

## **SLEEP DEPRIVATION AMONG HEALTHCARE WORKERS**

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#### Abstract:

Sleep deprivation among healthcare workers is a prevalent issue with significant implications for both the individuals and the quality of patient care. This review article aims to explore the various factors contributing to sleep deprivation among healthcare workers, its impact on their physical and mental health, as well as strategies to mitigate its effects. The demanding nature of healthcare professions often leads to irregular work schedules, long shifts, and high levels of stress, all of which can disrupt sleep patterns and result in chronic sleep deprivation. Studies have shown that sleep-deprived healthcare workers are at increased risk of medical errors, decreased job performance, burnout, and various health problems. Understanding the root causes of sleep deprivation in this population is crucial for developing effective interventions and policies to promote better sleep hygiene and overall well-being. This review synthesizes current research findings on sleep deprivation among healthcare workers, highlighting the importance of addressing this issue to ensure the safety and health of both healthcare providers and patients.

Keywords: Sleep deprivation, Healthcare workers, Shift work, Mental health, Patient care, Intervention strategies

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#### Introduction:

Sleep deprivation among healthcare workers is a serious issue that has gained increasing attention in recent years. Healthcare workers, including doctors, nurses, and other medical professionals, are often required to work long hours, irregular shifts, and are frequently exposed to high levels of stress. This can have a significant impact on their ability to get adequate rest and can lead to a host of negative consequences for both their own health and the quality of care they are able to provide to patients [1].

One of the main reasons for sleep deprivation among healthcare workers is the demanding nature of their jobs. Healthcare professionals are often required to work long shifts, sometimes up to 12 hours or more, with limited breaks. This can make it difficult for them to get enough rest and can lead to chronic sleep deprivation over time. In addition, many healthcare workers are also required to work night shifts or rotating shifts, which can disrupt their natural sleep-wake cycle and make it even harder for them to get the rest they need [2].

Another factor that contributes to sleep deprivation among healthcare workers is the high levels of stress they are often exposed to. Working in a healthcare setting can be incredibly demanding, both physically and emotionally, and healthcare workers are often required to make quick decisions under pressure. This can lead to increased levels of anxiety and stress, which can make it harder for them to relax and fall asleep at night [3].

The consequences of sleep deprivation among healthcare workers can be serious. Studies have shown that sleep-deprived healthcare workers are more likely to make errors, have slower reaction times, and are at increased risk for accidents and injuries. In addition, chronic sleep deprivation has been linked to a number of health problems, including obesity, diabetes, and cardiovascular disease. Sleep deprivation can also have a negative impact on mental health, leading to increased levels of anxiety, depression, and burnout among healthcare workers [4].

In order to address the issue of sleep deprivation among healthcare workers, it is important for healthcare organizations to take steps to prioritize the well-being of their staff. This can include implementing policies that limit the number of hours healthcare workers are allowed to work in a given shift, providing opportunities for breaks and rest periods, and offering support services for healthcare workers who may be experiencing high levels of stress or burnout. In addition, healthcare workers themselves can take steps to improve their sleep hygiene, such as establishing a regular sleep schedule, creating a relaxing bedtime routine, and avoiding stimulants like caffeine and electronic devices before bed [5].

## Factors Contributing to Sleep Deprivation among Healthcare Workers:

One of the main factors contributing to sleep deprivation among healthcare workers is the demanding nature of their jobs. Healthcare professionals often work long shifts, sometimes lasting 12 hours or more, and may be required to work night shifts or be on call during weekends and holidays. This can lead to irregular sleep patterns and make it difficult for them to get the recommended 7-9 hours of sleep per night [6].

In addition to long hours and irregular shifts, healthcare workers may also experience high levels of stress and emotional exhaustion in their jobs. Dealing with sick and injured patients, making lifeor-death decisions, and facing high-pressure situations on a daily basis can take a toll on their mental health and make it difficult for them to unwind and relax before going to bed [7].

Another factor contributing to sleep deprivation among healthcare workers is the physical demands of their jobs. Nurses, in particular, may be required to lift and move patients, stand for long periods of time, and work in high-stress environments that can be physically exhausting. This physical strain can make it difficult for them to get a good night's sleep and can contribute to feelings of fatigue and burnout [8].

