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RESEARCH ARTICLE

Napping Strategies among Nurses in Night Shift Settings: Implementation Challenges, and Barrier

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ABSTRACT

Shift work, especially during nighttime hours, can significantly disrupt sleep patterns and lead to fatigue among nurses. Napping has been identified as a potential strategy to mitigate the negative effects of sleep deprivation and enhance alertness and performance. However, little is known about the barriers that nurses face when trying to implement napping strategies during their night shifts. This study aims to explore the perceived barriers that nurses encounter when attempting to nap during night shift settings. Observational cross-sectional study was employed, utilizing semi-structured interviews with a purposive sample of nurses working in intensive care settings. Key findings reveal that while many nurses acknowledge the benefits of napping for enhancing alertness and reducing fatigue, they encounter significant obstacles. Common barriers include inadequate facilities for napping, interruptions due to emergency situations, and a lack of organizational support. Additionally, nurses reported concerns about the impact of napping on their professional image and the potential disruption to their circadian rhythms. The findings from this research will shed light on the specific challenges that nurses encounter when attempting to incorporate napping strategies into their night shift routines. By understanding these barriers, healthcare organizations can develop targeted interventions and policies to support nurses in optimizing their sleep and reducing fatigue.

INTRODUCTION

Many critical professions must operate continuously to provide high-quality services around the clock, but they face limitations due to individual, financial, and organizational factors. Globally, most nurses work in shifts to ensure 24-hour patient care [1]. To address these limitations, work schedules are often arranged based on shift work, which can last up to 24 hours [2].

Nurses working night shifts often experience high levels of sleepiness during the low point of their circadian rhythm (2 am to 6 am). This sleepiness leads to increased fatigue, reduced alertness [3,4], and potential unintentional sleep, which are linked to a higher risk of patient care errors [5,6], job-related injuries, and accidents, including motor vehicle accidents while commuting home [7].

Sleep deprivation itself is associated with cardiovascular morbidity, metabolic syndrome, psychosocial disorders, and an overall decline in well-being [8,9]. Additionally, self-reported well-being is linked to improved sleep quality and productivity [10].Long-term health issues related to fatigue can result in lost workdays and higher healthcare costs [11].

Nursing fatigue is a global issue affecting health, patient care, and absenteeism [12.13.14]. The impact of this fatigue extends beyond healthcare facilities, contributing to a concerning rate of adverse events [15].

Addressing night-shift sleepiness among nurses is crucial. Research indicates that scheduled naps during night shifts can effectively counteract this sleepiness and enhance alertness. Napping has been found to significantly alleviate fatigue during the latter parts of shifts [5,16].

However, introducing naps during shifts often faces substantial challenges due to organizational and cultural factors [5,17].Nurses' perspectives on the feasibility and acceptability of napping are essential for its implementation. Therefore, this study aims to explore the perceived barriers nurses encounter when adopting napping strategies.

Significance of the study:

Nurses working night shifts are often at risk for fatigue, which can negatively impact their health and job performance. Understanding the barriers they face to napping during these shifts can help in developing strategies to improve their rest and overall well-being. Fatigue can compromise the quality-of-care nurses provide. By identifying and addressing barriers to napping, healthcare institutions can implement changes that reduce fatigue, thereby enhancing patient safety and care quality [18]. This study provides insights into the specific challenges nurses face when trying to nap, such as inadequate facilities or lack of time. Addressing these barriers can lead to better work environments and policies that support more effective rest and recovery. Findings can inform hospital policies regarding shift schedules, break times, and nap facilities. By integrating evidence-based recommendations, healthcare organizations can foster a more supportive environment for night shift workers [19].Identifying the perceived barriers can highlight areas for further investigation. Future studies could explore interventions or alternatives to support napping or rest, leading to improved shift work practices across various sectors [20]. Overall, this research is vital for enhancing the quality of life for night shift nurses and ensuring the highest standards of patient care.

Study Purpose

Its purpose was to assess nurses' perception of the barriers to successful implementation of night-shift naps.

