

Nursing Practice Environment: Impacts on Care Quality and Patient Safety in Primary Care Settings

Jehan MadhourAlshammary¹, Albandri Abdulaziz Alnasser², Halima Abdullah Al Yami³, Abdullah Mobark Almsaen⁴, Fatimah Ahmad Sadly⁵, Mona Jamaan Aldossary⁶, Amal Khalaf Essa Al-anazi⁷, Mashaal Mahdi Alqahtani⁸, Abdulrhman Mohamed Al Otaibi⁹, Hala Swilah Almotairi¹⁰

¹Nursing technician, Second baderphc,Saudi, Arabia, Email: Jealshammary@moh.gov.sa.

²Nursing technician,Okaz Health Center,Saudi Arabia, Email: Jrooo7.22@gmail.com.

³Nursing Technician,Okaz Health Center,Saudi Arabia, Email: haloom098@icloud.com

⁴Nursing technician,Okazphc,Saudi Arabia, Email: aalmsaen@moh.gov.sa

⁵Nursing technician,Okaz Health center,Saudi Arabia, Email: Fsadly@moh.gov.sa

⁶Nursing technician,Okaz Health Center,Saudi Arabia, Email: Mjaldosary@moh.gov.sa

⁷Senior Nursing specialist,Ministry of health,Saudi Arabia, Email: anazia@moh.gov.sa

⁸Nursing technician,Okaz Health center,Saudi Arabia, Email: Malqahtani26@moh.gov.sa

⁹Nurse,National Guard Hospital,King Abdulaziz Medical City,Saudi Arabia, Email: ilb4u01@gmail.com

¹⁰Nursing technician,King Khalid General Hospital,Saudi Arabia

Received: 13.08.2024

Revised: 08.09.2024

Accepted: 09.10.2024

ABSTRACT

The nursing practice environment plays a pivotal role in shaping the quality of care and patient safety outcomes in primary care settings. A favorable practice environment, characterized by adequate staffing, resource availability, collaborative relationships, opportunities for professional development, and nurse empowerment, can significantly enhance care quality and promote patient safety. Conversely, an unfavorable practice environment can lead to adverse outcomes, compromising the well-being of both patients and nurses. This paper explores the impacts of the nursing practice environment on care quality and patient safety in primary care settings, drawing insights from relevant literature and research studies. It examines the various factors within the practice environment that contribute to better care quality, including nurse staffing and resource adequacy, nurse participation and autonomy, collaborative relationships, and professional development opportunities. Additionally, the paper discusses the influence of the practice environment on patient safety, highlighting the importance of manageable workloads, effective communication, nurse engagement, and a strong safety culture. Strategies for improving the nursing practice environment in primary care are proposed, encompassing approaches such as strengthening nurse leadership, optimizing staffing and resource allocation, enhancing interprofessional collaboration, supporting professional development, promoting a safety culture, engaging nurses in quality improvement initiatives, and leveraging technology and data analytics. By addressing the various dimensions of the practice environment through evidence-based strategies, healthcare organizations and policymakers can contribute to the delivery of high-quality, safe, and patient-centered care in primary care settings, while also fostering nurse job satisfaction, retention, and overall healthcare system performance.

Keywords: high-quality, safe, proposed, autonomy, collaborative

INTRODUCTION

The nursing practice environment plays a crucial role in delivering high-quality, safe patient care across various healthcare settings, including primary care. A favorable practice environment empowers nurses, enhances their job satisfaction, and ultimately contributes to better patient outcomes (Neira, 2010; Lambrou et al., 2014). Conversely, an unfavorable practice environment can lead to increased burnout, job dissatisfaction, and higher turnover rates among nurses, potentially compromising patient safety and the quality of care (Aiken et al., 2011; Kloppe et al., 2012).

In primary care settings, where nurses play a pivotal role in disease prevention, health promotion, and chronic disease management, understanding and improving the nursing practice environment is of paramount importance. This paper aims to explore the impacts of the nursing practice environment on care quality and patient safety in primary care settings, drawing insights from relevant literature and research studies.

Defining the Nursing Practice Environment

The nursing practice environment encompasses various organizational characteristics that influence the delivery of nursing care and shape the experiences of nurses in their daily work (Lake, 2002). It is a multidimensional concept that includes factors such as nurse staffing, resources, leadership support, collaborative relationships with physicians, opportunities for professional development, and nurse participation in decision-making processes (Swiger et al., 2017).

