



Exploring the Effects of Sleep Deprivation on Nurses' Performance and Patient Care

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Abstract

Background: Lack of sleep is an enormous problem in health care, especially amongst those professionals working on shift, especially, the nursing staff. It was said to affect cognitive process, decision making and the physical abilities, with effects on patient safety errors.

Aim: The approach taken in this study is to consider ways to approaches resulting from nursing shift scheduling, improvements in the workplace, and technological developments to minimize sleep-related mistakes.

Methods: The literature was therefore searched to Establish the causes of sleep loss amongst nurses and to assess strategies for addressing these problems.

Results: Some of the strategies include shift working and changing of shift schedules, sleep hygiene measures and Fatigue Countermeasures Technologies FCTs. Engaging the nurses in rostering also improves compliance with rest-related policies as well as employees engage in problem solving.

Conclusion: An overview of sleep deprivation interventions Increases nurse competence, decreases medical mistakes, and increases patient protection In clinical care environments.

Keywords: Lack of sleep, breastfeeding, patients, stress, roster dyschrony, occupational approaches

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Introduction

Lack of sleep is now recognized as a major Problem in the healthcare system and the nursing forces mainly due to the long working hours and unpredictable work schedules as well as stress. Of all the fields, nursing is most sensitive to experiencing sleep-related deficits that may impair mobility, emotional state, alertness, and safety of the patient. It has been indicated by research that lack of sleep will lead to brain impairment, decision-making disasters, exhaustion and emotional stress all of which can contribute to mistakes in dealing with patients. Given that the healthcare sector is under a lot of pressure with an already large demand for services and scarce resources availed, then the ramifications of sleep-related mistakes can greatly affect patient care leading to emergence of high costs, amplified turnover. Hence, improving sleep loss and its consequences on the nursing practice constitutes an imperative in health care organizations globally. Some of the proposed Interventions discussed in this research include scheduling reforms, workplace improvements, technological solutions, and a cultures of well-being. By implementing

these Interventions, healthcare organizations can enhance nurse performance, ensure patient safety, and improve the overall quality of care.[1,2]

The Effects of Sleep Deprivation on Nurses' Performance

As shown in this paper, lack of sleep affects the performance of nurses in a variety of ways, and thereby undermines the quality of care they are in a position to give to patients. Extended period of sleep annihilates sharpness and memory and even the capability to concentrate and make sound decisions. Sometimes nurses find themselves in situations where they have to judge expediently and accurately perhaps due to the nursing specialty practice area or work setting. Nurses who are unable to get adequate rest – may suffer from impaired focus dulling, slower response rates, higher propensity of making mistakes. For instance, a mistake in dosage of drugs; or failing to detect early signs of complications in a patient could be catastrophic on the side of safety of the patient.[3] Besides, sleep deprivation takes a toll on the physical energy of the nurses and their capacity to work physically, overdoing physical tasks including lifting patients, equipment and tiring simply due to long hours of standing or working. Longevity of this weariness aggravates the extent that it becomes chronic exhaustion that proves difficult for a nurse to muster up the energy needed to properly addressing the assigned responsibilities. Mental health is also impacted because people become more stressed, annoyed, and burned out if no sufficient amount of sleep is delivered. Such symptoms may result in nurses' inability to perform compassionate care, effective communication with co-workers and patients, and professionally appropriate relationships.[4] The above outcomes are worsened by settings where nurses are assigned to work on long shifts, work with numerous patients or experience repeated emotionally stressful events. The above conditions makes nursing and other healthcare facilities to experience cycle of physical and mental pressure which eventually affects staff satisfaction levels and turnover rates. Elimination of nurse fatigue is crucial to not only for the health of the members of this profession, but also due to recognition of the fact that patient safety cannot be guaranteed without well-rested staff. Measures like how shift rosters can be designed, managing shift work disorder and encouraging recommended number of hours of sleep, etc. are some of the possible measures that work wonders.[5,6]

How Sleep Deprivation Impacts Patient Care

Nurse fatigue affects the quality of patients' care because it is among the key approaches through which sleep deprivation affects the delivery of patient care by nurses. Of the many potential ramifications one is the most severe – growing chances of patient mistreatment and improper administration of medications. Namely, tired nurses may fail to accurately measure drug dosages, miss important signs and symptoms of their patients and fail to perform timely, effective interventions. These mistakes are not only potentially fatal for patients, but are also threatening for the mutual trust between patients and doctors which results in patients' dissatisfaction and legal investigation of health care institution.[7]