METHODS

Study design:

This study was observational cross-sectional research where adult healthcare providers were invited to complete a self-administered questionnaire. This method allowed the researcher to engage a large segment of the target population

Participants' recruitment

Nurses working in intensive care units were invited to participate. They were informed that completing and returning the questionnaire would serve as written consent. Participants were assured of anonymity and that their information would only be used for this research. Participation was voluntary.

Sampling Technique:

A non-probability convenience sampling method was used. Data were gathered through a self-administered questionnaire, which involved participants answering written questions between September 2023 and February 2024. The sampling focused on recruiting participants who met the study criteria (having worked night shifts in the past three months and willing to participate).

Setting

The study was conducted in Assiut University Hospital's intensive care units with eight ICUs, including medical, surgical, maternity, pediatric, critical care, trauma, coronary, and gastrointestinal units.

Instruments

The questionnaire, written in English, was validated for face validity and reliability. It comprised five main sections:

1. **Demographic Information** (five items): Questions covered age, gender, education level, marital status, and years of experience.
2. **Night Shift Napping Practices** (seven items): Included mixed open and closed (yes-no) questions about practices related to night shift napping, the presence of a written napping policy, availability of napping spaces, and the comfort of these spaces.
3. **Benefits, to Napping** (eight items*).* The questions elicited closed (yes–no) type questions relating to benefits, to napping.
4. **Drawbacks to Napping** (two items). The questions elicited closed (yes–no) type questions relating to drawbacks to napping they encountered.
5. **Barriers to Napping** (eight items): Focused on yes-no questions regarding obstacles faced in napping.

Data collection procedure

Nurses in each participating ICU were provided with the final version of the survey. Most completed the questionnaire during their breaks in a comfortable setting, with an average completion time of 15 minutes. Due to the short length of the form and the simple yes-no questions, there was no missing data.

Content validity of the survey instrument

Content validity of the survey instrument was established through assessment by a panel of five experts who rated each item's relevance on a 4-point scale, with all items scoring highly relevant. A pilot study involving 10 nurses confirmed the questionnaire's clarity, relevance, and cultural appropriateness for data collection.

Ethical considerations

Approval was obtained from the Human Research Ethics Committee, Assiut university, faculty of nursing). Nurses were approached during staff meetings and through written invitations in their workplace mailboxes. After explaining the research objectives, interested nurses provided voluntary written consent ensuring anonymity and confidentiality.

Statistical Analysis

Data were analyzed using SPSS software version 22 (IBM Corp., 2013), with a significance level set at 0.05. Descriptive statistics, including frequencies and percentages, were used for scaled and yes-no responses. Means and standard deviations were calculated for continuous variables such as years of experience and break duration

RESULTS

Table 1: Demographic description of nurse managers (*n* = 80):

Variable		**N**	**%**
Gender	Male	25	31.25
	Female	55	68.7
Age group	20 - 24 years	13	16.25
	25 - 30 years	35	43.75
	31 - 35 years	12	15
	36 - 40 years	20	25
Marital status	Single	30	37.5
	Married	35	43.75
	Divorced	10	12.5
	Widow	5	6.25

Educational qualification	Diploma	45	56.25
	Bachelor	35	43.75
Years of experience	0 - 1 year	18	22.5
	2 - 3 years	37	46.25
	6 - 10 years	20	25
	More than 10 years	5	6.25

Frequencies (Number and percentage).

Regarding to sex, 68.7% of nurses were female, about 43.75%aged between (25 – 30 years) and (43.75%) of nurses were married and had bachelor. Further, 46.25 % of these nurses had 2 – 13 years of experience **(Table. 1).**

Table 2. Nurses report on napping during night shifts (*N* = 80)

Frequencies (Number and percentage).

