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Review Article

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Flexible Work Arrangements for Nurses: Review of the Impacts of Hybrid Nursing Roles on Retention and Job Satisfaction

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Abstract

One effective strategy for dealing with nurse burnout, high turnover, and staffing shortages is to make work schedules more flexible and hybrid nursing comes to mind. Some of the off-site digital tasks performed by hybrid nurses include telehealth triage, patient education over the internet, and electronic documentation. This narrative paper examined the impact of hybrid nursing roles as an extension of flexible work arrangements, particularly concerning their influence on job satisfaction and retention. The following keywords, "flexible work arrangements," "hybrid nursing roles," "telehealth nursing," "retention," and "job satisfaction." were used to search the PubMed database for publications from 2010 to 2025. The studies selected after the inclusion and exclusion criteria had been applied were then analyzed to see how relevant they were to the outcome of the nursing workforce. Study findings showed that rigid scheduling undermines morale and increases turnover, while participative approaches and supportive management improve work-life balance. However, workplace design, organizational safety policies, and thoughtful technology adoption all play critical roles in the success of scheduling flexibility. Early research shows that hybrid models may help professionals stay engaged, and stay in their jobs but there are still challenges with equitable access, team integration, and monitoring patient outcomes. Hybrid nursing roles represent a significant advancement in flexible employment options, since they provide individuals the opportunity to enhance their resilience. To make sure that healthcare companies can employ hybrid models well, these problems need to be addressed.

Keywords: Flexible Work Arrangements, Hybrid Nursing, Nurses' Retention, Job Satisfaction

1. Introduction

Flexible work arrangements [FWAs] are a popular way to boost retention among nurses and are important due to worldwide shortages and burnout. The problem of retaining nurses has been worsened by modern nurse managers' use of different leadership styles, the risk of nursing staff burnout, and negligence of workers' health and job satisfaction [1]. Mohamed et al. explained that nurses often leave their jobs because of schedule issues, stress, and not being able to regulate their work hours [2]. Some strategies that are a part of the FWAs include shorter workweeks, flexible scheduling, and job sharing, telecommuting, and self-scheduling [3]. A comprehensive evaluation of FWAs' integration, especially in nursing, is essential because of the unique operating demands of the healthcare sector. There is however some contradictory research about the advantages of flexible schedule for nurses. Some studies indicate that it enhances performance and retention rates, whilst others highlight implementation challenges and the variability of results according to ward type, leadership, and organizational culture [3-5]. Ystaas et al. and Aras, Avcı, & Goktas established leadership, career advancement, and work-life balance as significant determinants influencing nurses' retention and satisfaction outcomes suggesting that FWAs may operate through these intermediaries [6,7].

Regional studies like Nnko and Ukachukwu looked at FWAs in low- and middle-income settings and discovered that giving nurses more freedom in their schedules makes them better at their jobs [4,8]. These studies in addition also reveal problems of not having enough workers or not having clear policies for the proper implementation of FWAs. FWAs in nursing have focused

on approaches to make working in stressful clinical environments less stressful [4]. Telemedicine and other digital health technology have made it possible for hybrid nurse careers to be more flexible than before [9,10]. These jobs combine conventional bedside tasks with digital or remote labor, such telehealth triage, online patient education, and electronic paperwork done outside of the hospital. Nurses may expand their skill sets, handle personal responsibilities, and engage in innovative care delivery models through hybrid nursing roles [11,12]. This broadens the idea of flexible work arrangements [FWAs] to encompass not only time flexibility but also task flexibility. Because of these developments, hybrid nursing is now considered as a key aspect of FWAs. FWAs might also transform the way healthcare organizations handle staffing concerns, which would make the workforce more stable. Self-scheduling and part-time work have been well-studied in relation to their effects on nurses' job satisfaction, retention rates, and patient outcomes, but the hybrid model's potential effects remain unexplored [13-15]. This study aims to analyze the benefits, challenges and consequences of flexible work arrangements [FWAs] for healthcare systems that are trying to build long-term, reliable nursing staffs by including recent related studies, with a focus on hybrid nursing roles. In addition, only a few studies offer longitudinal data and have examined generational disparities, proving the essence of this study. This study also examines the relationship between hybrid nursing positions and patient outcomes, and places nursing in the context of larger organizational discussions on flexible work. To address these gaps, this study adopts a narrative approach to analyze flexible work arrangements for nurses in more depth.

