

CHAPTER 1

INTRODUCTION

Background and Significance of the Problem

An increase in life expectancy and hence the number of elderly is one of the important issues of the 21st century. The elderly is the fastest growing of all the population groups, and is happening in both developing and developed countries (Ebersole & Hess, 1998; Reimer, 2000; WHO Report, 1998). Indonesia is a developing country that has had a rapid increase in the elderly population. There was a significant increase in the life expectancy from 58-years in 1986 to 65-years in 1995 (Health Department of Republic of Indonesia, 2000). Boedhi-Darmojo and Martono (1999) reported that the elderly population of Indonesia has been increasing 3.96% every year, and the number of elderly was 22,277,700 in 2000.

Currently, the elderly occupy a large proportion of hospital beds as they experience more chronic illnesses, particularly medical disorder including cardiovascular diseases, gastrointestinal, respiratory, endocrine, and renal diseases. Thus, the elderly become the most important consumers of hospital care (Boedhi-Darmojo & Martono, 1999; Joy, Carter, & Smith, 2000).

Due to physiological changes and medical disorders the elderly during hospitalization often complain of difficulty in falling asleep, less total sleep time, more frequent awakenings, experience of not feeling refreshed when they wake up at the morning, reduction in depth of sleep and dissatisfaction with the quality of their sleep (Lee, 1997; Redeker, Tamburri, & Howland, 1998; Southwell & Wistow, 1995).

Previous studies reported that sleep quality of the elderly during hospitalization was poorer than that at home (Ersser et al., 1999; Yinnon, Ilan, Tadmor, Altaresco, & Hershko, 1992). Inadequacy of sleep and poor sleep quality during hospitalization may affect the physiological and psychological balance (Briones et al., 1996). The physiological impacts on patients include a decrease in the performance of daily activities, poor neuromuscular coordination, fatigue, tiredness, delay healing process, low immunity, and instability of vital signs such as elevated body temperature (Briones et al., 1996; Lushington, Dawson, & Leon, 2000; Miller, 1995; Roy & Andrews, 1999). The psychological impacts can increase stress, depression, anxiety, confusion, an inability to concentrate, and impairment of coping mechanisms (Lee, 1997; Miller, 1995; Roy & Andrews, 1999; Southwell & Wistow, 1995).

Providing adequate sleep is important in taking care of the elderly patients during hospitalization. They need sufficient sleep to maintain their physiological and psychological balance (Foreman & Wykle, 1995; Reimer, 2000). In order to recover from illness, promoting good as well as adequate sleep is a nursing responsibility. To promote good sleep, it is essential to eliminate factors interfering with sleep, provide comfort and facilitate conditions enhancing sleep.

Beyerman (1987, cited by Redeker, 2000) mentioned that sleep interference during hospitalization is not universal; 68% of the patients did not report that they had experienced sleep interference. However, poor sleep quality commonly occurred due to sleep interference during hospitalization (Ersser et al., 1999; Potter & Perry, 2001). Southwell and Wistow (1995) found that 22% of the patients did not get as much sleep as they needed during hospitalization. Less than one-third of those who reported interfered sleep not feeling rested in the morning awakening. Also, 65% of the patients in the

medical ward encountered sleep interference and two-thirds of patients reported that their sleep had been disturbed at least once through the night (Southwell & Wistow, 1995).

The elderly patients reported that they could not maintain their sleep as needed because of several interfering factors including physiological, routine nursing interventions, environmental and psychological factors (Craven & Hirnle, 2000; Fordham, 1991; Southwell & Wistow, 1995; Toft, Bookman, & Arand, 1996). According to Miller (1995) and Roy and Andrews (1999) the major factors sleep interference in the hospitalized patients were symptoms of their illness, medications, physical discomfort, an unsuitable hospital environment such as unpleasant odors, noises, bright light, room temperature, bedtime rituals, no privacy, anxiety, and depression. Knowing the patients' sleep quality and what interferes with their sleep during hospitalization could allow nurses to arrange and develop effective management strategies to reduce these sleep interference factors.

There have been other studies reporting the factors that interfere with sleep during hospitalization. Yilan (2000) and Laempet (2001) who studied the hospitalized elderly in medical units reported that many of the physiological, nursing activities, environmental, and psychological factors were perceived by the hospitalized elderly as sleep interference. Yilan (2000) found that the major causes of sleep interferences were coughing, frequent urination, worry about illness, habitual sleep, and noises from other patients and families. While Laempet (2001) reported that pain, dyspnea, coughing, frequent urination, no privacy and noises in the wards were sleep interfering factors.

In addition, other studies have shown that sleep quality can be influenced by other factors, such as response of the patients to hospitalization (Roy & Andrews, 1999; Southwell & Wistow, 1995), previous experience (Craven & Hirnle, 2000),

lifestyle (Potter & Perry, 2003) and culture (DeLaune & Ladner, 2002; White, 2001). As the way of life and the characteristics of elderly population at variance hospital settings may influence sleep. Thus, the results of the previous studies cannot be generalized to the hospitalized elderly population in Medan Indonesia where there has been no reports on sleep quality and the factors interfering with sleep among hospitalized elderly in medical units.

