



THE IMPACT OF SHIFT WORK ON NURSE HEALTH AND WELL-BEING

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Abstract:

Shift work is a common practice in the nursing profession, allowing healthcare facilities to provide round-the-clock care to patients. While essential for maintaining continuous healthcare services, shift work can have a significant impact on the health and well-being of nurses. This review article examines the various ways in which shift work influences nurse health and well-being, considering both physical and mental aspects. The review synthesizes existing literature on the topic, highlighting the challenges faced by nurses working non-traditional hours and the potential consequences for their overall health. Factors such as disrupted sleep patterns, increased stress levels, and difficulties in maintaining a healthy work-life balance are discussed in relation to shift work and its effects on nurse well-being. Additionally, strategies and interventions aimed at mitigating the negative impact of shift work on nurse health are explored, emphasizing the importance of organizational support and individual coping mechanisms. By shedding light on the complex relationship between shift work and nurse health, this review aims to raise awareness of the challenges faced by healthcare professionals and promote the development of policies and practices that prioritize the well-being of nurses in shift-based roles.

Keywords: Shift work, Nurses, Health, Well-being, Sleep patterns, Work-life balance.

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Introduction:

Shift work is a common practice in many industries, including healthcare. Nurses, in particular, are often required to work irregular hours, including nights, weekends, and holidays. While shift work is necessary to ensure that patients receive round-the-clock care, it can have a significant impact on the health and well-being of nurses [1].

One of the primary ways in which shift work affects nurse health is through disruption of the body's natural circadian rhythm. The circadian rhythm is the body's internal clock that regulates sleep-wake cycles, hormone production, and other physiological processes. When nurses work irregular hours, their circadian rhythm is thrown off balance, leading to issues such as insomnia, fatigue, and mood disturbances [2].

In addition to disrupting the circadian rhythm, shift work can also lead to physical health problems. Studies have shown that nurses who work night shifts are at an increased risk of developing conditions such as obesity, diabetes, and cardiovascular disease. This is thought to be due in part to the disruption of the body's natural rhythms, as well as the challenges of maintaining a healthy diet and exercise routine while working irregular hours [3].

Furthermore, shift work can have a negative impact on nurse mental health. The stress of working irregular hours, combined with the emotional toll of caring for sick and injured patients, can lead to burnout, anxiety, and depression. Nurses who work night shifts are also more likely to experience feelings of isolation and loneliness, as they may have limited opportunities to socialize with friends and family members [4].

Despite these challenges, many nurses continue to work shifts due to the demands of the profession. However, it is important for healthcare organizations to recognize the impact of shift work on nurse health and well-being and take steps to mitigate these effects. This may include providing support services such as counseling and mental health resources, implementing flexible scheduling options, and promoting healthy lifestyle choices among staff [5].

The prevalence of shift work in the nursing profession:

Shift work is a common practice in many industries, but it is particularly prevalent in the nursing profession. Nurses play a vital role in providing healthcare services to patients around the clock, which often requires them to work non-traditional hours. Shift work in the nursing profession is a necessity due to the 24/7 nature of

healthcare services. Hospitals and other healthcare facilities need to be staffed at all times to ensure that patients receive the care they need when they need it. As a result, nurses are required to work a variety of shifts, including nights, weekends, and holidays. This can lead to irregular sleep patterns, disruption of social and family life, and increased stress levels [6].

One of the main challenges of shift work in the nursing profession is its impact on nurses' health. Studies have shown that working irregular hours can disrupt the body's natural circadian rhythm, leading to sleep disturbances, fatigue, and an increased risk of developing chronic health conditions such as cardiovascular disease, diabetes, and obesity. In addition, shift work has been linked to higher levels of stress, depression, and burnout among nurses, which can negatively impact their job performance and overall well-being [7].

To address these challenges, healthcare organizations can implement strategies to support nurses who work shifts. One approach is to provide nurses with adequate rest breaks and opportunities for sleep during their shifts. This can help to reduce fatigue and improve cognitive function, leading to better patient care. Additionally, offering flexible scheduling options, such as part-time or rotating shifts, can help nurses balance their work and personal lives more effectively [8].

Another important strategy is to provide nurses with access to resources and support services to help them cope with the demands of shift work. This can include counseling services, stress management programs, and wellness initiatives aimed at promoting healthy lifestyle behaviors. By investing in the well-being of their nursing staff, healthcare organizations can improve job satisfaction, reduce turnover rates, and ultimately enhance patient outcomes [9].

