Sleep Deprivation of Nurses and Patient Safety: Do we practice what we preach?

Grace Fresania Kaparang (*)
Universitas Klabat
gracekaparang@unklab.ac.id

Mutiara Wahyuni Manoppo
Universitas Klabat

Abstract
Nurses will always be needed 24/7/365 and well-documented studies around the globe had found similar thing: nurses are sleep deprived. Despite this well-known fact that sleep have injurious effects on both the health and performance of nurses, that sleep disorders may diminish the efficiency and productivity of a nurse, thus eventually jeopardize the patient’s safety, the urgency in making sleep as a priority for nurse individually, and to urge the policymakers to include this in written policy has not been considered. This study aimed to review latest literature (2011-2020) with narrative literature review method through thematic analysis from contents regarding sleep issues in nursing and the recommendation to tackle the issue. Twelve related literatures found, and three themes of practical recommendations were presented. Recommendations are addressed first to the nurses individually to “practice what is preached” added with some interventions that might be done as individual efforts, then proceeded to the higher levels, particularly in hospitals or other healthcare institutions that policy on working schedules as well as napping should be well written for the sake of the nurses and patient safety. On institutional effort, nursing educators in nursing academic level may also contribute by educating the students as to prepare them to real working conditions, and this also achieved by being example for them, since action always speaks louder than words. Lastly, the government in Indonesia has also tried their best to make the nurses as a part of the healthy lifestyle educators by sharing GERMAS pamphlets, and thus, the nurses are encouraged by their own teaching.

Keywords: nurses, patient safety, policy, sleep deprivation

INTRODUCTION
Humans roughly spend one-third of their lifetime asleep (Prasetyo, Soemarko & Kusumadewi, 2018). Sleeping adequately is as important as food, water and air (Northern Illinois University, 2016) as a restorative process that plays and important role in the balance of psychological and physical health (National Sleep Foundation, 2013), and contributes to the prevention of disease as it improves overall health as it improves physical health brain function, emotional health, daytime performance and safety, while a person with sleep deprivation might develop heart disease, hypertension, kidney disease, stroke and obesity (National Heart, Lung and Blood Institute, 2012). Similarly, Barnes and Drake (2015) listed the negative effect on sleep deprivations such as becoming less effective in making decisions, less creative, suffer negative moods, more likely to experience distress low in work engagement, high in unethical behaviour, low in performance, obesity, at greater risk for coronary heart disease, prone to injuries such as in motor vehicle crashes, and lastly, die at an early age. This sleep deprivation effects are from oxidative stress and inflammation in the body and ended up with multiple organ injuries (Periasamy, Hsua, Fu, & Liu, 2015).

Seven to nine hours sleep per night is required to have overall vital health and well-being (National Sleep Foundation, 2015). In sleeping habits, a rapid increment of adult reporting to have less than six hours sleep per day, has become progressively common in modern society (Periasamy, Hsu, Fu & Liu, 2015). NSF (2013) found that more than one half people report getting less sleep during workdays and more than one half report getting excessive sleep during non-workdays consequently.

In Indonesia particularly, there were some studies confirm that there are sleeping issues, such as by Prasetyo, Soemarko and Kusumadewi (2018) as they found among the staff
offices of central government agencies of Indonesia the prevalence of insomnia symptoms reached 50%. Moreover, a study by Peltzer and Pengpid (2019) among 15 years or older in Indonesia found that 33.3% had sub-threshold insomnia and 11.0% had clinically significant insomnia symptoms. Additionally, Jakarta Post (2018) stated “some 28 million of Indonesians, roughly 10% face trouble falling asleep.”

One of the persistent issues for healthcare providers, including nurses is lack of sleep. Nurses will always be needed 24/7/365 (American Association on Nurse Assessment Coordination, 2015). Especially in this digitization “restless” society when everybody seems to be paced in endless business, particularly the health services need more employees. In European Union countries, over 50% of the nursing staff work night shifts, while in the United States of America 55% of nursing staff work more than 40 hours a week, and 30-70% of nurses sleep less than six hours before their shift. In Sulawesi Utara, there were less report in sleeping behavior, however, recent study conducted by Kaparang and Nabut (2019) to professional nurse students in Universitas Klabat, Sulawesi Utara found that 95% (N=60) of the participants were “poor sleepers” in their global sleep score. Less data reported does not necessarily implies that the problem is not there or the magnitude of it is small.

Furthermore, numerous studies conducted in Taiwan, Iran, America found that suffered from poor sleep and generally less than general population as cited by Sun, Ji, Zhou, and Liu (2018). In a study conducted by Rahmi and Kuntarti (2016) employing 106 clinical nurses who work at a hospital in Jakarta found that nurses have problems covered insomnia (30.2%), sleep apnea (14.2%), restless legs syndrome (10.4%), and narcolepsy (10.4%). Studies also suggested that average sleep durations have decreased from 9 hours in 1910 to as little as 6.9 hours on workdays in 2002. Sleep loss is cumulative and by the end of the workweek, the sleep debt (sleep loss) may be significant enough to impair decision making, initiative, integration of information, planning and plan execution, and vigilance. The effects of sleep loss are insidious and until severe, are not usually recognized by the sleep-deprived individual. Specifically, poor sleep quality and insufficient sleep have injurious effects on both the health and performance of nurses, that sleep disorders may diminish the efficiency and productivity of a nurse (Sun, Ji, Zhou, and Liu (2018).