2. Method

This paper examines contemporary studies about flexible work arrangements [FWAs] for nurses, particularly emphasizing hybrid nursing roles. The goal is to synthesize the key findings, common themes, and gaps in the research on nurse retention and job satisfaction.

The following research questions will be addressed.

1. What is the impact of flexible work arrangements on nurse retention and job satisfaction?
2. What are the successful methods for implementing hybrid nursing roles? What factors facilitate or impede this process?
3. In comparison to traditional nursing models, how do hybrid nursing roles affect patient care outcomes?
4. In what ways do generational and demographic disparities shape nurses' perceptions and experiences regarding hybrid work arrangements?

2.1. Search Strategy

Studies were extracted solely from the PubMed database. This single database was chosen because it is a highly reliable resource for biological and health research, and excellent for peer-reviewed articles on topics important to nursing practice and healthcare workforce arrangements. PubMed's standardized indexing (MeSH keywords) makes this search strategy more accurate and reproducible. The following keywords were searched on the PubMed database search engine. (("nurses" OR "nursing staff" OR "registered nurse") AND ("flexible work arrangements" OR "self-scheduling" OR "compressed workweek" OR "part-time work" OR "hybrid nursing" OR "telehealth nursing" OR "remote work" OR "virtual care" OR "digital health") AND ("job satisfaction" OR "retention" OR "turnover" OR "intention to leave"))

After using the search string above, 48 results were shown as all-time results depicting the low rate of related studies.

Inclusion Criteria	Exclusion Criteria
Articles published within 2010 and 2025	Older Articles
English articles	Non- English Articles
Articles with abstract and full text available online	Abstract and Full Text unavailable online

Table 1: Inclusion and Exclusion Criteria

After applying the inclusion and exclusion criteria, the search yielded 22 results. From the 22 studies, research reporting outcomes related to retention, job satisfaction, or work-life balance were included. Studies that focused solely on physicians or other healthcare professionals were not added. Opinion pieces, editorials, and other types of articles without empirical data were not included. Studies involving registered nurses, licensed practical/vocational nurses, and nursing professionals working in clinical or community healthcare settings were considered. Nine (9) studies were excluded from the twenty-two (22) studies previously discovered. The nine (9) studies, including Cho, Cha & Baek, focused on Artificial Intelligence-Based Tailored Mobile Intervention for Nurse Burnout; a nurse healing space to help nurses reduce work stress [16]. Guo, Nazari, & Sadeghi also focused on reducing nurses' stress, but focused on nurses with insomnia [17]. Rönnberg & Larsson and Russell Hawkins & Arnold chose to examine the process of successfully automating the self-scheduling process of nurses [18,19].

Stoll & Gallagher surveyed burnout and intentions to leave the profession among the Western Canadian midwives [20]. Opoku & Owusu focused on the psychological well-being and job performance of nurses and midwives during COVID-19 in Ghana [21]. In addition, Pugh et al in Western Australia surveyed the midwives' intentions as the region continued to lose its midwifery workforce [22]. Virtanen et al. examined the associated career

and digital factors in the workplace [23]. Lastly, Vojtila et al. investigated technology-enabled collaborative care for Concurrent Diabetes and Distress Management during COVID-19 [24]. While these excluded studies are important and have carried out investigations important for the nursing and healthcare community, after carefully examining the focus of the studies as stated above, they were deemed unsuitable for this review. For the selected studies, characteristics such as author, year of publication, study keywords, research methods, and stated findings/conclusions were extracted for this review (see Table 2 under the appendix section). These articles are carefully analyzed under the discussion section.