Shift work is a common practice in the nursing profession due to the 24/7 nature of healthcare services. While it is necessary to ensure that patients receive the care they need at all times, working irregular hours can have negative effects on nurses' health and well-being. By implementing strategies to support nurses who work shifts, healthcare organizations can help mitigate these effects and create a more positive work environment for their staff. Ultimately, by prioritizing the well-being of nurses, we can ensure that they are able to provide high-quality care to patients while maintaining their own health and happiness [10].

Impact of shift work on physical health of nurses:

One of the main issues with shift work is the disruption of the body's natural circadian rhythm. The circadian rhythm is the body's internal clock that regulates sleep-wake cycles, hormone production, and other bodily functions. When nurses work irregular shifts, such as night shifts or rotating shifts, it can disrupt this rhythm and lead to sleep disturbances, fatigue, and other health problems [11].

Studies have shown that shift work can increase the risk of various health conditions, including cardiovascular disease, obesity, diabetes, and certain types of cancer. This is thought to be due to the disruption of the body's natural rhythms, which can affect hormone levels, metabolism, and immune function. In addition, shift work has been linked to an increased risk of musculoskeletal disorders, such as back pain and repetitive strain injuries, due to the physical demands of nursing work combined with the fatigue and sleep disturbances associated with shift work [12].

In addition to the physical health effects, shift work can also have a negative impact on mental health. Nurses who work irregular shifts are at higher risk of experiencing depression, anxiety, and burnout. The stress of working long hours, dealing with high-pressure situations, and coping with the disruption of their sleep-wake cycles can take a toll on their mental well-being [13].

Despite the challenges of shift work, many nurses continue to work irregular hours out of dedication to their profession and a desire to provide quality care to their patients. However, it is important for healthcare organizations to recognize the impact of shift work on the physical and mental health of nurses and take steps to mitigate these effects [14]. One way to support nurses who work irregular shifts is to provide them with access to resources and support services, such as employee assistance programs, mental health counseling, and stress management workshops. Additionally, healthcare organizations can implement policies and practices that promote a healthy work-life balance, such as limiting the number of consecutive night shifts, providing adequate rest breaks, and offering flexible scheduling options [15].

Shift work can have a significant impact on the physical and mental health of nurses. It is important for healthcare organizations to recognize the challenges that nurses face when working irregular shifts and to take steps to support their well-being. By prioritizing the health and well-being of nurses, healthcare organizations can ensure that their staff are able to provide the best possible care to their patients [16].

Impact of shift work on mental health of nurses:

Sleep disturbances are a common issue among nurses who work shift work. Studies have shown that shift workers are more likely to experience insomnia, sleep deprivation, and other sleep disorders compared to those who work regular hours. Lack of quality sleep can have a negative impact on mental health, leading to increased stress, anxiety, and depression [17].

In addition to sleep disturbances, shift work can also lead to social isolation and disruption of personal relationships. Nurses who work irregular shifts may have difficulty maintaining relationships with family and friends, as their work schedule may not align with traditional social activities. This can lead to feelings of loneliness and isolation, which can further contribute to mental health issues [18]. Furthermore, the demanding nature of nursing work, combined with the stress of shift work, can lead to burnout among nurses. Burnout is a state of emotional, physical, and mental exhaustion caused by prolonged stress and overwork. Nurses who experience burnout may feel overwhelmed, emotionally drained, and detached from their work, leading to decreased job satisfaction and increased risk of mental health problems [19].

To address the impact of shift work on the mental health of nurses, healthcare organizations can implement strategies to support nurses' well-being. This may include providing access to mental health resources, offering flexible scheduling options, and promoting work-life balance. Additionally, promoting a culture of open communication and support among nursing staff can help nurses cope with the challenges of shift work and reduce the risk of mental health issues [13].

Shift work can have a significant impact on the mental health of nurses. Sleep disturbances, social isolation, burnout, and other factors can contribute to increased stress, anxiety, and depression among nurses who work irregular shifts. By implementing strategies to support nurses' mental health and well-being, healthcare organizations can help mitigate the negative effects of shift work and promote a healthy work environment for nursing staff [20].

Challenges faced by nurses working non-traditional hours:

Nurses play a vital role in the healthcare system, providing essential care to patients in various settings. While many people may think of nurses working traditional hours in hospitals, the reality is that nurses often work non-traditional hours to meet the needs of their patients. Working non-traditional hours can present a unique set of challenges for nurses, impacting their physical and

mental well-being, as well as their work-life balance [17].