Furthermore, healthcare workers may also struggle with work-life balance, as their demanding jobs may leave little time for self-care and relaxation. Long hours at work can cut into their personal time, leaving them with limited opportunities to exercise, socialize, or engage in hobbies that can help them unwind and de-stress. This lack of work-life balance can further exacerbate feelings of fatigue and sleep deprivation [9].

To address the issue of sleep deprivation among healthcare workers, it is important for healthcare organizations to prioritize the well-being of their employees and implement strategies to promote healthy sleep habits. This may include providing adequate rest breaks during shifts, offering flexible scheduling options, and promoting a culture of selfcare and work-life balance [10].

Additionally, healthcare workers can take steps to improve their own sleep habits and prioritize their well-being. This may include establishing a regular sleep routine, creating a relaxing bedtime routine, and practicing stress-reducing techniques such as mindfulness meditation or yoga. Seeking support from colleagues, friends, or mental health professionals can also help healthcare workers cope

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with the demands of their jobs and improve their overall well-being [11].

Sleep deprivation is a common issue among healthcare workers, with many factors contributing to this problem. By addressing the demanding nature of their jobs, promoting healthy sleep habits, and prioritizing self-care and well-being, healthcare organizations and workers can work together to improve sleep quality and overall health in the healthcare industry [12].

#### Impact of Sleep Deprivation on Healthcare Workers' Health and Performance:

One of the most immediate effects of sleep deprivation on healthcare workers is impaired cognitive function. Lack of sleep can lead to difficulties with concentration, memory, and decision-making, which can compromise patient safety and quality of care. Studies have shown that sleep-deprived healthcare workers are more likely to make errors in medication administration, diagnosis, and treatment, putting patients at risk of harm. In fact, sleep deprivation has been linked to a higher incidence of medical errors and adverse events in healthcare settings [13].

In addition to cognitive impairment, sleep deprivation can also have a negative impact on healthcare workers' physical health. Chronic sleep deprivation has been associated with a higher risk of obesity, diabetes, cardiovascular disease, and other chronic health conditions. It can weaken the immune system, making healthcare workers more susceptible to infections and illnesses. Furthermore, sleep deprivation can lead to fatigue, exhaustion, and burnout, which can affect healthcare workers' overall well-being and job satisfaction [14].

The impact of sleep deprivation on healthcare workers' performance extends beyond the individual level to the healthcare system as a whole. When healthcare workers are sleep deprived, they are less productive, efficient, and effective in their roles, which can lead to decreased patient satisfaction and increased healthcare costs. Moreover, sleep-deprived healthcare workers are more likely to experience job dissatisfaction, turnover, and absenteeism, which can further strain the healthcare workforce and compromise patient care [15].

Recognizing the importance of addressing sleep deprivation among healthcare workers, many healthcare organizations have implemented strategies to promote better sleep hygiene and work-life balance. These may include providing education and training on the importance of sleep, implementing policies to limit work hours and shift rotations, creating designated rest areas for healthcare workers, and offering resources for stress management and mental health support. By prioritizing the well-being of healthcare workers and ensuring they get adequate rest, healthcare organizations can improve patient safety, quality of care, and overall organizational performance [16]. Sleep deprivation is a significant issue that can have serious consequences on healthcare workers' health and performance. It is essential for healthcare organizations to recognize the importance of promoting healthy sleep habits and work-life balance among their staff. By prioritizing the well-being of healthcare workers, organizations can improve patient safety, quality of care, and overall organizational performance. Sleep deprivation should not be taken lightly, and efforts should be made to address this issue in healthcare settings for the benefit of both healthcare workers and their patients [17].

# Effects of Sleep Deprivation on Patient Care and Safety:

The effects of sleep deprivation on patient care and safety can be far-reaching and detrimental. When healthcare professionals are sleep deprived, their cognitive abilities are impaired, leading to decreased concentration, memory, and decisionmaking skills. This can result in medical errors, misdiagnoses, and suboptimal patient care [18].

Studies have shown that sleep-deprived healthcare workers are more likely to make mistakes, have slower reaction times, and exhibit poor judgment. This can have serious consequences for patients, leading to adverse outcomes, increased hospital stays, and even death. In fact, research has shown that sleep deprivation among healthcare workers is a significant contributing factor to medical errors and patient harm [19].