Medan is the capital of Sumatera Utara Province and the third largest city in Indonesia. The total population of Sumatera Utara in 2000 was 11,649,655 people with 1,904,273 living in Medan. As mentioned previously, around 9.9% of the total population was elderly (BPS Population Census, 2000; Gunnar Wilhelms, 2003) and the increasing elderly population will impact on overall hospital care including hospitalized patients. In Medan, there are two big public hospitals as referral centers for patients that provide services as well as facilities for elderly patients. The Dr. Pirngadi hospital has 650 beds. The 2001 admission of patients who were 45 to 65 years old was 2,449 and was above 65 years old 1,122 patients. The H. Adam Malik hospital has 450 beds, with an annual admission in 2001 of 573 patients who were 60 years old or above (The Hospitals Annual Report, 2001). Thus, they were considered suitable sites explore sleep quality and factors interfering with sleep in selected populations of hospitalized elderly to provide baseline information.

Objectives of the Study

The objectives of the study were:

1. To explore sleep quality of the elderly during hospitalization
2. To describe factors perceived by hospitalized elderly as sleep interference

Research Questions

The research questions of the study were:

1. What was the level of sleep quality of hospitalized elderly?
2. What were the factors perceived by hospitalized elderly as sleep interference?

The Framework of the Study

This study had two main focuses exploring sleep quality and the factors interfering with sleep among hospitalized elderly with medical disorders. In previous studies, sleep quality usually referred to overall sleep with which an individual is satisfied, but the components of sleep quality varied between the studies (Beck, 1992; Ellis et al., 1981). There are several aspects that reflect sleep quality and it depends on how a person experiences his or her sleep quality (Webster & Thompson, 1986). Usually, sleep quality is reflected by short sleep latency, adequate total sleep time, a few number of awakenings at night, sleep soundness, depth of sleep, satisfaction with sleep and feeling refreshed on awakening in the morning (Buysse et al., 1988; Freedman, Kotzer, Schwab, 1999; Snyder-Halpern & Verran, 1987).

This study modified the Pittsburgh Sleep Quality Index (PSQI) from Buysse, et al. (1988) and St. Mary's Hospital sleep (SMH) questionnaire from Ellis et al. (1981) to be used in assessing sleep quality. These questionnaires reliability has been tested and retested by Buysse, et al. (1988) and Ellis et al. (1981). The Pittsburgh Sleep Quality Index (PSQI) and St. Mary's Hospital (SMH) sleep questionnaire were used to measure total sleep time, sleep latency, number of awakenings, depth of sleep, satisfaction with sleep, feeling refreshed on awakening, and daytime dysfunction-sleepiness.

The study examined the subjects' experiences of factors probably interfering with sleep and their perception of the degree of sleep interference caused by such factors. These factors were classified as physiological, routine nursing interventions, environmental, and psychological factors (Craven & Hirnle, 2000; Miller, 1995; Roy & Andrews, 1999; Southwell & Wistow, 1995; Toft, Bookman, & Arand, 1996).

Physiological factors referred to symptoms of illness and treatments, which impact on the patient's physically, including dyspnea, cough, fever, pain, palpitation, headache, nocturia, incontinence, nausea and vomiting, abdominal distention, itching, NGT/IV-line in place, and mobility restriction (Laempet, 2001; Potter & Perry, 2001; Reimer, 2000; Tabbner, 1981; Yilan, 2000; White, 2003).

Then, nurses attending to other patients, checking vital signs, giving treatments, giving medicine, and intake-output recording were identified as the factors of routine nursing interventions (Bookman, & Arand, 1996; Fordham, 1991; Laempet, 2001; Southwell & Wistow, 1995; Yilan, 2000).

Environmental factors included unfamiliarity with the hospital environment, no privacy, and uncomfortable bed or pillow, noises from other patients or families member, equipment, and noise from health care teams conversation inside or outside the ward, too much light in the ward, poor ventilation, room temperature, and unpleasant odor (Craven & Hirnle, 2000; Kozier, Erb, Berman, & Burke, 2000; Miller, 1995; Southwell & Wistow, 1995; Webster & Thompson, 1986).

Finally, psychological factors could be any emotional imbalance. However, the most common psychological problems were anxiety and depression (DeLaune & Ladner, 2002; Miller, 1995; Roy & Andrews, 1999; White, 2003).