No	Author(s) & Year of Pub.	Method	Key-words	Main findings & Conclusion
1	Labrague, L. J., & De los Santos, J. A. A. (2020)	cross-sectional design	new graduate transition; nurse; transition shock.	Overall, newly graduated nurses reported greatest challenges with regard to their expectations of the actual work environment, and in balancing their professional and personal lives.
2	Clendon, J., & Walker, L. (2013).	Quantitative and qualitative analyses	New Zealand; older nurses; retention; shift work; workforce.	Improved scheduling practices including increasing access to flexible and part time work hours, and development of resources on coping with shift work are recommended.
3	Whiteing, N., Barr, J., & Rossi, D. M. (2022).	multiple case study design	clinical experience; burnout; case study; nursing staff; rural and remote nursing; safety	Issues of isolation, stress, burnout and a lack of organisational commitment to employees affect the retention of rural and remote nurses.
4	Butler et al (2011)	Meta-Analysis		The findings suggest interventions relating to hospital nurse staffing models may improve some patient outcomes, particularly the addition of specialist nursing and specialist support roles to the nursing workforce.
5	de Raeve et al (2023)	cross-sectional observational design	healthcare; nurses; nursing care; policy; resilient workforce.	Violence and harassment against nurses are not new. Still, they remain unacceptable, especially given the enormous negative impact on nurses' psychological and physical wellbeing, job motivation and turnover, quality of care, and risk to patient safety.
6	Wright et al., 2017			Inflexible work schedules affect job satisfaction and influence nurse turnover. Job satisfaction is a significant predictor of nurse retention.
7	Cronin et al 2023	qualitative explorative design.	collaborative research; digital health; focus group; menopause; nurse; qualitative research; workplace.	This study provided an in-depth snapshot of a case, attempting to explore and understand the organisational culture of the workplace in terms of support and well-being for staff experiencing peri-menopausal and menopausal symptoms.
8	Campbell et al., 2021	cross-sectional survey and review	allied health; health professional training; remote health; rural health; workforce training.	Satisfaction with remote work integrated learning placements is an important pathway to growing a local health professional workforce in remote and rural settings.

9	Toren et al., 2012	Phone survey		There is a need to monitor and understand the characteristics of job and professional satisfaction among hospital nurses in order to implement crucial organizational interventions and retain hospital nursing staffs.
10	Zborowsky et al (2010)	exploratory design		The "hybrid" nursing design model in which decentralized nursing stations are coupled with centralized meeting rooms for consultation between staff members may strike a balance between the increase in computer duties and the ongoing need for communication and consultation that addresses the conflicting demands of technology and direct patient care.
11	Renggli et al (2025)	Focus group interviews (qualitative)	AI-based scheduling; burnout; nurse scheduling; reinforcemer learning; well-being; work-life balance.	AI-supported scheduling systems can significantly enhance fairness, transparency, and efficiency in nurse scheduling.
12	Leineweber, et al (2016)	cross-sectional design	Job satisfaction; Multilevel analysis; Registered nurses; Workload.	Nursing turnover is a major issue for health care managers, notably during the global nursing workforce shortage.
13	Reading Turchioe, M., Austin, R., & Lytle, K. (2025).	cross-sectional survey	Artificial intelligence; Digital technology; Nurses; Nurses' role; Patient portals; Professional burnout; Telemedicine.	Engaging nurses early in the process of developing and deploying digital health, especially artificial intelligence, may help address burnout by producing more nursing-centered technologies and providing technology-enabled nursing work alternatives to bedside care.

Table 2: Characteristics of the Selected Papers

3. Discussion

The themes derived from the comprehensive review of the selected articles include FWAs and nurse retention and job satisfaction, the successful implementation of hybrid nursing roles, the comparison and impact of hybrid nursing roles and traditional nursing models on patient care outcomes, and generational differences in accepting and experiencing hybrid work arrangements.