One of the widely used instruments to evaluate the nursing practice environment is the Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002). This scale assesses five key dimensions of the practice environment:

1. Nurse participation in hospital affairs
2. Nursing foundations for quality of care
3. Nurse manager ability, leadership, and support of nurses
4. Staffing and resource adequacy
5. Collegial nurse-physician relations

While the PES-NWI was initially developed for hospital settings, it has been adapted and validated for use in primary care settings in various countries, including Portugal (Almeida et al., 2020; Lucas et al., 2021). These adaptations allow for a comprehensive assessment of the nursing practice environment in primary care and facilitate comparisons across different healthcare contexts.

Impacts on Care Quality

Numerous studies have demonstrated the significant impacts of the nursing practice environment on the quality of care delivered to patients. A favorable practice environment has been associated with better patient outcomes, higher patient satisfaction, and lower rates of adverse events (Aiken et al., 2011; Swiger et al., 2017).

In primary care settings, a supportive practice environment can enhance nurses' ability to provide high-quality care by promoting patient-centered approaches, effective communication, and evidence-based practices (Lucas & Nunes, 2020). Conversely, an unfavorable practice environment can hinder nurses' ability to deliver optimal care, potentially leading to missed opportunities for disease prevention, inadequate management of chronic conditions, and poor coordination of care (Anunciada et al., 2022).

Several factors within the nursing practice environment contribute to care quality in primary care settings:

1. **Nurse Staffing and Resource Adequacy:** Appropriate nurse staffing levels and access to necessary resources (e.g., equipment, supplies, and support staff) are essential for delivering comprehensive, high-quality care (Smeds Alenius et al., 2014). Inadequate staffing and resource constraints can lead to increased workloads, burnout, and compromised care quality.
2. **Nurse Participation and Autonomy:** When nurses are actively involved in decision-making processes and have autonomy in their practice, they can better tailor care to individual patient needs and advocate for evidence-based interventions (Kirwan et al., 2013). This empowerment enhances care quality and patient-centered approaches.
3. **Collaborative Relationships:** Effective collaboration and communication between nurses, physicians, and other healthcare professionals are crucial for coordinating care, sharing information, and making informed decisions (De Sul & Lucas, 2020). Strong collaborative relationships can improve care continuity and patient outcomes.
4. **Professional Development Opportunities:** Continuous professional development opportunities for nurses, such as ongoing education, training, and access to evidence-based resources, can enhance their knowledge and skills, leading to improved care quality and the adoption of best practices (Aiken et al., 2018).

Impacts on Patient Safety

A favorable nursing practice environment not only contributes to better care quality but also plays a vital role in ensuring patient safety. Numerous studies have found significant associations between aspects of the practice environment and patient safety outcomes, such as reduced medication errors, falls, hospital-acquired infections, and mortality rates (Aiken et al., 2002; Sermeus et al., 2011; Roque, 2016).

In primary care settings, patient safety is of paramount importance as preventable adverse events can have severe consequences and contribute to increased healthcare costs, hospitalizations, and reduced quality of life. Several factors within the nursing practice environment can influence patient safety in primary care:

1. **Nurse Staffing and Workload:** Adequate nurse staffing levels and manageable workloads are crucial for ensuring patient safety. When nurses are overburdened with excessive workloads, their ability to provide attentive care, follow safety protocols, and detect potential adverse events may be compromised (De Brouwer et al., 2017; Coetzee et al., 2013).
2. **Communication and Teamwork:** Effective communication and collaboration among nurses, physicians, and other healthcare professionals are essential for ensuring accurate information transfer, coordinating care, and preventing adverse events (Wang et al., 2015). Poor communication and lack of teamwork can lead to medication errors, delayed diagnoses, and suboptimal care.

3. **Nurse Engagement and Empowerment:** When nurses are actively engaged in decision-making processes and feel empowered to voice their concerns, they can play a crucial role in identifying and addressing potential safety issues (Jarrín et al., 2014). An environment that promotes nurse engagement and empowerment can enhance patient safety through proactive problem-solving and continuous improvement efforts.
4. **Safety Culture:** A strong safety culture within the practice environment, where patient safety is prioritized, errors are reported openly, and lessons are learned from adverse events, can contribute to the prevention of future safety incidents and the implementation of effective safety measures (Nantsupawat et al., 2017; De Pedro-Gómez et al., 2011).