In addition, lack of sleep duet is usually marked by poor performance in matters concerning patients' interaction and compassion from nurses. Being a good caretaker involves additional things such as paying attention to patient's concerns, comforting them, and explaining issues that may make them stressed, in severe pain or to informing them of their medical status. While working their shifts, nurses who are deprived of sleep will find it difficult to keep the aspect of carrying emotional balance that is required in offering care to the patients hence making the patients feel abandoned. This can in one way or another have an impact on patients total perception of their treatment as well as their willingness to fully submit to the various protocols as required in order to improve their condition.[8,9] inability to sleep also hinders communication or teamwork and collaboration within the health care setting, which in one way, impact patient care. Nurses sometimes operate as staff members of large teams, and the goal is to discuss the roles and responsibilities of every member. Alertness is also compromised when nurses are tired because they cannot pass information efficiently, participate in decision making properly, or coordinate with other members in the team, thus receive kiss of care. When made to persist long enough, these challenges negatively impact the efficiency and effectiveness of the health care delivery system.[10] Erasing effects of sleep deprivation on patient care, therefore, forms an important part in ascertaining better health outcomes. Nurse fatigue causes should be addressed through increased focus on interventions to support

strategies to manage it —more effective shift scheduling, mandatory breaks for long shifts, and promotion of wellbeing— can improve the quality of the care delivered to recipients. The measures are not only protective of the patients and consumers of care, but nurture the capacity, competence, and effectiveness of nurses.[11]

Nurses' Performance and the Influence of Sleep Deprivation

Lack of sleep impacts nurses sharply in terms of performance and influences their mental and muscular capability. Nurses work in the condition that requires the constant focus, immediate response, and careful actions toward various tasks. However, inexperience in driving diminishes concentration, slows reaction time and lessens the individual's problem solving prowess, despite such abilities being significantly hampered by poor sleeping. For instance, a working nurse suffering from lack of sleep may fail to notice slight changes in the patient's conditions, or may not allocate her tasks properly or may even be unfit to perform certain procedures due to extreme fatigue which is very dangerous to the patient. The sort of cognitive impairments can be dangerous especially in areas like intensive care units and emergency areas where any mistake is costly.[12] Mentally, the health of such a nurse is more compromised to reduced vigor and endurance due to tiredness, something that hinders the ability of handling physical tasks in a nursing profession. Nurses are at risk of being on their feet for extended periods, helping patients move around or exerting their energy on patients and undertaking repetitive movements related to the job. Whereas lack of sufficient sleep impairs the physical tasks that are usually accomplished at workplace and make them demanding and a bit time-consuming apart from this; it may pose more threats of endearing workplace accidents. Nevertheless, sleep loss weakens immune system, and nurses are likely to develop diseases that may reduce their capacity to perform duties efficiently and incessantly.[13] This is because sleep deprivation doesn't just impact the individual level but also the team and organizational level of Analysis factors such as team motivation. The nurses who are working while sleep deprived may find it difficult to engage in adequate communication, cooperation, problem solving or to conflict, which interferes with the order and cohesiveness of healthcare organizations. Besides, chronic fatigue results in feelings of irritation, stress or burnout which also negatively affects compassion satisfaction in a nurse. This not only challenges the results delivered to the patients, but converts to dissatisfaction of employees and high turnover rate amongst nursing personnel.

Identifying sleep deprivation in relation to nursing performance remains crucial as a way of establishing safer and most favourable healthcare setting. One of the ways in which the effects of sleep deprivation may be reduced include: Ensuring that staffing policies are informed by research on the topic; ensuring that paraprofessionals are presented with information regarding sleep hygiene; and that wellness resources are made available. To that end, this paper aims at providing an analysis of the identified issues that will enable healthcare institutions to improve the efficiency of their nursing employees and, therefore, the quality of services offered to patients.[14]

