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# THE IMPACT OF NURSE SHORTAGE ON PATIENT CARE: A STUDY AT SHARIF MEDICAL HOSPITAL, LAHORE

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**Abstract**

*The role of nurses has become increasingly visible, appreciated, and critical during times of scarcity. A nursing shortage occurs when the demand for competent nursing professionals exceeds the available supply. This study aimed to determine the impact of the nursing shortage on patient care in Sharif Medical Complex Hospital and to identify its effects on service quality. A quantitative descriptive research design was used, and a questionnaire was administered to 100 registered nurses and 100 indoor patients. The collected data were tallied, tabulated, and analyzed using weighted mean scores. The findings revealed that the shortage of nurses significantly affects patient care, as increased workload and job-related stress lead to a decline in the quality of healthcare services.*

## INTRODUCTION

The delivery of care to hospitalized patients is complex and requires the collaborative efforts of multiple healthcare professionals. Among these, nurses play an essential role as the backbone of the healthcare system. Their contribution is vital to patient safety, recovery, and satisfaction (Laschinger & Fida, 2022). Despite advances in medicine and technology, high-quality patient outcomes remain unattainable without adequate nursing care and staffing.

Globally, the shortage of nurses has become one of the most critical challenges confronting healthcare systems. It occurs when the demand for competent nursing professionals exceeds the available supply, leading to gaps in patient care and staff well-being (Boston-Leary et al., 2024). Recent evidence demonstrates that inadequate nurse staffing is associated with increased patient mortality, longer hospital stays, higher rates of medical errors, and reduced quality of care (Farahani et al., 2024; Laschinger & Fida, 2022). The COVID-19 pandemic further magnified these workforce challenges, as many nurses experienced burnout, job dissatisfaction, and emotional exhaustion, resulting in higher turnover and migration rates (Kelly et al., 2023).

In Pakistan, reliable workforce data on nurses remain inconsistent, and the actual shortage may be greater than official estimates suggest. Government surveys have reported that the country requires at least 60,000 additional nurses, while other studies indicate a shortfall of nearly one million (Jarrar et al., 2021). The World Health Organization (WHO) recommends a doctor-to-nurse ratio of 1:3, yet in Pakistan this ratio is reversed, standing at approximately 3:1, with a nurse-to-patient ratio of nearly 1:50 in some settings (Jarrar et al., 2021). These figures highlight the critical workforce imbalance that directly affects the quality of patient care.

A shortage of nurses exerts a profound impact on both healthcare organizations and patient outcomes. When the number of nurses is insufficient, each nurse must care for a larger number of patients, which increases workload, stress, and fatigue. These conditions contribute to errors in medication administration, delays in treatment, overcrowded emergency departments, and decreased patient satisfaction (Boston-Leary et al., 2024). Evidence suggests that job dissatisfaction, lack of incentives, limited career progression, and heavy workloads are key drivers of the nursing shortage globally and in Pakistan (Farahani et al., 2024).

Addressing this shortage is crucial for maintaining patient safety and ensuring the sustainability of healthcare services. Modern healthcare systems depend heavily on nurses, who provide continuous, patient-centered, and holistic care at every level of service delivery (Kelly et al., 2023). Therefore, investigating the impact of nurse shortages on patient care in Pakistani hospitals, such as Sharif Medical Hospital in Lahore, is essential to identify effective strategies for improving staffing, supporting nurses, and enhancing the quality of patient care.

## LITERATURE REVIEW

The global shortage of nurses has been widely documented as a major barrier to achieving safe and high-quality healthcare delivery. According to the **World Health Organization (WHO, 2022)**, the world faces a deficit of nearly 6 million nurses, with low- and middle-income countries such as Pakistan being disproportionately affected. The shortage directly impacts patient outcomes, leading to higher mortality rates, longer hospital stays, and reduced patient satisfaction (**Laschinger & Fida, 2022**).