3.1. FWAs and Nurse Retention and Job Satisfaction

According to research, nurses are more likely to leave their jobs due to a rigid schedule, and job satisfaction is a major factor in determining retention rates [25]. Concerns about a global scarcity of manpower were emphasized by Leineweber et al. [15]. Findings from Toren et al. in Israel corroborate these fears, showing a turnover rate of 23% [26]. Taking all of this information into consideration, it is clear that more flexible work schedules are essential to keep the nursing staff and to encourage hybrid nursing roles. Flexibility interacts with the overall corporate culture because work outcomes are impacted by individual attributes and views of the practice environment. To expand on this idea, Labrague & De los Santos emphasized the importance of nurse management in allowing flexibility (by self-scheduling, equitable job distribution, and limited forced overtime) to encourage work-life balance, particularly for nurses in the early stages of their careers [27]. While these findings show the potential of FWAs, further research on the long-term impacts on patient outcomes and institutional performance is imperative, since there is a lack of it in the current literature.

3.2. Successful Implementation of Hybrid Nursing Roles

Several factors make it difficult to fully implement hybrid nursing roles. The design of nursing stations plays a big part. Zborowsky et al. found that layouts combining smaller dispersed stations with central meeting areas help balance individual work with

team communication [28]. At the organizational level, De Raeve et al. stated that violence against nurses reflects deeper problems, such as weak workplace policies and poor enforcement of safety standards [29]. Technology also adds a few challenges: while many nurses use telemedicine and patient portals, fewer use artificial intelligence, and poor staffing support during new technology rollouts has been linked to burnout [30]. These findings suggest that hybrid nursing cannot succeed through flexible scheduling alone; it requires safe workplaces, supportive management, and thoughtful technology adoption. Finally, staffing levels remain critical. Research shows strong links between nurse staffing and patient outcomes, also stating that scheduling may reduce staff turnover [31]. Overall, while flexible scheduling and self-management can reduce turnover, more research is needed to understand how the hybrid nursing roles affect patient care and long-term workforce stability."

3.3. Hybrid Nursing Role and Traditional Nursing Models on Patient Care Outcomes

Nurse scheduling is a complicated topic that impacts both patient care and nurse well-being. Renggli et al. contend that traditional scheduling often violates nurses' preferences, resulting in discontent, and exhaustion [32]. Limited autonomy and lack of transparency in scheduling may diminish morale and have a detrimental influence on patient outcomes. In contrast, participatory techniques, such as hybrid nursing models with nurse involvement, have been associated with higher work satisfaction. New methods, such as artificial intelligence and mathematical optimization, show great potential for increasing scheduling efficiency [32]. These results imply that effective scheduling is more than just filling shifts; it is also important for staff stability and quality of care. However, most research concentrate on short-term results, raising questions about how these techniques affect patient care and safety in the long term.

3.4. Generational Differences in Accepting and Experiencing Hybrid Work Arrangements

The perception of hybrid work arrangements among nurses is impacted by generational and geographical differences. Clendon & Walker found that rigid work patterns were damaging to the health, sleep, and social lives of late-career nurses in New Zealand [33]. To retain more senior nurses, greater scheduling options, such as part-time or flexible hours, are needed. Toren et al. discovered that younger nurses, especially those who had low job satisfaction or worked part-time, were more likely to leave the field [20]. There are extra challenges that remote and rural nurses in Australia face. According to Whiteing, Barr, & Rossi, isolation, stress, and a lack of organizational support continue to be issues affecting nurses' well-being and patient safety [34]. This is despite rules designed to improve retention. Cronin et al. investigated the impact of menopause on senior nurses and suggested that digital health technology might help with symptoms and retention attempts [35]. Campbell et al. also found that graduates are more inclined to work in remote locations if their student placements were positive [36]. These studies highlight the need to take age, location, and personal conditions into account while developing hybrid nursing models. Flexible work arrangements alone may not be enough to retain nurses and offer safe, high-quality care. The findings derived from the study's papers have shown the significance of flexible work arrangements. This review lays the groundwork for additional investigation into hybrid roles for nurses and other healthcare professionals, acknowledging the impact of flexible work arrangements [FWAs], and the capacity of hybrid nursing positions to improve job satisfaction, retention, and ultimately, patient outcomes. There is a chance of selection and interpretation bias, and the fact that non-English publications were left out may restrict the study's scope.