Patient Care and The Correlation With Nurses' Sleep Deprivation

The quality of patient care is related directly to the physical and mental health of the nurse and since sleep deprivation is an issue in a healthcare relationship, it must be addressed. Fatigued nurses are likely to make mistakes that endanger patients in the hospital, based on their study. Many of these mistakes result from poor thinking processes, namely: memory loss, particular diminished vigilance and response velocity – all essential factors in patient treatment. Such mistakes as giving the patient the wrong doses, not observing the signs that the patient is uncomfortable, or ineffective use of instruments can be glaring consequences of exhaustion. Several mistakes, not only affect the health of patients and, in the worst-case scenario, become the reason for a lawsuit against a nurse, followed by dismissal and emotional suffering.[15] Also, the emotional state that is influenced by lack of adequate sleep deprives nursing human resources of effective care delivery. Fatigued nurses are incapable of offering empathetic care due to their emotional strength capacity which is rubbed off when they are fatigued. Lack of sleep makes a person impatient and unable to handle patient with appropriate interpersonal skills. Instead, this can have patient feeling neglected or ignored during perhaps the most crucial phases of their treatment. Inadequate communication

can also be a detriment to a patient and or the family in terms of the general health care they receive, this makes them lose trust in any health care system. Furthermore, patients may not follow recommended treatments as strictly if they do not feel their caregivers are paying enough attention to, or care about, them.[16] It is rather more apparent how sleep-deprived nurses impact not only several people's lives but crucial healthcare results as well. When nurses are in a position where they cannot deliver their best, then the working relationship of the health facility individuals will be disoriented. Interdisciplinary nurse communication breakdown or lack of interdisciplinary cooperation is responsible for confused care and increased length of stay as well as delay in treatment. As well as being a financial problem for the patient, this also poses operational and financial concerns for the health care system. Solutions concerning the relationship between the quality of the patient care and shortages of sleep among the nurses is an essential one. Some of the things to do include avoiding working for number of consecutive nights, writing good policies on rest breaks between shifts and advocating for nursing self-care and well-being. This paper, therefore, concludes that having a healthy nursing workforce offers a safer and healthier environment to achieve implied trust in the delivery of high-quality patient care[17].

Sleep Deprivation: One of the Key determinants of nursing productivity

Lack or insufficient sleep is another modifiable determinant of work effectiveness of nurses because it determines the ability of the nurses to perform their tasks as required and as expected. Nurses for example work in conditions that call for keen observance, accuracy and endurance. But lack of sleep have a negative impact on cognition, which hinders its function of attention, problem solving and rational decision making. Any job that requires decision-making ability, including checking the patient's temperature, calculating dosages, and handling emergency situations, become much more difficult when one is tired. Comprehensive research has indicated that the effect of sleep deficit is as severe as the effects of alcohol; the efficiency and safety of patients suffer as the extent of sleep loss increases.[19] Sleep deprivation not only has an effect on the physical health of the nurse but also continues to reduce the overall productivity of nurses. Working long hours, shift working, and excessive workload leads to fatigue as the personal energy of the nurses reduces to give way to fatigue hence IPO. Fatigue is known to cause slower reactions, impaired coordination and thus increases likelihood of occurrences of cases of work place accidents. For instance, a nurse who is fatigued will be in a position not to give a patient the needed attention they deserve in terms of lifting, using equipment or being very alert in emergencies. This eventually results in health complications of a chronic nature including musculoskeletal disorders, which make them even more inefficient at their tasks.[20] Sleep loss, which is a characteristic of nursing students, affects other qualities that are important to the profession such as emotional well-being negatively. As a result of fatigue, the nurses point out that they become easily stressed and overwhelmed thus unpleasant when dealing with staff and patients. Patients require effective collaborations due to the nature of interprofessional relationships – that is a common reason why nurses cannot do what is required of them emotionally. In addition, sleep deprivation results to burn out, this is a type of stress that causes emotional exhaustion, depersonalization and reduced personal effectiveness. Besides depressive effecting the working productivity, burnout is also closely related to high turnover rates which can enhance the known issues with staffing in healthcare institutions. This concern is important because appreciating sleep loss as one of the leading factors affecting the performance of nurses points to the necessity for system reform in the health care sector. Some examples of methodologies include working on shift length, encouraging work-life separation and provision of materials in relation to reduction of stress and sleep deprivation all in a bid to improve the performance of nurses. In order, addressing the sources of sleep loss, healthcare institutions can guarantee that nurses' physical and mental, and emotionally equipped to provide high-quality care, ultimately benefiting both staff and patients.[21]