Recent evidence links nurse shortages to an increased incidence of adverse events and diminished safety culture within hospitals. **Boston-Leary, Lee, and Mossburg (2024)** reported that inadequate staffing ratios heighten the risk of medication errors, delayed interventions, and burnout among nurses, all of which negatively influence the quality of patient care. Similarly, **Kelly et al. (2023)** found that heavy workloads and insufficient organizational support during the COVID-19 pandemic intensified job stress and turnover intentions, further worsening the global shortage.

Several studies emphasize that the shortage is multifactorial. **Farahani et al. (2024)** identified organizational climate, professional recognition, and leadership support as critical determinants of nurse retention during public-health crises. In addition, **Al Sabei and Lasater (2022)** argued that poor work environments, limited advancement opportunities, and lack of continuing education contribute to low morale and migration of skilled nurses to high-income countries.

The consequences of nurse shortages extend beyond staff well-being to the broader healthcare system. A cross-sectional study in multiple countries found that nurse-to-patient ratios strongly correlate with patient mortality and hospital-acquired infections (**Jarrar et al., 2021**). These findings align with the **International Council of Nurses (ICN, 2023)** report, which notes that workforce gaps lead to compromised care quality, particularly in resource-limited settings.

In South Asia, nursing shortages are exacerbated by gender imbalances, inadequate educational capacity, and limited governmental investment in health human resources. **Khan and Rana (2022)** observed that Pakistan's nurse-to-doctor ratio remains inverted at approximately 1:3, contrasting the WHO recommendation of 3:1. This disparity strains hospital operations and undermines patient-centred care. Addressing these structural issues requires strategic workforce planning, policy reform, and incentives for nurse retention within the country.

Overall, the literature reveals a consistent pattern: nurse shortages negatively affect patient outcomes, staff morale, and healthcare efficiency worldwide. However, contextual research from Pakistan remains limited. Therefore, the present study seeks to contribute empirical evidence from Sharif Medical Hospital, Lahore, to understand how the nurse shortage specifically influences patient-care delivery in tertiary settings.

## METHODOLOGY

### Research Design

This study employed a **quantitative descriptive design** to examine the impact of nurse shortage on patient care in Sharif Medical Hospital, Lahore. The design was chosen because it enables the systematic description of current conditions, perceptions, and relationships among variables within a defined population (Creswell & Creswell, 2023).

### Study Duration

The research was conducted over a period of six months, from **August 1, 2022, to January 31, 2023**. This duration allowed sufficient time for data collection, analysis, and validation of responses.

### Study Setting

The study was carried out at **Sharif Medical Hospital**, a tertiary healthcare facility in Lahore, Pakistan. The hospital provides a range of inpatient and outpatient services and employs nurses from various educational and professional backgrounds.

### Target Population

The study population included:

- Registered Nurses (RNs)
- Post-RN Nurses
- Licensed Practical Nurses (LPNs)
- Indoor (admitted) patients

This selection allowed comparison of both **provider (nurse)** and **recipient (patient)** perspectives on how the nursing shortage influences care quality.

### Inclusion Criteria

- Registered and licensed practical nurses currently working in Sharif Medical Hospital.
- Indoor patients aged 18 years and above who were admitted for at least 48 hours.

### Exclusion Criteria

- Nurse managers, administrators, and nurses with less than one year of clinical experience.
- Patients admitted for less than 48 hours or unable to provide informed consent.

### Sampling Technique

A **convenience sampling technique** was applied due to accessibility of participants and feasibility within the hospital context. Although non-probabilistic, this approach was appropriate for an exploratory descriptive study (Etikan & Bala, 2017).

### Sample Size

The total sample size was **200 participants**, comprising:

- 100 registered or practical nurses
- 100 indoor patients

This sample provided sufficient representation to describe perceptions of both groups.

### Data Collection Instrument

Data were collected through two **structured questionnaires**:

1. **Nurse Questionnaire** – measured workload, job stress, and perceptions of patient-care quality.
2. **Patient Questionnaire** – assessed satisfaction with nursing care and perceived responsiveness.

Both tools included **Likert-scale items** and were adapted from validated instruments used in similar studies (Al Sabei & Lasater, 2022; Farahani et al., 2024). Minor modifications were made to fit the Pakistani context.