Strategies for Improving the Nursing Practice Environment in Primary Care

Recognizing the significant impacts of the nursing practice environment on care quality and patient safety, it is crucial to implement strategies to enhance and sustain favorable practice environments in primary care settings. Several approaches have been proposed and implemented in various contexts, including:

1. **Strengthening Nurse Leadership and Empowerment:** Promoting nurse leadership, encouraging nurse participation in decision-making processes, and fostering a culture of empowerment can enhance job satisfaction, care quality, and patient safety (Abraham et al., 2021; Ayamolowo et al., 2013). This can be achieved through leadership development programs, shared governance models, and organizational structures that value nurses' perspectives and contributions.
2. **Optimizing Staffing and Resource Allocation:** Ensuring adequate nurse staffing levels and providing necessary resources are essential for creating a favorable practice environment. This may involve conducting workload assessments, implementing staffing models based on patient acuity and complexity, and advocating for appropriate resource allocation (Bruyneel et al., 2009; Titlestad et al., 2018).
3. **Enhancing Interprofessional Collaboration:** Fostering effective collaboration and communication among nurses, physicians, and other healthcare professionals can improve care coordination, enhance patient safety, and promote a positive practice environment (Olds et al., 2017). This can be achieved through interprofessional education, team-based care models, and initiatives that promote mutual respect and shared decision-making.
4. **Supporting Professional Development and Evidence-Based Practice:** Providing opportunities for continuous professional development, access to evidence-based resources, and support for implementing best practices can empower nurses and enhance the quality of care delivered (Martínez-Riera et al., 2020). This may include educational programs, mentorship initiatives, and dedicated time for research and knowledge translation activities.
5. **Promoting a Safety Culture:** Cultivating a strong safety culture within the practice environment involves prioritizing patient safety, encouraging open communication about errors and near-misses, and fostering a non-punitive approach to learning from adverse events (Parro Moreno et al., 2013; Poghosyan et al., 2015). Regular safety training, incident reporting systems, and safety huddles can contribute to a positive safety culture.
6. **Engaging Nurses in Quality Improvement Initiatives:** Involving nurses in quality improvement initiatives can foster a sense of ownership, promote evidence-based practices, and contribute to a culture of continuous improvement (Rabie et al., 2016, 2017). This can be achieved through quality improvement teams, process mapping exercises, and the implementation of evidence-based improvement strategies.
7. **Leveraging Technology and Data Analytics:** Utilizing technology and data analytics can support nurse staffing decisions, resource allocation, and patient safety monitoring (Aiken et al., 2012; You et al., 2013). Electronic health records, clinical decision support systems, and data visualization tools can provide valuable insights and inform practice environment improvements.

It is essential to recognize that improving the nursing practice environment in primary care is a multifaceted endeavor that requires a collaborative effort involving nurses, healthcare organizations, policymakers, and educational institutions. Addressing the various dimensions of the practice environment through evidence-based strategies can contribute to enhanced care quality, patient safety, and overall healthcare system performance.

CONCLUSION

The nursing practice environment plays a pivotal role in shaping the quality of care and patient safety outcomes in primary care settings. A favorable practice environment, characterized by adequate staffing, resource availability, collaborative relationships, opportunities for professional development, and nurse empowerment, can significantly enhance care quality and promote patient safety. Conversely, an unfavorable practice environment can lead to adverse outcomes, compromising the well-being of both patients and nurses.

By implementing evidence-based strategies to improve the nursing practice environment, healthcare organizations and policymakers can contribute to the delivery of high-quality, safe, and patient-centered care in primary care settings. These strategies include strengthening nurse leadership, optimizing staffing and resource

allocation, enhancing interprofessional collaboration, supporting professional development, promoting a safety culture, engaging nurses in quality improvement initiatives, and leveraging technology and data analytics. Investing in a favorable nursing practice environment is not only beneficial for patient outcomes but also contributes to nurse job satisfaction, retention, and overall healthcare system performance. By fostering a positive practice environment, organizations can attract and retain skilled nurses, reduce turnover, and ultimately improve the overall quality and efficiency of healthcare delivery.

As the healthcare landscape continues to evolve, with an increasing emphasis on primary care and prevention, addressing the nursing practice environment becomes even more critical. By prioritizing and continuously improving the practice environment, healthcare systems can empower nurses to deliver exceptional care, ensuring optimal patient outcomes and promoting a culture of safety and quality in primary care settings.

