measures to decrease the risk of health problems and poor quality of life. The growing pattern of health consequences resulted from shift work is creating a burden on the direct medical costs of the country as well as indirect costs such as loss of productivity because of morbidity and premature mortality. Well-developed schedules may provide part of the solution to reduce the hazards caused by working in shifts, thereby reducing the burden of the losses by the disease to society, economy and country.

In general, the study findings may produce important evidence on how working in shifts affects the health status, especially in terms of the psychosocial well-being of the shift workers. Findings from this study may be able to propose novel scientific evidence as a baseline to design more disease prevention programmes for the policymakers and shift workers in future. Indeed, the module of healthy lifestyle recommendations on psychosocial well-being maintenance for the hospital shift workers from this study may provide beneficial effects to the shift workers as well as the policymakers. On top of that, this cross-sectional study is carried out during the pandemic of Coronavirus Disease-2019 (COVID-19). The COVID-19 pandemic situation has disrupted many shift workers' previously established lifestyles. In the midst of the pandemic, the psychosocial well-being of the shift workers might be worsened.

## 1.7 Conceptual Definition of Variables

### 1. Shift workers

The term shift workers represent the healthcare workers involved in the work schedule of a three-shift system in the hospital settings of Klang Valley.

### 2. Physical activity

Physical activity attributes to any body movement involving skeletal muscles which produces energy expenditure. Physical activity in daily life can be classified into low, moderate and high activity levels of physical activity.

### 3. Eating habits

Eating habits can be defined as the way individual eats, including what they eat, how they eat, and when they eat. It includes the individual's meal frequency, composition of diet and preferences of food.

### 4. Psychosocial well-being

Psychosocial well-being is typically conceptualised as a sequence of positive affective conditions such as happiness and functioning with optimal effectiveness in both individual and social life. In this study, psychosocial well-being focuses on mental health, quality of life, work engagement, and sleep quality.