3.5. Limitations

The PubMed database, despite its comprehensiveness does not include every publication in the fields of nursing or health science. Non-biomedical publications (such as sociology or management) that do not address workplace flexibility, organizational behavior, or hybrid work models may not be included. Since this review is solely based on PubMed, it may fail to take into account multidisciplinary contributions from areas such as education, public health management, or labor studies, prioritizing instead clinical and biological viewpoints. While the use of a single database was chosen for methodological clarity and practicality, it naturally restricts the scope of the study.

4. Conclusion and Practical Recommendations

This review aimed to examine flexible work arrangements for nurses, focusing on the impacts of hybrid nursing roles on retention and job satisfaction. Findings show that flexible work arrangements in nursing, particularly within hybrid roles, influence retention, satisfaction, and patient outcomes in complex ways. Also, rigid scheduling undermines morale and increases turnover, and participative approaches/ supportive management improve work-life balance. However, success depends on more than scheduling flexibility; workplace design, organizational safety policies, and thoughtful technology adoption all play critical roles. It was discovered that generational and geographical differences shape experiences, with older nurses, rural practitioners, and those facing unique challenges such as menopause requiring tailored strategies. Although flexible models and digital tools show great potential, current research remains limited in assessing long-term impacts on patient care and safety and institutional resilience. Overall, hybrid nursing roles must be supported by systemic changes that integrate workforce well-being with quality of care. This research foundation is lacking in studies that examine the sustainability of hybrid models and their impact on the nursing profession.

This gap highlights the need for more research to evaluate hybrid nursing positions across diverse healthcare environments, demographic cohorts, and cultural contexts. Adding hybrid

flexibility to nursing practice may make the workforce more resilient, make employees satisfied with their jobs, and therefore boosting retention. But for it to work, it has to be carefully put into place, supported by the organization, and evaluated on a regular basis. Healthcare companies that want to put hybrid nurse roles into place should start with a clear job design that combines bedside duties with remote or digital functions, such as telehealth triage, patient education, and documentation. To improve nurses' skills in telehealth and data management, it is important to invest in secure digital infrastructure and interoperable platforms, as well as thorough training programs. It is important to create fair scheduling models that make sure that hybrid chances are spread out fairly across different specializations and career phases.

Policies also need to be made to deal with liability, scope of practice, and performance measures. To keep the team together and build trust, leaders must be clear and communicate well. This will make sure that remote work is just as important as on-site work. Organizations need to set up processes for ongoing assessment to monitor things like employee retention, job satisfaction, patient outcomes, and equitable implications. They should use this information to improve hybrid models and keep the workforce strong. When healthcare organizations put hybrid nursing roles into place, the people involved should be considered as well as the required infrastructure and policies. To build trust and participation among nurses, it is important to clearly communicate expectations, duties, and career paths within these new models. To make sure that hybrid roles truly reflect what happens on the front lines, leaders need to include nursing staff in their creation and assessment. Organizations can quickly find problems and change their hybrid models to suit new needs by setting up ways for people to provide feedback, such surveys, focus groups, and frequent check-ins. Organizations may increase work satisfaction, retain employees, and provide better patient care by embedding hybrid nursing positions in a culture of collaboration that values recognition and professional progress. Given that this review uses only one database, future study should employ more authors and databases to make the results stronger and provide a more complete picture.

Conflict of Interest

The authors report no conflict of interest.

