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RESEARCH PAPER

Effect of Staff Shortage on Patient Safety and Quality of Care

[1]Suneel Naseem*, [2]Sherjeel Naseem and [3]Zunaira Amir

1. BSN Post RN Student, The Superior University Lahore, Department of Nursing, Punjab, Pakistan
2. BSN Post RN Student, The Superior University Lahore, Department of Nursing, Punjab, Pakistan
3. Program Co-ordinator, The Superior University Lahore, Department of Nursing, Punjab, Pakistan

Corresponding Author suneelnaseem0@gmail.com

ABSTRACT

The objective of study is to assess the effect of staff shortage on patient safety and quality of care**.** Staff shortage in healthcare facilities has become a prevalent and concerning issue globally. The shortage of healthcare professionals, including nurses, physicians, and support staff, has significant implications for patient safety and the quality of care provided. The study utilized a descriptive cross-sectional design and was conducted in various units of Sir Ganga Ram Hospital Lahore over four months from April to July 2024. A total of 200 nurses were selected using a convenience sampling technique. Data was collected through a structured questionnaire, including demographic information and an adopted Patient Safety and Quality of Care Inventory, consisting of 41 items and 12 dimensions. Ethical approval was obtained, and data analysis was performed using SPSS version 25. The study describes the demographic characteristics and knowledge levels of participants regarding staff shortages and patient safety. Participants were predominantly female (86%) and between 20-30 years old (46.5%). Most had 1-5 years of experience (56.5%) and held a Diploma in General Nursing (64%). Results reveal mixed perceptions of safety and supervision, with concerns about the impact of staff shortages on teamwork and patient safety, particularly regarding coordination across units and non-punitive responses to errors. Improving staffing levels and fostering stronger inter-unit collaboration are essential to enhance patient outcomes and safety measures.

Keywords: Effect, Healthcare, Nursing Staff, Patient Safety, Quality of Care, Staff Shortage, Workforce

Introduction

Staff shortage in healthcare facilities has become a prevalent and concerning issue globally. The shortage of healthcare professionals, including nurses, physicians, and support staff, has significant implications for patient safety and the quality of care provided (Machitidze et al., 2023).

The shortage of healthcare professionals has been attributed to various factors, including population growth, an aging workforce, inadequate recruitment and retention strategies, and increasing healthcare demands. As a result, many healthcare facilities struggle to maintain adequate staffing levels to meet the needs of their patient populations (Afework et al., 2023).

Staff shortage directly influences patient safety by compromising the ability of healthcare providers to deliver timely and effective care. Research has shown that understaffed healthcare settings are associated with an increased risk of medical errors, adverse events, and patient harm. Nurses and other frontline staff often face heavy workloads and fatigue, leading to decreased vigilance and attentiveness, which can further contribute to safety lapses (Aiken et al., 2023).

The quality of care provided in healthcare facilities is intricately linked to staffing levels. Insufficient staffing can impede the delivery of evidence-based practices, patient

education, and comprehensive care coordination. Patients may experience longer wait times, delayed interventions, and decreased access to essential services, negatively impacting their overall healthcare experience and outcomes (Tamata & Mohammadnezhad, 2023).

Adequate staffing levels are essential for the consistent implementation of evidence-based practices (EBPs) in healthcare. Evidence-based practices encompass established guidelines, protocols, and standards of care derived from rigorous research and clinical evidence. However, when staffing is insufficient, healthcare providers may struggle to adhere to these practices consistently. This can lead to variations in care delivery, missed opportunities for early intervention, and suboptimal patient outcomes (Lucas et al., 2023).

Patient education is a crucial component of quality care, enabling patients to understand their health conditions, treatment options, and self-care strategies. However, understaffed healthcare settings often face challenges in allocating sufficient time and resources for patient education. Nurses and other healthcare professionals may be stretched thin, limiting their ability to provide comprehensive education and support to patients and their families. This can result in misunderstandings, non-adherence to treatment plans, and increased risk of complications (Pérez-Francisco et al., 2020).

Literature Review

The effect of staff shortage on patient safety and quality of care is a complex and pressing issue in healthcare. Understanding the underlying causes and consequences of staffing challenges is essential for developing effective interventions to mitigate their impact (Tamata & Mohammadnezhad, 2023). The literature surrounding the impact of staff shortage on patient safety and quality of care in healthcare facilities provides valuable insights into a pressing issue affecting healthcare systems worldwide.

A study in Poland assessed nursing care rationing and its impact on patient safety. It found that higher Perceived Implicit Rationing of Nursing Care (PIRNCA) scores correlated with lower patient safety indicators. Key areas affected included supervisor expectations, teamwork, and error communication. Internal units reported higher PIRNCA scores compared to intensive care and surgical units, highlighting a significant link between care rationing and patient safety grades. (Witczak et al., 2021).