To Err is Human, but patient safety is a priority for healthcare systems worldwide. It is reported that an estimated 44,001 to 98,000 patients die each year from medical errors while receiving medical care; and, in Italy, about 320,000 people are subjected to medication errors in health facilities every year. Impact of workload shifts and sleep deprivation on the probability of making medication errors was investigated and it was found that sleep deprivation can really jeopardize patient’s safety (Di Muzio, et al, 2019). Similarly, it is therefore evident that the sleep problems of shift nurses may not only cause nurses’ health outcomes and productivity to deteriorate but may also jeopardize patient safety (Stanojevic, Simic, Milutinovic, 2016). Furthermore, chronic sleep deprivation can also contribute to burnout, which is increasingly recognized as a threat to patient safety (Patient Safety Network, 2019). Lastly, another study by Johnson, Jung, Brown, Weaver, and Richards (2014) found that more than half (56%) of participants were lacking of sleep, and sleep deprived nurses made more patient care errors.

Inspite of this well-known fact that sleep have injurious effects on both the health and performance of nurses, that sleep disorders may diminish the efficiency and productivity of a nurse, thus eventually jeopardize the patient’s safety, the urgency in making sleep as a priority for nurse individually, and to urge the policymakers to include this in written policy has not been considered.

METHOD

The study is a literature review with narrative review method in the following steps according to Templier and Paré (2015): “using formulating the research question and objective; searching the extant literature; screening for inclusion; assessing the quality of primary studies; extracting data; and analyzing data.” The study was conducted in 2020
employing articles with current issues in nursing regarding sleep deprivation with the keywords of “sleeping issues in nursing”, “nurses and sleep deprivation” written in English and Bahasa Indonesia browsed in Google Scholar. The articles are inclusively taken for 10 years period before 2020 (2011-2020). 12 articles were examined and the practical recommendations for the issues of sleeping deprivation of nurses were taken to be proposed. Data presentation is presented as the result of thematic analysis.

RESULTS AND DISCUSSION

Recommended Solution for Sleeping Issues in Nursing

There are three specific strategies along with its rationales respectively were derived from the literature review for recommendations suggested for sleeping issues in nursing. The recommendations are through individual effort, institutional management effort and through nursing education effort. Table 1 summarizes the themes derived from literature.

<table>
<thead>
<tr>
<th>Author</th>
<th>Recommendation</th>
<th>Specific Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, 2016</td>
<td>Individual effort</td>
<td>Know the barriers and risk factors</td>
</tr>
<tr>
<td>Park, Lee &amp; Lee, 2016</td>
<td></td>
<td>“voluntary behavior, work or study commitments, environment and sleeping habits, illness (insomnia, anxiety, sleep apnea, neurotransmitter imbalances, medical conditions, psychiatric issues), and stimulants and medications.”</td>
</tr>
<tr>
<td>Sanchez et al, 2013</td>
<td></td>
<td>“consumption of energy drinks, other caffeinated beverages and alcoholic beverages.”</td>
</tr>
<tr>
<td>Lohsoonthorn et al, 2012</td>
<td></td>
<td>Adopt healthy lifestyle: restriction of electronic media exposure before sleep; well-balanced diet based on nutritional need and not only from food preferences; elimination of caffeine and alcohol.</td>
</tr>
<tr>
<td>Sun, Ji, Zhou, and Liu, 2018</td>
<td></td>
<td>Practice what nurses usually teach.</td>
</tr>
<tr>
<td>Sun, Ji, Zhou, and Liu, 2018</td>
<td></td>
<td>Regulations on the limitations on shift length, time between</td>
</tr>
<tr>
<td>Barnes and Drake (2015)</td>
<td>Management/institutional level</td>
<td>Regulations on the limitations on shift length, time between</td>
</tr>
</tbody>
</table>
Sleep Deprivation of Nurses and Patient Safety: Do we practice what we preach?

G. F. Kaparang, M. W. Manoppo

Table 1

<table>
<thead>
<tr>
<th>Author</th>
<th>Recommendation</th>
<th>Specific Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jayanti (2019)</td>
<td>Informing the students that they should expect that issue and inform how they could prevent it</td>
<td></td>
</tr>
<tr>
<td>Thomas, McIntosh, and Lamar (2016)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GERMAS (n.d.)</td>
<td>Government effort</td>
<td>Health promotion on: the importance of sleep versus the health consequences of sleep deprivation; the quantity and quality of sleep; the hindrances for high-quality sleep such as alcohol, caffeine, stimulants, medications, gadget usage, hostile hearts (unforgiving), etc.</td>
</tr>
</tbody>
</table>

Individual effort

Literatures suggested that the changes start from individual. There is a need of knowing the barriers of sleep deprivation, and then added by interventions to improve the sleep. The barriers in sleeping adequately according to Smith (2016) are voluntary behavior, work or study commitments, environment and sleeping habits, illness (insomnia, anxiety, sleep apnea, neurotransmitter imbalances, medical conditions, psychiatric issues), and stimulants and medications. Additionally, consumption of energy drinks, other caffeinated beverages and alcoholic beverages are risk factors of poor sleep quality (Park, Lee & Lee, 2016; Sanchez et al, 2013; Lohsoonthorn et al, 2012; Lemma, et al, 2012).