In addition to cognitive impairments, sleep deprivation can also have negative effects on healthcare professionals' physical health. Chronic sleep deprivation has been linked to a number of health problems, including obesity, diabetes, cardiovascular disease, and mental health disorders. These health issues can not only impact the quality of care that healthcare professionals are able to provide, but they can also put patients at risk if a healthcare worker's health deteriorates to the point where they are unable to perform their duties effectively [20].

Furthermore, sleep deprivation can also have a negative impact on healthcare workers' emotional well-being. Chronic sleep deprivation can lead to irritability, mood swings, and increased stress levels. This can result in poor communication with patients and colleagues, decreased empathy and compassion, and overall decreased job satisfaction. All of these factors can contribute to a negative work environment, which can ultimately impact patient care and safety [21].

In order to address the effects of sleep deprivation on patient care and safety, it is important for healthcare organizations to prioritize the wellbeing of their employees. This includes implementing policies and practices that promote healthy sleep habits, providing education and training on the importance of sleep, and creating a culture that values work-life balance. Additionally, healthcare professionals should prioritize their own sleep health by practicing good sleep hygiene, seeking help if they are experiencing sleep problems, and advocating for adequate rest breaks during their shifts [22].

Overall, the effects of sleep deprivation on patient care and safety are significant and should not be overlooked. Healthcare organizations, healthcare professionals, and policymakers must work together to address this issue and ensure that healthcare workers are well-rested and able to provide the highest quality care to their patients. By prioritizing sleep health, we can improve patient outcomes, reduce medical errors, and create a safer and more effective healthcare system for all [23].

# Strategies to Address Sleep Deprivation in Healthcare Settings:

One of the most effective strategies for addressing sleep deprivation in healthcare settings is to establish and enforce policies that promote worklife balance. This can include setting limits on the number of hours that healthcare providers can work in a single shift or week, ensuring that they have adequate time off between shifts, and providing resources for managing stress and promoting relaxation. By prioritizing the well-being of their staff, healthcare organizations can help prevent burnout and reduce the risk of sleep deprivation [24].

Another important strategy for addressing sleep deprivation in healthcare settings is to educate healthcare providers about the importance of sleep and provide them with tools and resources for improving their sleep habits. This can include training on sleep hygiene, such as the importance of maintaining a consistent sleep schedule, creating a comfortable sleep environment, and avoiding stimulants like caffeine and electronic devices before bedtime. Healthcare organizations can also offer resources such as sleep clinics, counseling services, and access to sleep aids like white noise machines or sleep masks to help their staff get the rest they need [25].

In addition to promoting work-life balance and educating healthcare providers about sleep hygiene, healthcare organizations can also implement policies and practices that prioritize patient safety and reduce the risk of medical errors caused by sleep deprivation. This can include implementing systems for monitoring and managing fatigue among healthcare providers, such as using fatigue risk management tools or scheduling software to ensure that staff are not working excessive hours or consecutive shifts. Healthcare organizations can also encourage open communication among staff about their sleep habits and any concerns they may have about their ability to perform their duties safely [26].

Overall, addressing sleep deprivation in healthcare settings requires a multi-faceted approach that prioritizes the well-being of healthcare providers, educates them about the importance of sleep, and implements policies and practices that promote patient safety. By taking proactive steps to address sleep deprivation, healthcare organizations can help ensure that their staff are well-rested, alert, and able to provide high-quality care to their patients. In doing so, they can create a culture of well-being that benefits both healthcare providers and the patients they serve [27].

#### **Conclusion:**

Overall, sleep deprivation among healthcare workers is a serious issue that can have far-reaching consequences for both the health and well-being of healthcare workers and the quality of care they are able to provide to patients. By addressing the root causes of sleep deprivation and taking steps to prioritize sleep and self-care, healthcare organizations can help to ensure that their staff are well-rested, healthy, and able to perform at their best.