A literature review examined the links between nursing workload, nurse illness, burnout, service quality, and safety, including 45 studies. It revealed that high burnout levels in Primary Care nursing negatively impact care quality and patient safety. Further research is needed to clarify the relationship between these burdens and health outcomes for both nurses and patients (Pérez-Francisco et al., 2020).

A 2020 study surveyed 570 registered nurses in public and private hospitals to explore the link between patient safety practices and the nursing work environment. The results showed that 64.6% of nurses had positive perceptions of patient safety, influenced by factors like staffing adequacy and professional communication. The findings highlight the importance of improving the nursing work environment to enhance patient care quality and safety, suggesting that policymakers should prioritize these improvements (Mihdawi et al., 2020).

Material and Methods

This study used a descriptive cross-sectional design to evaluate patient safety and care quality.The population of study wrer registerd nurses of Sir Gangaram Hospital Lahore. About 200 sample size was calculated using 95% confidence interval. Data was collected from nurses using convenient sampling technique. Data were collected through quality of

care questionnaires (Copnell et al., 2009) measuring safety culture across 12 dimensions, utilizing a 5-point Likert scale. Pilot study was conducted on 10% sample size and questionnaire was reliable as chronbach alpha was 0.89 and valid as validity of questionare was 0.876. The data analysis was performed using SPSS version 25, generating descriptive statistics and frequency tables to summarize the findings. Ethical approval to conduct the study was obtained from hospital and written informed consent was taken from participants.

Results and Discussion

Table1
Demographic information of participants

Study Variable	Category	Frequency (F)	Percentage (%)
Age	20-30 years	93	46.5
	31-40 years	54	27.0
	41- 50 years	31	15.5
	> 50 years	22	11.0
Gender	Mal	28	14.0
	Female	172	86.0
Qualification	Diploma in General Nursing	128	64.0
	Post RN BSN	28	14.0
	BSN	36	18.0
	MSN	8	4.0
Job Experience	<1 years	43	21.5
	1-5 years	113	56.5
	> 5 years	44	22.0
Marital Status	Single	151	75.5
	Married	49	24.5
Department	Medical	137	68.5
	Surgical	63	31.5

Table 1 summarizes the demographic characteristics of the study participants. Most were aged 20-30 years (46.5%), with 86.0% identifying as female. The majority held a Diploma in General Nursing (64.0%), and most had 1-5 years of job experience (56.5%). Additionally, 75.5% were single, and 68.5% worked in the Medical department. This table provides a concise overview of the participants' age, gender, qualifications, experience, marital status, and departmental affiliations.

Table 2
Effect of staff shortage on overall perception of safety

Overall perception of safety	Strongly Disagree F & (%)	Disagree F & (%)	Neither Agree Nor Disagree F & (%)	Agree F & (%)	Strongly Agree F & (%)
a. It is just by chance that more serious mistakes do not happen around here (R)	35(17.5%)	21(10.5%)	20(10%)	64(32%)	60(30%)
b. Patient safety is never sacrificed to get more work done	17(8.5%)	26(13%)	27(13.5%)	53(26. %)	77(38.5%)
c. We have patient safety problems in this unit (R)	17(8.5%)	26(14%)	2w7(14.5%)	52(26%)	73(36.5%)
d. Our procedures and systems are good at preventing errors from happening	35(17.5%)	21(10.5%)	20(10%)	64(32%)	60(30%)

Table 2 presents participants' perceptions of safety in the context of staff shortages. Responses indicate a mixed view on safety, with 32% agreeing that serious mistakes are avoided by chance, while 38.5% strongly believe that patient safety is not sacrificed for increased workload. However, 36.5% acknowledge existing patient safety problems in their unit. Additionally, while 30% express confidence in the effectiveness of procedures and

systems to prevent errors, 17.5% strongly disagree, highlighting concerns about the adequacy of safety measures. Overall, the findings suggest significant apprehension regarding the impact of staff shortages on patient safety and quality of care.

Table 3
Effect of staff shortage on Non-punitive response to error

Non-punitive response to error	Strongly Disagree F & (%)	Disagree F & (%)	Neither Agree Nor Disagree F & (%)	Agree F & (%)	Strongly Agree F & (%)
a. Staff feel like their mistakes are held against them (R)	18(9%)	26(13%)	12(6%)	67(33.5%)	77(38.5%)
b. When an event is reported, it feels like the person is being written up, not the problem (R)	18(9%)	28(14%)	14(7%)	67(33.5%)	73(36.5%)
c. Staff worry that mistakes they make are kept in their personnel file (R)	35(17.5%)	21(10.5%)	20(10%)	64(32%)	60(30%)

Table 3 examines the effect of staff shortages on the non-punitive response to errors within the organization. The results indicate that a significant portion of staff feels apprehensive about the repercussions of mistakes. Specifically, 38.5% strongly agree that they do not feel their mistakes are held against them, while 33.5% agree with this sentiment. However, 36.5% feel that when an event is reported, the focus is more on the individual rather than the problem itself, suggesting a punitive atmosphere. Additionally, 30% worry that their mistakes may be documented in their personnel files. Overall, while there is some acknowledgment of a non-punitive approach, the findings highlight concerns about how errors are perceived and addressed, indicating a need for a more supportive environment that encourages open reporting and learning from mistakes.