Although 81.25% of the nurses knew the napping strategy and reported that it is being benefit for nurses and patients, about (18.75%) had no expressed concerns about napping.About **68.75** % of nurses apply night shit napping in their units.Additionally, 75% of nurses reported the napping time wasn't adequate,

	Item	**Yes**	**No**
		N (%)	**N (%)**
1.	being more alert for the drive home	50 (62.5%)	30 (37.5%)
2.	Able to communicate more clearly	72(90%)	8 (10%)
3.	More energized	80 (100%)	0(0.0%)
4.	accomplish tasks without error	72(90%)	8 (10%)
5.	Less stressed	80 (100%)	0(0.0%)
6.	Able to think more quickly	75 (93.75%)	5 (6.25%)
7.	Enhanced the nurse's mood	80 (100%)	0(0.0%)
8.	Increase nurses' and patients' safety	80 (100%)	0(0.0%)

andthat their hospitals had no written policy about napping. Although mostnurses (78.75%) said there was a specific place to nap, 75% of nurses reported that the napping place wasn't comfortable. (Table 2).

Table 3. Nurses' responses on benefits of napping (*N* = 80)

Sn	**Item**	**Yes**	**No**
		N (%)	**N (%)**
1.	being more alert for the drive home	50 (62.5%)	30 (37.5%)
2.	Able to communicate more clearly	72(90%)	8 (10%)
3.	More energized	80 (100%)	0(0.0%)
4.	accomplish tasks without error	72(90%)	8 (10%)
5.	Less stressed	80 (100%)	0(0.0%)

6.	Able to think more quickly	75 (93.75%)	5 (6.25%)
7.	Enhanced the nurse's mood	80 (100%)	0(0.0%)
8.	Increase nurses' and patients' safety	80 (100%)	0(0.0%)

Frequencies (Number and percentage).

Three-fourths of the nurses (62.5%) reported they perceived napping to be beneficial as they become more alert while driving home. All nurses (100%) reported benefits related to more energy and power, more patient and nurse safety, and enhanced the nurse's mood and psychological adjustment. About 90 % of nurses reported that napping enables them to communicate clearly, accomplish tasks without error, and be able to think more quickly. (table 3)

Table 4. Nurses' responses on drawbacks of napping (*N* = 80)

Sn	Item	Yes	No
		N (%)	N (%)
1.	Physical discomfort (sitting up in a chair)	60 (75%)	20 (25%)
2.	Lack of a door lock	80 (100%)	0(0.0%)
3.	Others using the room for other purposes	63 (78.75%)	17 (21.25%)
4.	Interruptions while napping	65 (81.25%)	15 (18.75%)
5.	The nap opportunity was too short	60 (75%)	20 (25%)
6.	The lack of written policy	80 (100%)	0(0.0%)
7.	The lack of supervisory support	80 (100%)	0(0.0%)
8.	Continuity of patients care	80 (100%)	0(0.0%)

Frequencies (Number and percentage).

Increased workload for other nurses was reported by all (100%) of nurses as a drawback of napping. Understaffing is another drawback reported by 62.5% of nurses. (table 4)

Table 5. Nurses' responses on barriers of napping (*N* = 80)

Sn	Item	Yes	No
		N (%)	N (%)
1.	understaffing	50 (62.5%)	30 (37.5%)
2.	increase workload for other nurses	72(90%)	8 (10%)

Frequencies (Number and percentage).

The lack of door lock, lack of written policy, lack of supervisory support and continuity of patients' care were reported by all nurses (100%) as main barriers to the practice of napping. Three-fourths of the nurses (75%) perceived physical discomfort, and short napping opportunity were great barriers to napping practice. In addition, 81.25%, and 78.75% of nurses thought that the greatest barriers were related to interruptions while napping, and others using the room for other purposes. (table 5)

DISCUSSION

Despite substantial evidence demonstrating that napping can enhance performance during night shifts [5, 21, 22, 23], the adoption of this practice in nursing has been slow [5]. This study aimed to identify the obstacles to implementing napping strategies.

Most nurses reported that their hospitals lacked a formal napping policy, a situation likely not confined to Canadian and Jordanian settings (Amiard et al., 2022). Some nurses suggested that management might view napping as indicative of job dissatisfaction or a potential threat to patient safety. For example, one

hospital declined participation in the study because its policy banned sleeping on the job, a restriction that may be widespread [24, 3].