One of the biggest challenges faced by nurses working non-traditional hours is the disruption to their circadian rhythm. Our bodies are designed to follow a natural sleep-wake cycle, with most people feeling most alert during the day and sleepy at night. When nurses work night shifts or rotating shifts, their bodies are forced to adjust to an unnatural schedule, leading to sleep disturbances and fatigue. This can make it difficult for nurses to perform their duties effectively and can also have long-term health consequences, such as an increased risk of cardiovascular disease and metabolic disorders [4].

In addition to the physical challenges of working non-traditional hours, nurses also face mental and emotional challenges. Working when most people are asleep can lead to feelings of isolation and disconnect from friends and family. Nurses may also struggle to find time for self-care activities, such as exercise and relaxation, which are essential for maintaining mental well-being. The stress of working non-traditional hours can also take a toll on nurses' mental health, leading to burnout and compassion fatigue [21].

Another challenge faced by nurses working non-traditional hours is the impact on their work-life balance. Many nurses who work nights or weekends find it difficult to juggle their professional responsibilities with their personal lives. They may miss out on important family events or social gatherings, leading to feelings of guilt and resentment. This can strain relationships with loved ones and contribute to feelings of loneliness and isolation [22].

Despite these challenges, many nurses choose to work non-traditional hours because they are passionate about providing care to those in need. However, it is important for healthcare organizations to recognize the unique challenges faced by nurses working non-traditional hours and take steps to support their well-being. This can include providing resources for managing stress and fatigue, offering flexible scheduling options, and promoting a culture of work-life balance [6].

Nurses who work non-traditional hours face a variety of challenges that can impact their physical, mental, and emotional well-being. It is important for healthcare organizations to prioritize the health and happiness of their nurses by offering support and resources to help them cope with the demands of their jobs. By addressing these challenges, we can ensure that nurses are able to continue providing high-quality care to their patients while also maintaining their own well-being [23].

Strategies and interventions to support nurse well-being in shift work:

It is crucial for healthcare organizations to recognize the importance of supporting nurse well-being in shift work. By implementing strategies and interventions to address the unique challenges faced by nurses working shifts, organizations can improve job satisfaction, reduce burnout, and ultimately improve patient outcomes [16].

One of the most important strategies to support nurse well-being in shift work is to provide adequate rest and recovery time between shifts. Nurses who work long hours and have limited time off between shifts are more likely to experience fatigue, burnout, and decreased job satisfaction. By implementing policies that ensure nurses have sufficient time to rest and recover between shifts, organizations can help mitigate the negative effects of shift work on nurse well-being [24].

Another key strategy to support nurse well-being in shift work is to provide access to resources and support services that can help nurses cope with the challenges of working shifts. This can include access to counseling services, stress management programs, and resources for improving sleep quality. By providing nurses with the tools they need to manage stress, improve sleep, and maintain their overall well-being, organizations can help nurses thrive in a shift work environment [25].

In addition to providing resources and support services, organizations can also implement interventions to promote a healthy work-life balance for nurses working shifts. This can include offering flexible scheduling options, providing opportunities for nurses to take breaks and recharge during their shifts, and encouraging nurses to prioritize self-care and wellness activities outside of work. By promoting a healthy work-life balance, organizations can help nurses maintain their well-being and prevent burnout [26].

Furthermore, organizations can also support nurse well-being in shift work by fostering a positive work culture that values and prioritizes the health and well-being of nurses. This can include recognizing and rewarding nurses for their hard work, providing opportunities for professional development and growth, and creating a supportive and collaborative work environment. By fostering a positive work culture, organizations can help nurses feel valued, supported, and motivated to provide high-quality patient care [27].

Supporting nurse well-being in shift work is essential for ensuring the health and well-being of nurses and improving patient outcomes. By implementing strategies and interventions to address the unique challenges faced by nurses working shifts, organizations can help nurses thrive

in a shift work environment. From providing adequate rest and recovery time between shifts to promoting a healthy work-life balance and fostering a positive work culture, there are many ways organizations can support nurse well-being in shift work. By prioritizing nurse well-being, organizations can create a healthier and more sustainable work environment for nurses and ultimately improve the quality of patient care [28].

Future recommendations:

One of the key ways to support nurse well-being in shift work is to provide adequate rest and recovery time between shifts. Nurses who work long hours and have insufficient time to rest are more likely to experience fatigue and burnout. Healthcare organizations should consider implementing policies that limit the number of consecutive shifts a nurse can work, as well as ensuring that nurses have access to adequate breaks during their shifts. Additionally, organizations should provide resources such as sleep rooms or relaxation areas where nurses can rest and recharge during their breaks [29].