Table 4
Effect of staff shortage on Management support for patient safety

Management support for patient safety	Strongly Disagree F & (%)	Disagree F & (%)	Neither Agree Nor Disagree F & (%)	Agree F & (%)	Strongly Agree F & (%)
a. Hospital management provides a work climate that promotes patient safety	17(8.5%)	26(13%)	14(7%)	66(33%)	77(38.5%)
b. The actions of hospital management show that patient safety is a top priority	17(8.5%)	28(14%)	16(8%)	66(33%)	73(36.5%)
c. Hospital management seems interested in patient safety only after an adverse event happens (R)	35(17.5%)	21(10.5%)	20(10%)	64(32%)	60(30%)

Table 4 evaluates the effect of staff shortages on management support for patient safety. The results indicate a mixed perception of management's commitment to fostering a safe environment. Specifically, 38.5% of participants strongly agree that hospital management provides a work climate that promotes patient safety, while 33% agree. However, only 36.5% believe that management's actions consistently demonstrate that patient safety is a top priority. Notably, 30% of respondents feel that management only shows interest in patient safety following adverse events, suggesting a reactive rather than proactive approach. Overall, while there is some recognition of management support for patient safety, the findings highlight the need for a more consistent and proactive commitment to creating a culture of safety within the organization.

Table 5
Effect of staff shortage on Frequency of events reported

Frequency of events reported	Strongly Disagree **F & (%)**	Disagree **F & (%)**	Neither Agree Nor Disagree **F & (%)**	Agree **F & (%)**	Strongly Agree **F & (%)**
a. When a mistake is made, but is caught (noticed, discovered) and corrected before it affects the patient, how often is this reported?	35(17.5%)	22(11%)	20(10%)	64(32%)	59(29.5%)
b. When a mistake is made, but has no potential to harm the patient, how often is this reported?	17(8.5%)	27(13.5%)	20(10%)	52(26%)	84(42%)
c. When a mistake is made that could harm the patient, but does not, how often is this reported?	18(9%)	28(14%)	16(8%)	52(26%)	86(43%)

Table 5 evaluates the frequency of reported events in the context of staff shortages. The results show that 32% agree and 29.5% strongly agree that mistakes caught and corrected before affecting patients are reported. Additionally, 42% strongly agree that mistakes with no potential to harm patients are documented, indicating proactive reporting of minor errors. For mistakes that could have harmed patients but did not, 43% strongly agree that these incidents are reported, highlighting a focus on safety. Overall, while there is a positive trend in reporting practices, the findings emphasize the need to further cultivate a culture of transparency and accountability, especially amid staff shortages.

Discussion

The study investigates the impact of staff shortages on patient safety and quality of care, revealing significant concerns that align with existing literature. The findings from the survey, particularly regarding the overall perception of safety and management support, highlight critical areas where staffing levels directly influence patient outcomes.

The results indicate that a significant proportion of staff (32%) believe that serious mistakes are avoided by chance, while 36.5% recognize that their unit has patient safety problems. These findings reflect a lack of confidence in the system's ability to consistently ensure safety. A comparable study by Aiken et al. (2023) found that high patient-to-nurse ratios were associated with increased risks of adverse events, including medication errors and falls, suggesting that overworked staff may be more prone to making mistakes. Another study by Stimpfel, Sloane (2022), also linked inadequate staffing with decreased patient satisfaction and poorer outcomes, underscoring the critical need for adequate staffing to ensure patient safety.

The findings reveals that 38.5% of staff do not feel their mistakes are held against them, but 36.5% believe that reporting an event focuses more on the individual than the problem. This punitive perception can discourage open error reporting, which is vital for improving patient safety. According to a study by Kohn, Corrigan, and Donaldson (2020), a non-punitive environment encourages reporting and facilitates learning from mistakes. However, under conditions of staff shortage, the workload and stress may exacerbate a blame culture, as noted in a study by Jones et al. (2021), where understaffed units reported higher levels of punitive responses to errors.

The current study shows mixed perceptions of management's commitment to patient safety. While 38.5% of staff believe that hospital management promotes a safe work environment, 30% feel that management only focuses on safety after an adverse event occurs. Research by Clarke, Rockett, Sloane, and Aiken (2022) found that management

support is critical in fostering a safety culture, but this is often undermined in under-resourced settings where staff are overworked and under-supported.