The Ripple Effect of Sleep Deprivation on Patient Outcomes

Not only do nurses suffer ill effects of sleep loss of productivity, but also any consequences are not limited to the nurses themselves, but are far reaching with dramatic impact on patients. At the heart of healthcare delivery is the cardinal concept of safety, which is implementation of safe and effective and timely measures and interventions and this is immensely threatened by nurses' sleep deprivation. Lack of sleep reduces alertness, dulls clinical reasoning abilities, and slows down reaction; all these factors increase the potential

of committing adverse medical mistakes. Fatigued employees, for instance, a nurse may be of the wrong drug, misunderstand a patient's condition, or postpone necessary treatment, which severely jeopardized patients' well-being. The above mistakes may lead to increased hospitalization period, Ferguson et al., (2014) complications or death thus implying the indirect negative consequences of nursing fatigue on clients.[22]

Also, it has been established that lack of sleep alters the mood of nurses, and so the quality of interpersonal transactions that can actually impact on results. Emotional care is an integral part of compassion in care delivery and while admitting patients, perhaps due to fatigue, they may not be willing to engage with patients. From this, patient may develop perceptions of neglect, non-communication or lack of adequate support all-through the healthcare process thus are over-all emotional state and satisfaction levels may be affected. Lack of communication also raises the chances of clients misunderstanding the clinician's recommendations, Sleep loss also has secondary effects on systems and thus generates organizational problems that in turn contribute to worsened patient outcomes. Nurse-staffed teams forced to work while sleepy will have inadequate team work, and it is documented that tired staff make ineffective communication and coordination. These interruptions can lead to delays in therapy, interfere with consistent care and reduce the organizational productivity in healthcare centres. Also, these inefficiencies in the system are costly, in terms of deflecting resources, time in hospital, and unnecessary complications, and can decrease the capacity of the already challenged health systems for maximum quality care delivery.[23] In order to avert the chain reaction of sleep loss on the patient's result, the healthcare organizations have to begin embracing methods that encompass the prevention of nurse fatigue. Restriction of working hours, access and promotion of wellness programs and having a healthy organizational culture is part of the measures to addressing this issue. Considering the various aspects of nurse safety as a key to patient protection, one can assert that promoting the idea of nurses' welfare Constitutes a way to bring about improved results, better patient satisfaction and more stable and efficient healthcare system.[24]

Opinion regarding splitting the workload in order to counter sleepless nights

Measures of self-organization in healthcare organizations should focus on the distribution of workloads and limit a nurse's exposure to sleep loss, as fatigue is common when working amid long and shift-varying shifts. Such qualities as working in the face of intense pressure and stress, being on one's feet for long hours, working at night and being crowded by a high influx of patients that needs to be attended often times means the nurses will be perpetually tired and deprived of adequate sleep. For this reason, various approaches in dealing with case of sleep deprivation is to make sure that workload reflects the capabilities and tolerating capacity of the nurses and the tasks assigned for them reflect that what can be done in the time frame of a shift. Health care organizations can establish staffing patterns that minimize overtime and guaranteed off-tour rest and flank shift fragmentation as well as minimize night shifts or consecutive long shifts. Not only does this approach prevent fatigue and burnout, but it also gives nurses a better quality of work and results in increased nurse retention which is paramount to an industry that is already struggling with staffing.[25]

Moreover, the organization of work responsibilities must consider the energy level that should be expected from the nurses. Adequate and proper task alternations could lessen the average duration of high pressure tasks, including critical care and emergency that bears strong risks to the positive well-being and sleep patterns of the nurses. Further, an element of more adaptable work schedule, including shorter working hours or the work schedule that has an increased predictability can be effective in nursing practice as it allows the nurse and meet their personal requirements for sleep. Schedules that are adaptable allow the nurses to make better plans for when they will rest and therefore can get improved sleep quality and health. Another aspect of workload balance is handling the environmental factors within the workplace, for example, when the work area does not cause bodily discomfort and when there is a system in place to support employees that have mental issues. Altogether these measures to implement and organize the workload have a great role in avoiding the ill consequences of the sleep loss that in its result improves not only the performance of the nurse staff but also the outcomes of the patients' treatment.[26]