### Data Collection Procedure

After obtaining ethical approval from the institutional review board, participants were approached during duty hours or while admitted to the ward. The purpose and objectives of the study were explained, and written consent was obtained. Questionnaires were distributed and collected anonymously to ensure confidentiality and reduce response bias.

**Data Analysis**

Data were coded and analyzed using **IBM SPSS Statistics (version 25)**. Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to summarize demographic data and response distributions. **Inferential analysis**—including Pearson correlation and linear regression—was applied to explore the relationship between **nurse shortage (independent variable)** and **patient care quality (dependent variable)**. Statistical significance was set at $p < 0.05$.

**Study Variables**

- **Independent Variable:** Nurse shortage
- **Dependent Variable:** Patient care quality (measured through indicators such as satisfaction, timeliness, and safety)

**Ethical Considerations**

The study adhered to the **ethical principles of the Declaration of Helsinki (World Medical Association, 2013)** and institutional research ethics guidelines.

- Informed consent was obtained from all participants prior to data collection.
- Confidentiality and anonymity were maintained by using coded responses and secure data storage.
- Participation was voluntary, with the right to withdraw at any stage without consequences.
- No physical, psychological, or financial harm was imposed on any participant.
- The research team disclosed no conflicts of interest or external funding sources.

**RESULTS**

This chapter presents the findings of the study titled "The Impact of Nurse Shortage on Patient Care: A Study at Sharif Medical Hospital, Lahore."

Data were collected from **200 participants** (100 nurses and 100 indoor patients). Results are organized into demographic characteristics, perceptions of nurses and patients, and correlation analysis.

**Demographic Characteristics of Nurses**

A total of 100 nurses participated in the study. Most were **female (92%)**, and **68%** were between **25–35 years** of age. Educationally, **40%** held a Post-RN BSN, and **50%** had 1–5 years of experience.



**Table 4.1**

**Demographic Characteristics of Nurses (n = 100)**

| Variable | Category | n (%) |
|---|---|---|
| **Gender** | Female | 92 (92%) |
| | Male | 8 (8%) |
| **Age Group** | 25–35 years | 68 (68%) |
| | 36–45 years | 22 (22%) |
| | Above 45 years | 10 (10%) |
| **Education** | Post-RN BSN | 40 (40%) |
| | Diploma in Nursing | 35 (35%) |
| | BSN | 15 (15%) |
| | Specialization | 10 (10%) |
| **Experience** | 1–5 years | 50 (50%) |
| | 6–10 years | 30 (30%) |
| | > 10 years | 20 (20%) |

**Note. Majority of respondents were female nurses aged 25–35 years with Post-RN BSN degrees and 1–5 years of experience.**