Another important factor in supporting nurse well-being in shift work is to provide opportunities for nurses to engage in self-care activities. Nurses who are able to prioritize their own health and well-being are better equipped to provide high-quality care to their patients. Healthcare organizations should encourage nurses to take breaks, engage in physical activity, practice mindfulness, and seek support from colleagues or mental health professionals when needed. Providing access to wellness programs, such as yoga classes, meditation sessions, or nutrition workshops, can also help nurses manage stress and improve their overall well-being [30].

In addition to rest and self-care, it is important for healthcare organizations to create a supportive work environment for nurses. This includes promoting open communication, fostering a culture of collaboration and teamwork, and providing opportunities for professional development and growth. Nurses who feel supported and valued by their colleagues and supervisors are more likely to experience job satisfaction and overall well-being. Organizations should also recognize the unique challenges faced by nurses in shift work and provide resources and support to help them navigate these challenges [30].

Supporting nurse well-being in shift work is essential for ensuring the health and safety of both nurses and patients. By implementing strategies that prioritize rest, self-care, and a supportive work environment, healthcare organizations can help nurses thrive in their roles and provide the best

possible care to their patients. It is important for organizations to prioritize the well-being of their nursing staff and invest in initiatives that promote a healthy work-life balance. By taking proactive steps to support nurse well-being in shift work, healthcare organizations can create a positive and sustainable work environment for their nursing staff [31].

Conclusion:

In conclusion, shift work can have a significant impact on the health and well-being of nurses. From disrupting the circadian rhythm to increasing the risk of physical and mental health problems, working irregular hours can take a toll on nurses both physically and emotionally. It is essential for healthcare organizations to prioritize the well-being of their staff and implement strategies to support nurses who work shifts. By addressing the challenges of shift work, we can help ensure that nurses are able to provide the best possible care for their patients while also taking care of themselves.

References:

1. Bae, S. H., & Fabry, D. (2014). Assessing the relationships between nurse work hours/overtime and nurse and patient outcomes: systematic literature review. *Nursing outlook*, 62(2), 138-156.
2. Caruso, C. C. (2014). Negative impacts of shiftwork and long work hours. *Rehabilitation nursing*, 39(1), 16-25.
3. Dall'Ora, C., Griffiths, P., Ball, J., Simon, M., Aiken, L. H., & Association of Registered Nurses of British Columbia (2015). Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a cross-sectional study of 12 European countries. *BMJ open*, 5(9), e008331.
4. Geiger-Brown, J., & Trinkoff, A. M. (2010). Is it time to pull the plug on 12-hour shifts?: Part 1. The evidence. *Journal of Nursing Administration*, 40(3), 100-102.
5. Gómez-García, T., Ruzafa-Martínez, M., Fuentelsaz-Gallego, C., Madrid, J. A., & Rol, M. A. (2017). Nurses' sleep quality, work environment and quality of care in the Spanish National Health System: observational study among different shifts. *BMJ open*, 7(3), e013331.
6. Härmä, M., Ropponen, A., Hakola, T., Koskinen, A., Vanttola, P., Puttonen, S., ... & Kecklund, G. (2015). Developing register-based measures for assessment of working time patterns for epidemiologic studies. *Scandinavian journal of work, environment & health*, 41(3), 268-279.