Sleep Deprivation: A Virtually Unnoticed Area of Public Health

The importance of sleep is gradually being appreciated in the society especially in public health, despite it being treated more or less a taboo subject in the current society health talks. The consequences of sleep deprivation or poor quality sleep are not only weakness and fatigue, but serious disorders influencing the whole organism – physical and psychological. Lack of sleep increases risk of heart diseases, high blood pressure, obesity, diabetes and poor mental health such as anxiety and depression. Recent advances in sleep studies in particular have received attention from the World Health Organization, though some of the problems with sleep persistence are marginalized within overall population health priority plans. A major reason for this oversight is that sleep is often seen by society as something that is an indulgence or something that is perhaps lazy when in fact it is one of our bodies main functions of reconstruction, concentration, and the ability to control our emotions. It is generally true that in almost all cultures, especially in circumstances where organizational pressures require individuals to be productive at work for long hours, sleep is usually compromised in order to gain those productive hours hence worsening the ill health that is as a result of the compromise.[27]

Indeed, sleep deprivation has many implications for public health. Not only does it lead to chronic health problems but also hampers motor coordination so that a person causes accidents and injuries, experiences losses in cognitive abilities, and impaired decision-making. For instance, people who lack sleep will be prone to traffic accidents or workplace accidents implying that many costs, which affect the health of communities, will be borne by healthcare systems. In addition, lack of sleep can worsen existing symptoms of a health issue meaning that people will have a poor way of addressing their chronic diseases. These overall developments indicate that the social and economic consequences of these outcomes are massive; however, sleep deficiency is not addressed in the same manner as other sociomedical problems, such as smoking, alcohol consumption, or obesity. Another area where sleep deprived is neglected is also a matter of societal inequality since some given groups like healthcare students, shift students, low income earners, and students are highly affected. Such groups are vulnerable to poor sleep welfare as a result of work shift irregularities, stress prone jobs and socio-economic issues that deny them chance to sleep. The foregoing results in a vicious cycle of illnesses, which are hard to tackle within the communities in question. Health in particular polices on inadequate sleep should balance the social and physical environment that causes sleeplessness such as working hours, health facility accessibility and perception. It has therefore become important for governments, employers, and healthcare organizations to adopt practices that can help create better sleep habits, set working hour restrictions, launch awareness crusades on sleep, and put into place standard measures that ensure fairness to every citizen as far as sleep is concerned. Until sleep deprivation is given the attention as the crucial public health problem that it is, more additional health, safety, and productivity losses will be experienced in the future.[28]

Proposed Interventions to Reduce Sleep-Related Errors in Nursing

Minimizing sleep-referenced mishaps amongst nurses delivers an added goal for enhanced patient safety through less possible errors in nursing care environments. Nurses can hardly escape sleep-deprived periods because they work long shifts, night shifts and with irregular off-timing. Sleep deprivation causes cognitive dysfunction, alters decision-making capacity as well as physical endurance of a nurse. The outcomes of these impairments can be catastrophic including prescribing errors, or failure in patient surveillance or response to acutely life-threatening events. To minimize all these risks, there are several intercessions that can be put in place to eliminate sleep associated mistake within healthcare institutions concerning the nursing staff. These strategies must therefore be complex and include workload changes, scheduling reforms, changes in corporate culture and educational endeavors. Shift scheduling reform is considered to be one of the most efficient types of interventions. It is found that shift work particularly the irregular rotating pattern wherein an employee continuously works day shift for a few days and extends to night shift disturbs the normal biological rhythm and can lead to sleep loss and thus enhanced likelihood or error prone probability. Limiting the hours of work and avoiding shift work that lasts more than 12 hours, guarantying a sufficient break between the shifts is important to fight with fatigue. Further, shift should be implemented in phases, so the human body can adapt in terms of circadian rhythm disturbance rather than

just switching from night to day shift. Hospitals and healthcare organizations should also look for options for flexible scheduling which can help the nurse enhance her or his scheduling and break time in a way that will improve overall sleep and productivity. It's important that scheduling reforms also address policies that allow employers to require employees to work extra hours which can lead to burn out and fatigue.[29]