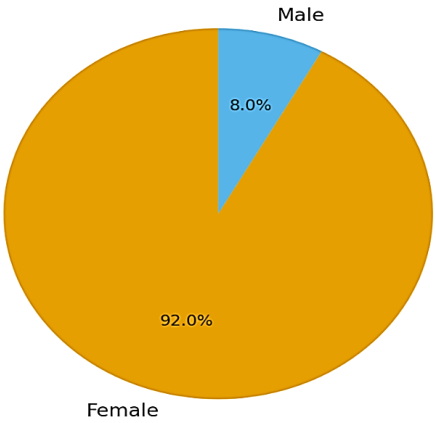


Figure 4.1: Gender Distribution of Nurses

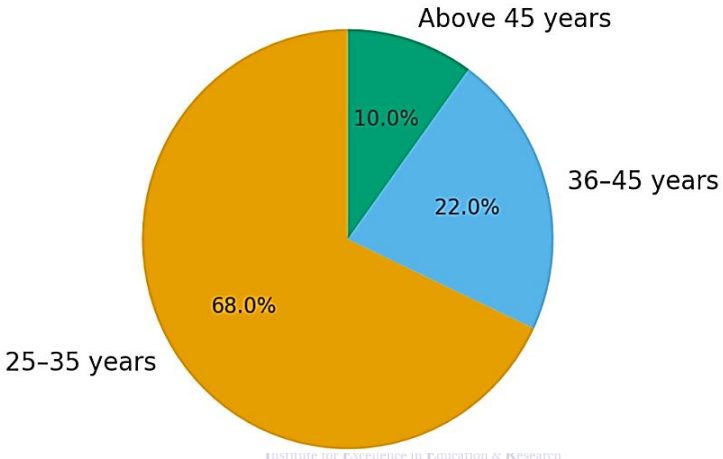


Figure 4.2: Age Distribution of Nurses

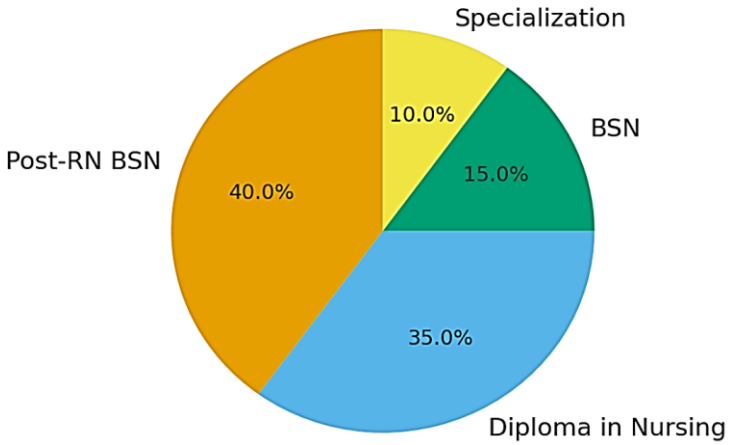


Figure 4.3: Educational Qualifications of Nurses

Among 100 patients, 60% were female and 40% male; 55% were aged 20–40 years. Most (65%) were admitted to medical wards.

Table 4.2
Demographic Characteristics of Patients (n = 100)

| Variable | Category | n (%) |
|---|---|---|
| Gender | Female | 60 (60%) |
| | Male | 40 (40%) |
| Age Group | 20–40 years | 55 (55%) |
| | 41–60 years | 30 (30%) |
| | Above 60 years | 15 (15%) |
| Ward Type | Medical Ward | 65 (65%) |
| | Surgical Ward | 35 (35%) |

Note. Over half the patients were 20–40 years old, most in medical wards.