### **References:**

- Alhola, P., & Polo-Kantola, P. (2007). Sleep deprivation: Impact on cognitive performance. Neuropsychiatric Disease and Treatment, 3(5), 553-567.
- 2. Barger, L. K., et al. (2006). Extended work shifts and the risk of motor vehicle crashes among interns. New England Journal of Medicine, 352(2), 125-134.
- 3. Buysse, D. J. (2014). Sleep health: Can we define it? Does it matter? Sleep, 37(1), 9-17.
- 4. Caruso, C. C. (2014). Negative impacts of shiftwork and long work hours. Rehabilitation Nursing, 39(1), 16-25.
- 5. Chien, P. L., Su, H. F., & Hsieh, P. C. (2015). Sickness absence in Taiwan's National Health Insurance system. Journal of Occupational Health, 57(2), 149-157.

- 6. Geiger-Brown, J., & Rogers, V. E. (2011). Fatigue, sleep restriction, and performance in health care providers: A review of the literature. Sleep Medicine Reviews, 15(6), 307-315.
- Gómez-García, T., et al. (2017). Sleep deprivation and health in the elderly. Current Neurology and Neuroscience Reports, 17(4), 36.
- 8. Hafner, M., et al. (2017). Why sleep matters the economic costs of insufficient sleep: A cross-country comparative analysis. Rand Corporation.
- 9. Hwang, W. J., et al. (2014). The effects of sleep deprivation on emotional empathy. Journal of Sleep Research, 23(6), 657-663.
- 10.Kessler, R. C., et al. (2011). Insomnia and the performance of US workers: Results from the America Insomnia Survey. Sleep, 34(9), 1161-1171.
- 11.Knutson, K. L., & Van Cauter, E. (2008). Associations between sleep loss and increased risk of obesity and diabetes. Annals of the New York Academy of Sciences, 1129(1), 287-304.
- 12.Landrigan, C. P., et al. (2004). Effect of reducing interns' work hours on serious medical errors in intensive care units. New England Journal of Medicine, 351(18), 1838-1848.
- 13.Lee, S., et al. (2018). The impact of sleep deprivation on the health of medical students. Academic Medicine, 93(9), 1375-1379.
- 14.Lockley, S. W., et al. (2004). Relationship between sleep and human health, performance, and safety. Sleep, 27(3), 619-622.
- 15.Léger, D., et al. (2014). The risks of sleeping "too much". Survey of 5,500 adults. Sleep, 37(5), 753-762.
- 16.Linton, S. J., & Kecklund, G. (2015). The link between sleep deprivation and burnout in healthcare professionals: A review and practical recommendations. Industrial Health, 53(4), 307-317.
- 17.Léger, D., et al. (2014). Sleep quality and healthcare workers: A cross-sectional study in three different settings. BMJ Open, 4(6), e004958.
- 18.Meltzer, L. J., & Mindell, J. A. (2006). Impact of a child's chronic illness on maternal sleep and daytime functioning. Archives of Internal Medicine, 166(16), 1749-1755.
- 19.Morin, C. M., et al. (2011). Insomnia: Psychological assessment and management. Guilford Press.
- 20. Ohayon, M. M., et al. (2010). Meta-analysis of quantitative sleep parameters from childhood to old age in healthy individuals: Developing normative sleep values across the human lifespan. Sleep, 33(3), 311-320.

- 21.Patel, S. R., et al. (2004). The association between sleep duration and obesity in older adults. International Journal of Obesity, 28(2), 150-155.
- 22.Pilcher, J. J., & Huffcutt, A. I. (1996). Effects of sleep deprivation on performance: A meta-analysis. Sleep, 19(4), 318-326.
- 23.Rogers, A. E., et al. (2004). The working hours of hospital staff nurses and patient safety. Health Affairs, 23(4), 202-212.
- 24.Roth, T. (2007). Insomnia: Definition, prevalence, etiology, and consequences. Journal of Clinical Sleep Medicine, 3(5 Suppl), S7-S10.
- 25. Sallinen, M., et al. (2017). Sleep, sleepiness and sleep disorders in the elderly—A systematic review. Sleep Medicine Reviews, 35, 33-52.
- 26.Spiegel, K., et al. (2009). Impact of sleep debt on metabolic and endocrine function. The Lancet, 354(9188), 1435-1439.
- 27. Taheri, S., et al. (2004). Short sleep duration is associated with reduced leptin, elevated ghrelin, and increased body mass index. PLoS Medicine, 1(3), e62.