The results indicate that 43.7% of staff view shift changes as problematic for patients, and 38.5% agree that issues arise in information transfer between units. These findings are consistent with research by Arora et al. (2022), who identified poor handoff communication as a significant contributor to adverse events, particularly in understaffed units. Effective handoff processes are essential for ensuring continuity of care, but staff shortages can compromise these critical transitions.

Conclusion

This study highlights the significant impact of staff shortages on patient safety and the quality of care. The findings demonstrate that inadequate staffing levels are directly associated with increased errors, compromised patient safety, and reduced quality of care. Key issues identified include a mixed perception of safety among staff, insufficient supervisory support, poor communication, and ineffective error reporting. These issues, exacerbated by staff shortages, create a challenging work environment that undermines patient outcomes. Additionally, the lack of a proactive approach by management and insufficient teamwork across hospital units further complicates efforts to maintain patient safety.

Recommendations

- Prioritize hiring additional nurses to ensure optimal nurse-to-patient ratios, reducing workloads and improving patient safety.
- Regularly assess staffing needs, especially in critical care areas, and develop flexible policies to quickly address shortages with temporary hires or other solutions.
- Provide cross-training and continuous professional development for nurses to equip them with the skills to handle multiple roles during staff shortages.

References

Afework, A., Tamene, A., Tesfaye, A., Tafa, A., & Gemede, S. (2023). Status and factors affecting patient safety culture at dilla university teaching hospital: a mixed-method cross-sectional study. *Risk Management and Healthcare Policy*,3(2)1157-1169.

Aiken, L. H., Lasater, K. B., Sloane, D. M., Pogue, C. A., Rosenbaum, K. E. F., Muir, K. J., McHugh, M. D., Cleary, M., Ley, C., & Borchardt, C. J. (2023). *Physician and nurse well-being and preferred interventions to address burnout in hospital practice: factors associated with turnover, outcomes, and patient safety. JAMA Health Forum*,3(4),152-169.

Arora, V., Johnson, J., Lovinger, D., Humphrey, H. J., & Meltzer, D. O. (2022). Communication failures in patient sign-out and suggestions for improvement: a critical incident analysis. *Quality and Safety in Health Care*, 14(6), 401-407.

Clarke, S. P., Rockett, J. L., Sloane, D. M., & Aiken, L. H. (2022). Organizational climate, staffing, and safety equipment as predictors of needle stick injuries and near-misses in hospital nurses. *American Journal of Infection Control*, 30(4), 207-216.

Copnell, B., Hagger, V., Wilson, S., Evans, S. M., Sprivulis, P. C., & Cameron, P. (2009). Measuring the quality of hospital care: an inventory of indicators. *Internal medicine journal, 39*(6), 352-360.

Jones, J. W., Barge, B. N., Steffy, B. D., Fay, L. M., Kunz, L. K., & Wuebker, L. J. (2022). Stress and medical malpractice: Organizational risk assessment and intervention. *Journal of Applied Psychology*, 72(4), 727.

Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (Eds.). (2020). *To err is human: Building a safer health system*. *National Academies Press.* 22(3), 77-89.

Lucas, P., Jesus, É., Almeida, S., & Araújo, B. (2023). Relationship of the nursing practice environment with the quality of care and patients' safety in primary health care. *BMC nursing, 22*(1), 413.

Machitidze, M., Gogashvili, M., & Durglishvili, N. (2023). The Nurses' Role in Patient Safety-Literature Review. *American Journal of Biomedical Science & Research, 18*(6), 612-616.

Mihdawi, M., Al-Amer, R., Darwish, R., Randall, S., & Afaneh, T. (2020). The influence of nursing work environment on patient safety. *Workplace health & safety, 68*(8), 384-390.

Pérez-Francisco, D. H., Duarte-Clíments, G., del Rosario-Melián, J. M., Gómez-Salgado, J., Romero-Martín, M., & Sánchez-Gómez, M. B. (2020). Influence of workload on primary care nurses' health and burnout, patients' safety, and quality of care: *Integrative review. Healthcare*,12(4), 27-37.

Stimpfel, A. W., Sloane, D. M., & Aiken, L. H. (2022). The longer the shifts for hospital nurses, the higher the levels of burnout and patient dissatisfaction. *Health Affairs*, 31(11), 2501-2509.

Tamata, A. T., & Mohammadnezhad, M. (2023). A systematic review study on the factors affecting shortage of nursing workforce in the hospitals. *Nursing open, 10*(3), 1247-1257.

Witczak, I., Rypicz, Ł., Karniej, P., Młynarska, A., Kubielas, G., & Uchmanowicz, I. (2021). Rationing of nursing care and patient safety. *Frontiers in psychology, 12*, 676970-676980.