Besides changes in the organization of work schedules, enhancement of the working environment also contributes a great deal of input towards the minimization of sleep-related mistakes. Verification of health, meaning, and work-life balance in health care organization must encourage highlight the necessity of rest and recovery for the workers. This includes; Making sure that the nurses are able to access resting area, regardless whether it is during break time or in between two different shifts. Furthermore, recommending about the necessary practice in terms of sleep hygiene is important. Awareness raising interventions conducted within these health care organizations can also raise the knowledge of nurses regarding the requirements for uninterrupted and restorative sleep and ways about how they might enhance the quality and quantity of their sleep, including following a strict sleep schedule, avoiding several stimulants before bedtime and ensuring the proper setting of their bed at home. Supervisors and managers can as well support this by creating a culture or culture where people are encouraged to take their time to rest or work when they are well rested. Moreover, the use of technological interventions to track fatigue and subsequently prevent mistake is still being adopted in modern workplaces. Nurses can use wearable devices and fatigue monitoring systems to keep track of their sleep, and signal them when they are likely to be sleepy to operate risky operations. Certain hospitals have already started trending in this to change work schedules based on data in advance. For example, if it is learned, as part of the monitoring data, that the nurse is becoming fatigued, then the system could offer advice such as shift change or extra breaks. Furthermore, modern software systems may also track workloads, and patient distribution so no nurse feels overloaded, which also leads to fatigue. A review of shift roster and its effect to the staff performance paired with real time information regarding nurse fatigue allow for early detection of any issues in the implementation of shift schedules.[30] Last but not the least, use of nurses in the decision making role in workload configuration or timesheets is a cornerstone of any intervention. Nurses themselves are fully aware of their needs and problems and that is why when they are involved in organizing their working schedules and orientation, they are more likely to support policies that boost better sleep and performance. Involvement of the nurses in a decision making process regarding the assignments, shift schedules as well as break time can go along way towards ensuring that compliance is achieved in regards to sleep promoting work schedules. Other results revealed that when the nursing personnel have a favorable perception on their ability to regulate the workload as well as adequate sleep which are sponsored by their employers then the nursing personnel will have high job satisfaction and in so doing provide higher quality of patient care.[31] For instance, shift schedule changes and the culture's adjustments, the introduction of technology and the participation of the nursing staff in managerial decisions help organizations minimize the likelihood of sleep-related mistakes considerably. Such measures are not only useful to maintain up the health and safety of patients, but also maintain a better health and satisfaction at work among the nursing staff and ultimately create a sure and long-term health care delivery system.[32,33]

Conclusion

As a result, sleep deprivation is a common problem throughout healthcare, which goes beyond a simple bullet-point list of effects on the nurses experiencing it but also has ramifications on the patient population in their care. It is with these considerations in mind that the reforms that have been suggested in this research for shift scheduling, work environment, education and technology represent practical solutions to prevent the hazards related to sleep-related errors in nursing. In addressing the interests of the nurses and restructuring workplace related factors, then one is able to decrease the incidences of errors, increase the satisfaction levels of the nursing staff, and thus better the quality of patients. As the challenge of sleep deprivation looms large over the healthcare workforce, it is high time organizations listened and ensured that their personnel is sufficiently rested to put out their best.

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استكشاف تأثيرات الحرمان من النوم على أداء الممرضين ورعاية المرضى

الملخص

الخلفية: يعتبر نقص النوم مشكلة كبيرة في مجال الرعاية الصحية، خاصة بين المهنيين العاملين بنظام المناوبات، وخصوصًا الطاقم التمريضي. ويُقال إنه يؤثر على العمليات المعرفية، واتخاذ القرارات، والقدرات البدنية، مما ينعكس على أخطاء سلامة المرضى.

الهدف: يهدف هذا البحث إلى النظر في الطرق التي تنشأ نتيجة لتنظيم جداول المناوبات في التمريض، وتحسينات مكان العمل، والتطورات التكنولوجية لتقليل الأخطاء المرتبطة بالنوم.

الطرق: تم البحث في الأدبيات العلمية لتحديد أسباب فقدان النوم بين الممرضين وتقييم الاستراتيجيات لمعالجة هذه المشاكل.

النتائج: تشمل بعض الاستراتيجيات العمل بنظام المناوبات وتغيير جداول المناوبات، واتباع إجراءات نظافة النوم، واستخدام تقنيات مواجهة التعب FCTS كما أن إشراك الممرضين في إعداد جداول العمل يعزز الالتزام بالسياسات المتعلقة بالراحة ويشجع الموظفين على المشاركة في حل المشكلات.

الخلاصة: يُظهر استعراض تدخلات الحرمان من النوم أن ذلك يزيد من كفاءة الممرضين، ويقلل من الأخطاء الطبية، ويعزز حماية المرضى في بيئات الرعاية السريرية.

الكلمات المفتاحية: نقص النوم، التمريض، المرضى، التوتر، اضطراب الجدول الزمني، الأساليب المهنية