Then, some suggestions of restriction of electronic media exposure before sleep; well-balanced diet based on nutritional need and not only from food preferences; elimination of caffeine and alcohol; other interventions such as cognitive behavioural therapy, melatonin treatment, music therapy, aroma inhalation therapy and physical activity have been shown to improve sleep period time, total sleep time and quality of sleep (Sun, Ji, Zhou, and Liu, 2018).

But, then, here real public health nurses are needed. If only the health education is appropriately shown in the life of the nurses, community must have an urgency to practice those health advice. In fact, we are not live up to what we preach. Healthcare professionals give good advice to their patients on how to live a healthy lifestyle, and perhaps it is time for healthcare professionals to follow that wise advice too, said Alewett (2013). “Eat right! Exercise! And be sure to get plenty of sleep!” Action always speaks louder than mere talk.

Management/institutional level effort Hospitals

The first recommendation on sleeping issues in hospital level is the shift management. Barnes and Drake (2015) suggested that there might be regulations on the limitations on shift length, time between shifts, and regulation regarding the degree of circadian phase change in consecutive workdays.

The second recommendation on hospital level is through napping time policy. Sun, Ji, Zhou, and Liu (2018) suggested that policies should be adopted within hospitals creating
flexible work schedules for nurses. Majority of nurse managers recognized that napping is beneficial, however, study reported one of the barriers to the implementation of napping was the lack of a written policy. Jayanti (2019), moreover, suggested to the health policymakers of Indonesia to consider napping to be included in health regulation for nurses, considering the health of the nurses themselves and the patient safety as well.

**Nursing Education**

Several recent studies cited by Thomas, McIntosh, and Lamar (2016) suggested that the results their study on student nurses sleeping issues may help nurse leaders to teach and inform nursing students about the negative consequences of sleep deprivation possibly leading to sleep dysfunction. Nursing leaders have a responsibility to cultivate strategies to help students improve sleep and improve personal and patient safety (Thomas, McIntosh, & Lamar, 2016). In short, the practice should be started from student level, having lecturers to be their role model.

**Government effort**

The education regarding sleep also has been rendered through the Gerakan Masyarakat Sehat (GERMAS) health promotion, and it has been done by the government such as informing: the importance of sleep versus the health consequences of sleep deprivation; the quantity and quality of sleep; the hindrances for high-quality sleep such as alcohol, caffeine, stimulants, medications, gadget usage, hostile hearts (unforgiving), etc.

The information could be broadcasted on daily flyers by the Health Promotion Directorate in the Ministry of Health and could be provided in schools and colleges curriculum on health. Here also the role of public health nurses who are implementing weekly or any other regular schedule on POSBINDU / POSYANDU (Integrated Guidance Unit / Integrated Service Unit) to promote sleep in seminars or health teachings in appointed meetings with the community. Here, the nurses are being encouraged to sleep well by the teaching because they must practice what they teach.

**CONCLUSION**

Sleeping seems to be a piece of cake matter, however, because of being neglected, sleeping issues in globalization era had been followed by serious increment of noncommunicable diseases, risk for communicable diseases (low immune system) mental health issues, declination in safety behavior and eventually in premature death. Nurses are not immune to sleep deprivation consequences. While being posed to the fact that nurses will always be needed 24/7/365, and one of the persistent issues for healthcare providers, including nurses is lack of sleep. Tons of well-documented studies around the globe had found similar thing: nurses are sleep deprived. Despite this well-known fact that sleep have injurious effects on both the health and performance of nurses, that sleep disorders may diminish the efficiency and productivity of a nurse, thus eventually jeopardize the patient’s safety, the urgency in making sleep as a priority for nurse individually, and to urge the policymakers to include this in written policy has not been considered. Twelve related literatures found, and three theme practical recommendations were presented. Recommendations are addressed first to the nurses individually to “practice what is preached” added with some interventions that might be done as individual efforts, then proceeded to the higher levels, particularly in hospitals or other healthcare institutions that policy on working schedules as well as napping should be well written for the sake of the nurses and patient safety.

On institutional effort, nursing educators in nursing academic level may also contribute by educating the students as to prepare them to real working conditions, and this also achieved by being example for them, since action always speaks louder than words. Lastly, the government in Indonesia has also tried their best to make the nurses as a part of the healthy lifestyle educators by sharing GERMAS pamphlets, and thus, the nurses are encouraged by their own teaching.
BIBLIOGRAPHY


