

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 BACKGROUND**

In the era of globalization, especially technology development, international business, manufacturing and public services, the shiftwork system is often used in many countries, including Thailand, mainly for the economic and customer service reasons.

Regarding the economic reasons, the shiftwork system is used in many manufacturing industries, especially ones that involve large investment, like industry, mass machinery, and production equipment, in order to maximize efficiency and productivity. In factories which have to run machines all the time to save time and energy, such as heavy machines at oil rigs, shiftwork systems are used in order to allow the machines to run continuously. Thus, these industries have to employ employees for more than 8 hours a day or have them work in shifts. In highly competitive businesses and industries that need to finish projects on time, most companies prefer that employees work longer working hours rather than taking the risk of bringing new employees into the company, which also increases the costs of recruiting and hiring personnel. In order to offer convenience and good customer service in various industries, like electrical utilities, medical services, transportation, call centers, the airline industry and security services, need to operate 24 hours a day.

The world economy now runs around the clock, 24 hours a day and 7 days a week. With the increase of customers worldwide, the number of shift workers has increased accordingly. Shiftwork is widely employed and plays a significant role in many fields of business. Consequently, because of the increase and the expansion of nightshifts in various kinds of work, the nightshift today is no longer work only for blue-collar workers, but also for white-collar workers. Nightshift work is high-paid work and requires high education and a lot of responsibility. Most international companies employ nightshift HR professionals, nightshift IT professionals, nightshift engineers, nightshift technical sales representatives, and nightshift managers. These employees may be employed as permanent nightshift staff, with employees not working in other shifts.

Even though nightshift workers receive more benefits and compensation than those working the dayshift, nightshift workers have to adjust themselves, physically, mentally and socially, in order to have a normal social life. Moreover, nightshift workers have to deal with ill-health effects from nightshift duties such as sleep disorders, digestive disorders, and also an increase in cancer risk, fatigue stress, heart problems, and gastrointestinal disorders. In America, the word “graveyard shift” is used to refer to the nightshift because of the negative effects which workers encounter, both physical and psychological.

A significant negative effect is a problem associated with sleep. Poor quality sleep, or sleep deprivation, can cause other health problems. Lack of effective sleep can impair the immune system, making the body unable to fight disease. Therefore, it is dangerous for nightshift workers who are not able to sleep effectively. And it's even worse for workers who switch their shifts between day and night. In addition, shiftwork, especially nightshift, disrupts the circadian rhythm, the body's biological clock. The hormone melatonin, which can prevent tumor development, is normally produced at night. According to Stevens' research (2006), artificial light will suppress the production of melatonin and cause cancer, so persons working in artificial light at night have low levels of melatonin and risk developing cancer. Stevens also found that working at night increases heart problem risk because people who are awake and work at night put increased strain on their heart.

The disruption of circadian rhythm is also one of the factors that affects nightshift workers' health. The circadian rhythm is a roughly-24-hour cycle controlled by the body's biological clock, which helps maintain complex internal functions throughout a 24-hour day. When the light reaches the photoreceptors, the retina will create signals that travel along the optic nerve to the light sensor in the brain. The functions that are synchronized with the sleep-wake cycle, including body temperature, hormone secretion, urine production, and changes in blood pressure, are controlled by the body's biological clock. Because sunlight, and also external time cues, can reset the normal biological cycles, the human biological clock follows the 24-hour cycle of the sun rather than the innate cycle. As a result, the human body is active during daytime hours, while during nighttime hours it is meant to sleep, which allows the body to recover energy. Working at night and sleeping during the day is in

conflict with the body's biological clock and what the body naturally wants to do. Working at night may cause "circadian rhythm sleep disorders", which are sleep disorders related to the timing of sleep within the 24-hour day. These sleep disorders are influenced by the timing of the sleep period that is under an individual's control, like shiftwork or time zone changes when traveling aboard. These sleep disorders also signal that the body cannot recover as quickly from physical and mental demands. Other common sleep disorders include sleep apnea, narcolepsy, and insomnia. Besides sleep problems, workers in the nightshift also encounter other ill-health effects such as digestive system and heart problems, as well as a reduction in work performance. Working the nightshift also causes family, psychological and social problems.

To prevent ill-health problems related to working the nightshift, workers have to know what the ill-health effects are and learn how to reduce them. Companies employing nightshift workers should provide training and knowledge regarding the prevention of ill-health effects and accidents that may occur and deteriorate workers' health. Knowledge and information on how to look after themselves properly, especially on health issues which can affect workers in the long run, should be provided by employers.

## **1.2 STATEMENT OF THE PROBLEM**

This study aimed to answer the following questions:

1. What do nightshift workers think about the ill-health effects caused by working the nightshift?
2. Do nightshift workers agree that working the nightshift can cause ill-health effects?
3. What do nightshift workers think about approaches to gain effective sleep when working the nightshift?
4. Why do nightshift workers choose to work the nightshift?

### 1.3 OBJECTIVES OF THE STUDY

The objectives of this study were the following:

#### **Main Objective**

1. To find out the opinions of people working the nightshift toward the ill-health effects caused by working the nightshift.

#### **Sub-Objectives**

1. To find out the opinions of people working the nightshift about how to gain effective sleep when working the nightshift.
2. To gather opinions of people working the nightshift as to why they chose to work on the nightshift.

### 1.4 DEFINITION OF TERMS

The definitions of the terms in this study are the following:

**Nightshift:** A particular period of working time ranging between 6 pm to 6 am.

**Nightshift worker:** A person who works the nightshift in a factory, hospital, etc.

**Nightshift duty:** Duty that begins late at night and continues until the early morning on the following day.

**Ill-health effect:** General condition of person's body deteriorating because of events, actions, or activities.

### 1.5 SCOPE OF THE STUDY

The samples of this study were people working the nightshift. This study focused on nightshift workers' opinions toward the ill-health effects and the approaches used to gain effective sleep when working the nightshift.

### 1.6 SIGNIFICANCE OF THE STUDY

The study of the opinions of people working the nightshift toward ill-health effects will raise awareness about ill-health effects. They will also learn how to gain effective sleep and how to take care of themselves when working the nightshift.

The findings of the study toward the ill-health effects caused by working the nightshift will also raise employers' awareness about providing their employees who have to work the nightshift with sufficient information and knowledge about how to gain effective sleep and to look after themselves when working the nightshift.

## **1.7 ORGANIZATION OF THE STUDY**

The study of opinions of people working the nightshift toward ill-health effects in this paper is divided into five chapters. The first chapter introduces the general background, the statement of the problem and scope of the study. The second chapter provides a review of related literature and the potential ill-health effects which may happen to people working the nightshift. The third chapter explains the methodology, materials, procedures and data analysis used in the study. The fourth chapter presents the data gathered from the study. The last chapter summarizes the study with the discussion, conclusion and recommendations for further study.