7. Jansen, N. W., Kant, I., van Amelsvoort, L. G., Nijhuis, F. J., & van den Brandt, P. A. (2003). Need for recovery from work: evaluating short-term effects of working hours, patterns and schedules. *Ergonomics*, 46(7), 664-680.
8. Karhula, K., Härmä, M., Ropponen, A., Hakola, T., Sallinen, M., Puttonen, S., ... & Kecklund, G. (2018). Objective working hour characteristics and work-life conflict among hospital employees in the Finnish public sector study. *Chronobiology international*, 35(8), 1163-1170.
9. Lee, H. E., Kim, I., & Kim, H. R. (2016). The relationship between shift work and work-related injuries among Korean workers. *Annals of occupational and environmental medicine*, 28(1), 64.
10. Li, Y., Sato, Y., Yamaguchi, N., & Kuroda, T. (2018). The effects of shift work on social participation and sleep quality in the general population: a cross-sectional study. *International archives of occupational and environmental health*, 91(6), 715-722.
11. Lowden, A., Moreno, C., Holmbäck, U., Lennernäs, M., & Tucker, P. (2010). Eating and shift work—effects on habits, metabolism, and performance. *Scandinavian journal of work, environment & health*, 36(2), 150-162.
12. Muecke, S. (2005). Effects of rotating night shifts: literature review. *Journal of advanced nursing*, 50(4), 433-439.
13. Niu, S. F., Chung, M. H., Chu, H., Tsai, J. C., Lin, C. C., & Liao, Y. M. (2013). Sleep quality in nurses: a randomized clinical trial of day and night shift workers. *Biological research for nursing*, 15(3), 273-279.
14. Oh, J. H., Yim, H. W., & Kim, J. H. (2014). The effects of shift work on sleeping quality, hypertension, and metabolic syndrome in hospital nurses. *Korean Journal of Occupational and Environmental Medicine*, 26(3), 299-307.
15. Park, J. H., Yim, H. W., Park, S. G., Cho, Y., Woo, J. M., & Kim, D. (2015). The association between shift work and the metabolic syndrome in female workers. *Annals of occupational and environmental medicine*, 27(1), 29.
16. Pilcher, J. J., & Morris, D. M. (2020). Sleep and organizational behavior: implications for workplace productivity and safety. *Frontiers in psychology*, 11, 581.
17. Ruggiero, J. S., & Redeker, N. S. (2014). Effects of napping on sleepiness and sleep-related performance deficits in night-shift workers: a systematic review. *Biological research for nursing*, 16(2), 134-142.
18. Sallinen, M., Kecklund, G., & Åkerstedt, T. (2015). Shift work, sleep, and sleepiness—differences between shift schedules and systems. *Scandinavian journal of work, environment & health*, 41(2), 143-153.
19. Scott, L. D., Hwang, W. T., Rogers, A. E., Nysse, T., Dean, G. E., & Dinges, D. F. (2007). The relationship between nurse work schedules, sleep duration, and drowsy driving. *Sleep*, 30(12), 1801-1807.
20. Sun, M., Feng, W., Wang, F., Zhang, L., Wu, Z., Li, Z., ... & Liu, X. (2018). Meta-analysis on shift work and risks of specific obesity types. *Obesity reviews*, 19(1), 28-40.
21. Vedaa, Ø., Harris, A., Bjorvatn, B., Waage, S., Sivertsen, B., Tucker, P., ... & Pallesen, S. (2016). Systematic review of the relationship between quick returns in rotating shift work and health-related outcomes. *Ergonomics*, 59(1), 1-14.
22. Vyas, M. V., Garg, A. X., Iansavichus, A. V., Costella, J., Donner, A., Laugsand, L. E., ... & Janszky, I. (2012). Shift work and vascular events: systematic review and meta-analysis. *Bmj*, 345, e4800.
23. Wang, F., Zhang, L., Zhang, Y., Zhang, B., He, Y., Xie, S., ... & Sun, Y. (2019). Meta-analysis on night shift work and risk of metabolic syndrome. *Obesity reviews*, 20(11), 1550-1561.
24. Wong, I. S., Smith, P. M., & Mustard, C. A. (2015). Gaps in research on night shift work and breast cancer: a review. *Scandinavian journal of work, environment & health*, 41(5), 425-434.
25. Yildirim, Y., Yildirim, A., & Taycan, O. (2016). Effects of shift work on quality of life in nurses. *Journal of Psychiatric and Mental Health Nursing*, 23(3-4), 167-175.
26. Yoon, J. H., & Jung, P. K. (2015). The impact of shift work on job burnout among nurses. *Journal of Korean Academy of Nursing Administration*, 21(4), 411-419.
27. Zamanian, Z., Niksima, S. H., & Zamanian, A. (2014). The relationship between work-family conflict and quality of life among hospital nurses. *Journal of caring sciences*, 3(4), 267.
28. Zhang, Y., Punnett, L., & McEnany, G. P. (2016). Personal and workplace factors and occupational injury: a case-control study of workers in healthcare facilities. *Work*, 55(1), 55-63.
29. Zhu, J. L., Hjollund, N. H., Andersen, A. M., Olsen, J., & Shift work, & Fertility Study Group. (2006). Occupational exposure to chemicals and reproductive outcomes: overview of results from the Danish National Birth Cohort. *International journal of hygiene and environmental health*, 209(6), 457-465.
30. Åkerstedt, T., Wright Jr, K. P., & Sleep, S. (2009). Sleep loss and fatigue in shift work and

- shift work disorder. *Sleep medicine clinics*, 4(2), 257-271.
31. Åkerstedt, T., & Wright Jr, K. P. (2009). Sleep loss and fatigue in shift work and shift work disorder. *Sleep medicine clinics*, 4(2), 257-271.