Although many nurses reported having access to a designated napping area, they found these spaces uncomfortable, possibly due to insufficient support for napping practices. This mirrors findings from a Brazilian study, which indicated that effective napping requires an environment conducive to rest [25].

All nurses in this study agreed that napping improves safety for both patients and staff. Well-rested nurses typically exhibit increased alertness, quicker reaction times, better mood, and overall improved performance. This aligns with research showing that sleep deprivation increases the likelihood of errors [26]. Similarly, our study found that fatigue, particularly related to driving home after a night shift, poses a significant risk [27].

The study's findings highlight both the benefits and concerns of taking naps during night shift breaks. Many nurses reported better mood, energy, and response times when they could nap at work. This aligns with [28] study, which suggests that napping can help recover from ongoing stress, synchronize circadian rhythms, and compensate for sleep deprivation. Similarly, [29] study found that emergency department staff who napped experienced less fatigue and fewer performance lapses, while [3] study noted improved alertness among hospital workers who napped during night shifts. Other researchers, like [30] study; also recommend brief naps to combat sleep loss and fatigue from night shifts.

All nurses in the study agreed that napping enhances both patient and nurse safety. Well-rested nurses tend to have better central nervous system arousal, vigilance, reaction times, mood, and overall work performance. Conversely, when naps were desired but not possible, nurses experienced cognitive impairments and decision-making difficulties, increasing the risk of errors during sleep deprivation, as noted by [31]. Additionally, similar to findings [32] study; nurses reported a higher risk of personal injury due to fatigue, especially when driving home after night shifts. [33] Study also reported similar risks.They can also substantially affect shift nurses' job performance.

Key barriers reported by nurses included the absence of a lock on napping rooms, lack of written policies, insufficient supervisory support, and concerns about continuity of patient care. Many nurses also cited physical discomfort and limited napping time as major obstacles. Interruptions during napping and the use of the room for other purposes were also significant barriers. A survey of nurse managers by [34] study found that 63.6% identified barriers such as staffing issues, increased workload, lack of appropriate napping space, and organizational disapproval as hindrances to implementing napping policies. Additionally, 55% of nurse managers noted that the absence of formal policies and supervision was a major barrier [34].

Addressing these challenges requires a cultural shift and policy changes within organizations to make napping on shifts acceptable and feasible [23, 34]. Until organizations recognize and embrace napping as a safety measure, staff may continue to "sneak" naps or push through fatigue, potentially jeopardizing their own and their patients' safety.

The issues of inadequate door locks, interruptions, and multipurpose use of napping areas were significant barriers identified in this study. These challenges echo the broader literature, which highlights the need for suitable, quiet, and comfortable napping spaces that are conveniently located near colleagues [5, 21, 22, 23, 6].

Limitations of the study

One major limitation is that the study was restricted to bed side nurses and didn't include first-line management and not necessarily other levels of management who must support napping strategy. Another limitation is that the study was conducted at a single hospital, it would be good to include other health hospitals to get generalization of the findings.

CONCLUSION

The study identified several perceived barriers to the implementation of napping practices among nurses working night shifts. Key obstacles included the lack of formal written policies regarding napping,

insufficiently comfortable and secure napping spaces, and interruptions or misuse of designated areas. Nurses reported that these issues, along with perceived negative management attitudes towards napping, significantly hinder the adoption of this practice.

The absence of supportive organizational policies and environments undermines the potential benefits of napping, such as improved alertness, safety, and overall performance. Addressing these barriers requires a comprehensive approach, including the development of clear napping policies, creation of appropriate and comfortable napping spaces, and fostering a supportive organizational culture. Implementing these changes could enhance both nurse well-being and patient safety by facilitating effective rest during night shifts. Further research should explore strategies to overcome these barriers and assess the impact of policy changes on nursing practice and patient outcomes.

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