References

1. AbdELhay, E. S., Taha, S. M., El-Sayed, M. M., Helaly, S. H., & AbdELhay, I. S. (2025). Nurses retention: The impact of transformational leadership, career growth, work well-being, and work-life balance. *BMC Nursing, 24*(1), 148.
2. Mohamed, Z., Mahadi, N., & Baskaran, S. (2024). Factors influencing nursing attrition: Why matter? *International Journal of Academic Research in Business and Social Sciences, 14*(3).
3. Morse, L., Duncan, H., Van Apen, L., Reese, K., & Crawford, C. L. (2024). Centralized scheduling of nursing staff. *Nursing Administration Quarterly, 48*(4), 347–358.
4. Ukachukwu, P. (2024). The effects of flexible work arrangements on nurses' engagement and performance.
5. Kiptulon, E. K., Szőllősi, A., Miklós, Z., & Siket, A. U. (2025). Organisational culture predictors of job satisfaction among nurses in Kenya, Sub-Sahara Africa: A cross-sectional study. *Nursing Open, 12*(9), e70298.
6. Ystaas, L. M. K., Nikitara, M., Ghobrial, S., Latzourakis, E., Polychronis, G., & Constantinou, C. S. (2023). The impact of transformational leadership in the nursing work environment and patients' outcomes: A systematic review. *Nursing Reports, 13*(3), 1271–1290.
7. Aras, Y., Avcı, K., & Goktas, M. (2025). The mediating role of job satisfaction in the impact of quality of work life on organizational commitment and job performance. *Journal of Health Organization and Management.*
8. Nnko, E. (2022). Flexible work arrangements on performance of nurses in regional hospitals in Tanzania (Doctoral dissertation, Jomo Kenyatta University of Agriculture and Technology).
9. Stimpfel, A. W., Leep-Lazar, K., Mercer, M., & DeMarco, K. (2025). "Scheduling is everything": A qualitative descriptive study of job and schedule satisfaction of staff nurses and nurse managers. *Western Journal of Nursing Research, 47*(10), 912–923.
10. Pilosof, N. P., Barrett, M., Oborn, E., Barkai, G., Zimlichman, E., & Segal, G. (2023). Designing for flexibility in hybrid care services: Lessons learned from a pilot in an internal medicine unit. *Frontiers in Medical Technology, 5,* 1223002.
11. Baalharith, I. M. A., & Aboshaiqah, A. E. (2024). Virtual healthcare revolution: Understanding nurse competencies and roles. *SAGE Open Nursing, 10*.
12. Sagastume, R., & Peterson, J. (2023). The virtual nurse program in a community hospital setting. *Online Journal of Issues in Nursing, 28*(2).
13. Kang, H. W., Kim, J., Kim, K. J., Bae, E. K., Kang, H., Jang, J. H., & Choe, W. (2025). Shift nurses' work quality and job satisfaction after implementing the Inha University Hospital Nursing AI Scheduling System (IH-NASS). *BMC Nursing, 24*(1), 792.
14. Koning, C. (2014). Does self-scheduling increase nurses' job satisfaction? An integrative literature review. *Nursing Management, 21*(6), 24–28.
15. Leineweber, C., Chungkham, H. S., Lindqvist, R., Westerlund, H., Runesdotter, S., Alenius, L. S., & Tishelman, C. (2016). Nurses' practice environment and satisfaction with schedule flexibility is related to intention to leave due to dissatisfaction: A multi-country, multilevel study. *International Journal of Nursing Studies, 58,* 47–58.
16. Cho, A., Cha, C., & Baek, G. (2024). Development of an artificial intelligence-based tailored mobile intervention for nurse burnout: Single-arm trial. *Journal of Medical Internet Research, 26*, e54029.
17. Guo, W., Nazari, N., & Sadeghi, M. (2024). Cognitive-