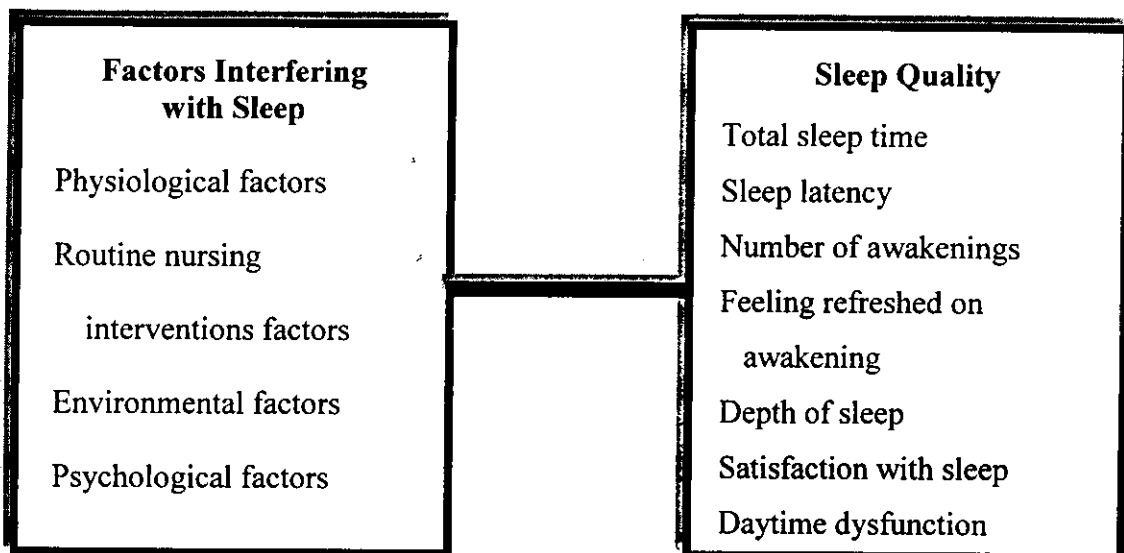


Figure 1 The framework to study sleep quality and factors interfering with sleep among hospitalized elderly.

Definition of Terms

1. Sleep quality

Sleep quality refers to the subjects' report of their sleep during the previous night with regard to total sleep time, sleep latency, a number of awakenings, feeling refreshed on awakening, depth of sleep, satisfaction with sleep, and daytime dysfunction-sleepiness. Sleep quality was measured by the sleep quality questionnaire (SQQ) modified using the researcher from the Pittsburgh Sleep Quality Index (PSQI) questionnaire (Buysse et al., 1988) and the St. Mary's Hospital (SMH) sleep questionnaire (Ellis et al., 1981).

2. Factors interfering with sleep

Factors interfering with sleep refer to any event or conditions that the subjects are exposed or experienced, and which the subjects perceived as interfere with their sleep.

These factors might prevent the subjects to fall asleep, easily to maintain and stay asleep during the night and cause more frequent awakenings. These factors were categorized into four groups; physiological, routine nursing interventions, environmental, and psychological factors.

2.1 Physiological factors refer to list of symptoms or treatments which cause discomfort could interfere with the subject's sleep during the night. They include dyspnea, cough, fever, pain, palpitation, headache, nocturia, incontinence, nausea and vomiting, abdominal distention, itching, NGT/IV-line in place, and mobility restriction.

2.2 Routine nursing interventions are nurses' activities done during the night, which could interfere with the subject's sleep. They include nurses attending to other patients, checking vital signs, giving treatments, giving medications, and intake output recording.

2.3 Environmental factors are the situations or events which the subject experiences during hospitalization that might interfere with their sleep. These were unfamiliarity with the hospital environment, no privacy, uncomfortable bed/pillows, noise from other patients or family members or equipments, conversation among health care team members inside or outside the ward, light inside the ward, room temperature, poor ventilation, and unpleasant odors.

These three factors were assessed by the Factors Interfering with Sleep Questionnaire (FISQ) which was modified from Laempet's (2001) and Yilan's (2000) instruments.

2.4 Psychological factors refer to anxiety and depression.

2.4.1 Anxiety is the subject's feeling of tension, nervousness, fear and worries in response to stress during hospitalization. The level of anxiety was measured using the Hospital Anxiety Depression Scale (HADS) questionnaire (Zigmond & Snaith, 1983).

2.4.2 Depression refers to the subject's feelings of sadness, boredom, restlessness, and hopelessness in response to loss of interest or pleasure in most activities done during hospitalization. The subject's depression was measured by the Hospital Anxiety Depression Scale (HADS) questionnaire adopted by the researcher based on that of Zigmond and Snaith (1983).

3. Hospitalized elderly

Hospitalized elderly is a person aged 60 years or above who has been admitted to the general medical units in the hospital.

Scope of the Study

This study was conducted in two hospitals, the H. Adam Malik Hospital and the Dr. Pirngadi Hospital in Medan, Indonesia. The subjects were the elderly patients who were admitted to the general medical wards during January to March 2003.

Benefits of the Study

These findings provide base line information in reference to sleep quality and the factors perceived by hospitalized elderly as sleep interference in medical units. With this information, nurses in the clinical setting can understand more the phenomenon of sleep in hospital. Also, these outcomes give information for hospital administration to redesign and control the hospital environment to enhance patients' sleep at night. Finally, this study will benefit to the development research into elderly sleep during hospitalization in Medan, Indonesia.