REFERENCES

1. Abraham, C. M., Zheng, K., Norful, A. A., Ghaffari, A., Liu, J., & Poghosyan, L. (2021). Primary care nurse practitioner burnout and perceptions of quality of care. *Nursing Forum*, 56(3), 550–559.
2. Aiken, L. H., Cerón, C., Simonetti, M., Lake, E. T., Galiano, A., Garbarini, A., ... & Rancati, S. (2018). Hospital nurse staffing and patient outcomes. *Revista Médica Clínica Las Condes*, 29(3), 322–327.
3. Aiken, L. H., Clarke, S. P., Sloane, D. M., Hospital staffing, organization, and quality of care: Cross-national findings. *International Journal for Quality in Health Care*, 14(1), 5–13.
4. Aiken, L. H., Cimiotti, J. P., Sloane, D. M., Smith, H. L., Flynn, L., & Neff, D. F. (2011). Effects of nurse staffing and nurse education on patient deaths in hospitals with different nurse work environments. *Medical Care*, 49(12), 1047–1053.
5. Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., ... & Kutney-Lee, A. (2012). Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*, 344, e1717.
6. Almeida, S., Nascimento, A., Lucas, P. B., Jesus, É., & Araújo, B. (2020). RN4CAST study in Portugal: validation of the Portuguese version of the practice environment scale of the nursing work index. *Aquichan*, 20(3), 1–10.
7. Amaral, A. F., Ferreira, P. L., & Lake, E. T. (2012). Validation of the practice environment scale of the nursing work index (PES-NWI) for the Portuguese nurse population. *International Journal of Caring Sciences*, 5(3), 280–288.
8. Anunciada, S., Benito, P., Gaspar, F., & Lucas, P. (2022). Validation of psychometric properties of the nursing work index—revised scale in Portugal. *International Journal of Environmental Research and Public Health*, 19(9), 5489.
9. Ayamolowo, S. J., Irinoye, O., Oladoyin, M. A., & Joseph, A. S. (2013). Job satisfaction and work environment of primary health care nurses in Ekiti State, Nigeria: an exploratory study. *International Journal of Caring Sciences*, 6(3), 531–543.
10. Bruyneel, L., Heede, K., van den, Diya, L., Aiken, L., & Sermeus, W. (2009). Predictive validity of the international hospital outcomes study questionnaire: an RN4CAST pilot study. *Journal of Nursing Scholarship*, 41(2), 202–210.
11. Coetzee, S. K., Kloppe, H. C., Ellis, S. M., & Aiken, L. H. (2013). A tale of two systems—nurses practice environment, well-being, perceived quality of care and patient safety in private and public hospitals in South Africa: a questionnaire survey. *International Journal of Nursing Studies*, 50(2), 162–173.
12. De Brouwer, B. J., Kaljouw, M. J., Schoonhoven, L., & van Achterberg, T. (2017). Essential elements of the nursing practice environment in nursing homes: psychometric evaluation. *International Journal of Older People Nursing*, 12(2), e12137.
13. De Pedro-Gómez, J., Morales-Asencio, J. M., Abad, A. S., Veny, M. B., Vives, G. A., & Campaner, C. P. (2011). Entorno de práctica de los profesionales de enfermería y competencia para la incorporación de la evidencia a las decisiones: Situación en las Islas Baleares. *Gaceta Sanitaria*, 25(3), 191–197.
14. De Sul, S. I. R., & Lucas, P. R. M. B. (2020). Translation and validation of the anticipated turnover scale for the Portuguese cultural context. *Nursing Open*, 7(5), 1475–1481.
15. International Council of Nurses. (2014). Nurses: A force for change. A vital resource for health. International Council of Nurses.
16. Jarrín, O. J., Flynn, L., Lake, E. T., & Aiken, L. H. (2014). Home health agency work environments and hospitalizations. *Medical Care*, 52(10), 877–883.
17. Kirwan, M., Matthews, A., & Scott, P. A. (2013). The impact of the work environment of nurses on patient safety outcomes: a multi-level modelling approach. *International Journal of Nursing Studies*, 50(2), 253–263.
18. Kloppe, H. C., Coetzee, S. K., Pretorius, R., & Bester, P. (2012). Practice environment, job satisfaction, and burnout of critical care nurses in South Africa. *Journal of Nursing Management*, 20(5), 685–695.