behavioral treatment for insomnia and mindfulness-based stress reduction in nurses with insomnia: A non-inferiority internet-delivered randomized controlled trial. *PeerJ, 12*, e17491.
18. Rönnberg, E., & Larsson, T. (2010). Automating the self-scheduling process of nurses in Swedish healthcare: A pilot study. *Health Care Management Science, 13*(1), 35–53.
19. Russell, E., Hawkins, J., & Arnold, K. A. (2012). Guidelines for successful self-scheduling on nursing units. *The Journal of Nursing Administration, 42*(9), 408–409.
20. Stoll, K., & Gallagher, J. (2019). A survey of burnout and intentions to leave the profession among Western Canadian midwives. *Women and Birth, 32*(4), e441–e449.
21. Opoku, F. K., & Owusu, N. K. (2024). Psychological well-being and job performance of nurses and midwives amidst COVID-19 in Ghana: A multi-group analysis. *PLoS ONE, 19*(8), e0303855.
22. Pugh, J. D., Twigg, D. E., Martin, T. L., & Rai, T. (2013). Western Australia facing critical losses in its midwifery workforce: A survey of midwives' intentions. *Midwifery, 29*(5), 497–505.
23. Virtanen, L., Kainiemi, E., Kaihlanen, A. M., Vehko, T., & Heponiemi, T. (2025). Digitally dedicated nurses: A nationwide cross-sectional study of associated career and digital factors in the workplace. *BMC Health Services Research, 25*(1), 1365.
24. Vojtila, L., Sherifali, D., Dragonetti, R., Ashfaq, I., Veldhuizen, S., Naeem, F., et al. (2023). Technology-enabled collaborative care for concurrent diabetes and distress management during the COVID-19 pandemic: Protocol for a mixed methods feasibility study. *JMIR Research Protocols, 12,* e39724.
25. Wright, C., McCartt, P., Raines, D., & Oermann, M. H. (2017). Implementation and evaluation of self-scheduling in a hospital system. *Journal for Nurses in Professional Development, 33*(1), 19–24.
26. Toren, O., Zelker, R., Lipschuetz, M., Riba, S., Reicher, S., & Nirel, N. (2012). Turnover of registered nurses in Israel: Characteristics and predictors. *Health Policy, 105*(2–3), 203–213.
27. Labrague, L. J., & Santos, J. A. A. (2020). Transition shock and newly graduated nurses' job outcomes and select patient outcomes: A cross-sectional study. *Journal of Nursing Management, 28*(5), 1070–1079.
28. Zborowsky, T., Bunker-Hellmich, L., Morelli, A., & O'Neill, M. (2010). Centralized vs. decentralized nursing stations: Effects on nurses' functional use of space and work environment. *HERD: Health Environments Research & Design Journal, 3*(4), 19–42.
29. De Raeve, P., Xyrichis, A., Bolzonella, F., Bergs, J., & Davidson, P. M. (2023). Workplace violence against nurses: Challenges and solutions for Europe. *Policy, Politics, & Nursing Practice, 24*(4), 255–264.
30. Turchioe, M. R., Austin, R., & Lytle, K. (2025). Opportunities and challenges for digital health and artificial intelligence to support nurses. *Computers, Informatics, Nursing, 43*(7).
31. Butler, M., Collins, R., Drennan, J., Halligan, P., O'Mathúna, D. P., Schultz, T. J., Sheridan, A., & Vilis, E. (2011). Hospital nurse staffing models and patient and staff-related outcomes. *Cochrane Database of Systematic Reviews*, (7), CD007019.
32. Renggli, F. J., Gerlach, M., Bieri, J. S., Golz, C., & Sariyar, M. (2025). Integrating nurse preferences into AI-based scheduling systems: Qualitative study. *JMIR Formative Research, 9*, e67747.
33. Clendon, J., & Walker, L. (2013). Nurses aged over 50 years and their experiences of shift work. *Journal of Nursing Management, 21*(7), 903–913.
34. Whiteing, N., Barr, J., & Rossi, D. M. (2022). The practice of rural and remote nurses in Australia: A case study. *Journal of Clinical Nursing, 31*(11–12), 1502–1518.
35. Cronin, C., Bidwell, G., Carey, J., Donevant, S., Hughes, K., Kaunonen, M., Marcussen, J., & Wilson, R. (2023). Exploring digital interventions to facilitate coping and discomfort for nurses experiencing the menopause in the workplace: An international qualitative study. *Journal of Advanced Nursing, 79*(10), 3760–3775.
36. Campbell, N., Moore, L., Farthing, A., Anderson, J., Witt, S., Lenthall, S., Petrovic, E., Lyons, C., & Rissel, C. (2021). Characteristics of nursing and allied health student placements in the Northern Territory over time (2017–2019) and placement satisfaction. *Australian Journal of Rural Health, 29*(3), 354–362.