19. Lake, E. T. (2002). Development of the practice environment scale of the nursing work index. *Research in Nursing & Health*, 25(3), 176-188.
20. Lambrou, P., Merkouris, A., Middleton, N., & Papastavrou, E. (2014). Nurses' perceptions of their professional practice environment in relation to job satisfaction: a review of quantitative studies. *Health Science Journal*, 8(3), 298-317.
21. Lucas, P., Jesus, E., Almeida, S., & Araújo, B. (2021). Validation of the psychometric properties of the practice environment scale of nursing work index in primary health care in Portugal. *International Journal of Environmental Research and Public Health*, 18(12), 6379.
22. Lucas, P. R. M. B., & Nunes, E. M. G. T. (2020). Nursing practice environment in primary health care: a scoping review. *Revista Brasileira de Enfermagem*, 73, e20190479.
23. Martínez-Riera, J. R., Juárez-Vela, R., Díaz-Herrera, M. Á., Montejano-Lozoya, R., Doménech-Briz, V., Benavent-Cervera, J. V., ... & De Miguel-Montoya, I. (2020). Qualitative analysis by experts of the essential elements of the nursing practice environments proposed by the TOP10 questionnaire of assessment of environments in primary health care. *International Journal of Environmental Research and Public Health*, 17(20), 7611.
24. Nantsupawat, A., Kunaviktikul, W., Nantsupawat, R., Wichaikhum, O. A., Thienthong, H., & Poghosyan, L. (2017). Effects of nurse work environment on job dissatisfaction, burnout, intention to leave. *International Nursing Review*, 64(1), 91-98.
25. Neira, M. (2010). Healthy workplaces: a model for action. For employers, workers, policymakers and practitioners. World Health Organization.
26. Olds, D. M., Aiken, L. H., Cimiotti, J. P., & Lake, E. T. (2017). Association of nurse work environment and safety climate on patient mortality: A cross-sectional study. *International Journal of Nursing Studies*, 74, 155-161.
27. Parro Moreno, A., Serrano Gallardo, P., Ferrer Arnedo, C., Serrano Molina, L., de La Puerta Calatayud, M. L., & Barberá Martín, A. (2013). Influence of socio-demographic, labour and professional factors on nursing perception concerning practice environment in Primary Health Care. *Atencion Primaria*, 45(9), 476-485.
28. Poghosyan, L., Shang, J., Liu, J., Poghosyan, H., Liu, N., & Berkowitz, B. (2015). Nurse practitioners as primary care providers: creating favourable practice environments in New York State and Massachusetts. *Health Care Management Review*, 40(1), 46-55.
29. Rabie, T., Coetzee, S. K., & Klopper, H. C. (2016). The nature of community health care centre practice environments in a province in South Africa. *African Journal of Nursing and Midwifery*, 18(2), 27-41.
30. Rabie, T., Klopper, H. C., & Coetzee, S. K. (2017). Creating positive practice environments in a primary health care setting. *International Journal of Nursing Practice*, 23(4), e12536.
31. Roque, S. M. B. (2016). Impacto do ambiente de prática de enfermagem na qualidade e segurança dos cuidados [Doctoral dissertation, Universidade Católica Portuguesa].
32. Sermeus, W., Aiken, L. H., Van den Heede, K., Rafferty, A. M., Griffiths, P., Moreno-Casbas, M. T., ... & RN4CAST consortium. (2011). Nurse forecasting in Europe (RN4CAST): rationale, design, and methodology. *BMC Nursing*, 10(1), 1-9.
33. Smeds Alenius, L., Tishelman, C., Runesdotter, S., & Lindqvist, R. (2014). Staffing and resource adequacy strongly related to RNs' assessment of patient safety: a national study of RNs working in acute-care hospitals in Sweden. *BMJ Quality & Safety*, 23(3), 242-249.
34. Swiger, P. A., Patrician, P. A., Miltner, R. S. S., Raju, D., Breckenridge-Sproat, S., & Loan, L. A. (2017). The practice environment scale of the nursing work index: an updated review and recommendations for use. *International Journal of Nursing Studies*, 74, 76-84.
35. Titlestad, I., Haugstvedt, A., Igland, J., & Graue, M. (2018). Patient safety culture in nursing homes - a cross-sectional study among nurses and nursing aides caring for residents with Diabetes. *BMC Nursing*, 17(1), 1-9.
36. Wang, Y., Dong, W., Mauk, K., Li, P., Wan, J., Yang, G., ... & Darzi, A. (2015). Nurses' practice environment and their job satisfaction: a study on nurses caring for older adults in Shanghai. *PloS ONE*, 10(9), e0138035.
37. Wiskow, C., Albrecht, T., & de Pietro, C. (2010). How to create an attractive and supportive working environment for health professionals. *Health System & Policy Analysis*, 15, 1-48.
38. World Medical Association. (2013). Declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191-2194.
39. You, L. M., Aiken, L. H., Sloane, D. M., Liu, K., He, G. P., Hu, Y., ... & Sermeus, W. (2013). Hospital nursing, care quality, and patient satisfaction: Cross-sectional surveys of nurses and patients in hospitals in China and Europe. *International Journal of Nursing Studies*, 50(2), 154-161.
40. Zangaro, G. A., & Jones, K. (2019). Practice Environment Scale of the Nursing Work Index: A reliability generalization meta-analysis. *Western Journal of Nursing Research*, 41(11), 1658-1684.