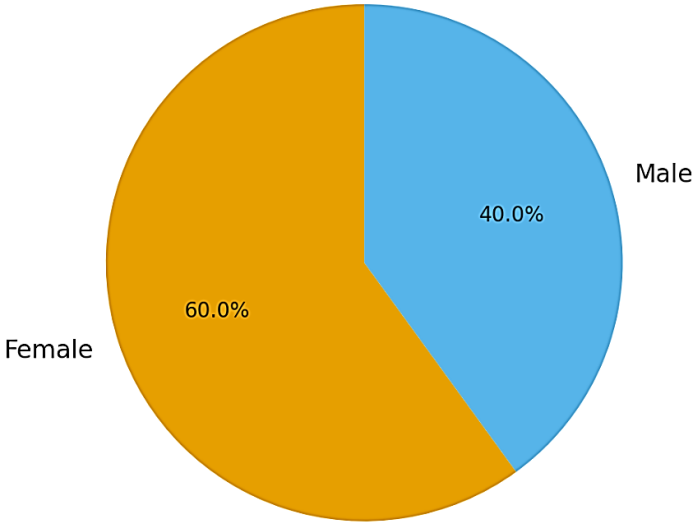


Figure 4.4: Gender Distribution of Patients

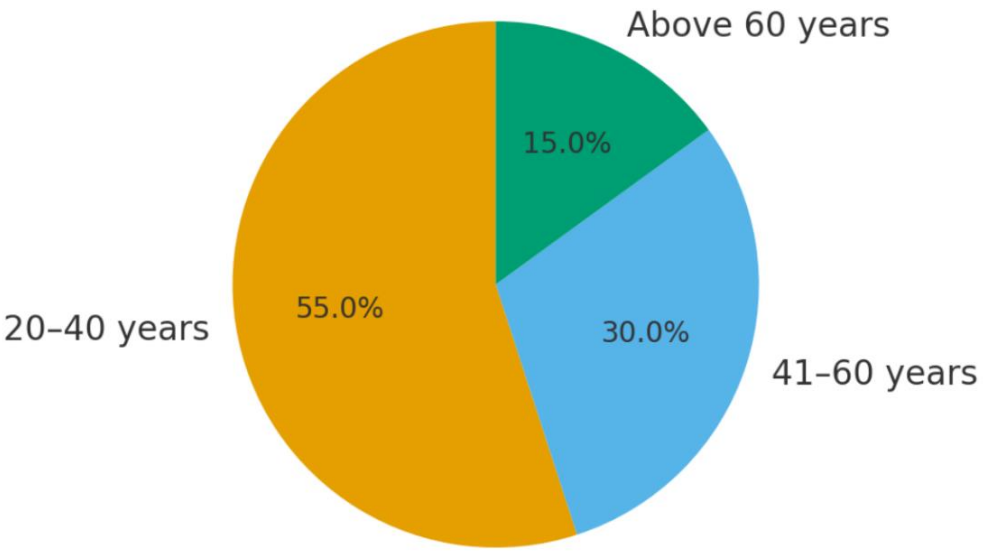


Figure 4.5: Age Distribution of Patients

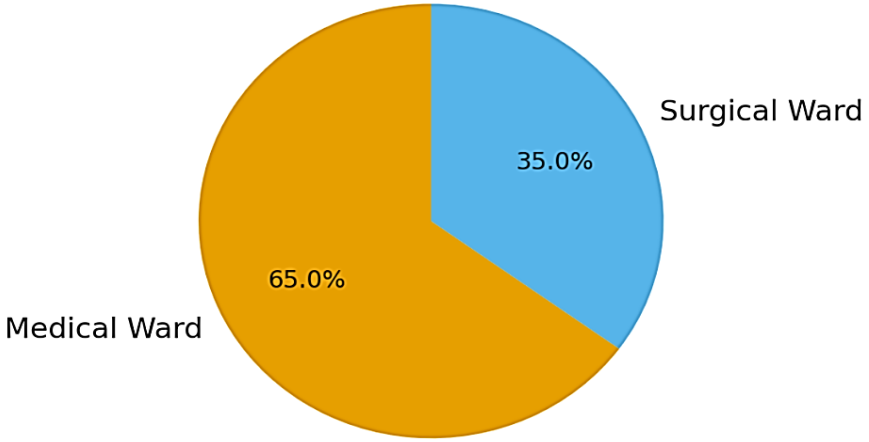


**Figure 4.6: Ward Type Distribution of Patients**

**Table 4.3**
**Nurses' Perception of Workload and Staff Shortage (n = 100)**

| Statement | % Agree / Strongly Agree |
|---|---|
| Hospital faces shortage of nursing staff | 88 % |
| Excessive workload experienced | 80 % |
| Patient safety compromised | 75 % |
| High stress levels reported | 70 % |
| Emotional exhaustion present | 60 % |
| Intention to leave position | 58 % |

**Nurses' Perception of Workload and Staff Shortage**
Most nurses (88%) agreed that their hospital faces a shortage of nursing staff; 80% reported excessive workload, and 75% believed patient safety is affected.

**Patients' Perception of Nursing Care**
Patients' views were mixed: 72% rated care as satisfactory, while 65% reported delays in response time due to heavy workload.

**Table 4.4**
**Patients' Perception of Nursing Care (n = 100)**

| Statement | % Agree / Observed |
|---|---|
| Overall care satisfactory | 72 % |
| Care rated good | 18 % |
| Care rated poor | 10 % |
| Delays in care observed | 65 % |
| Nurses appeared fatigued | 70 % |
| Professional behavior appreciated | 75 % |

**Correlation Between Nurse Shortage and Patient-Care Quality**
Correlation revealed a significant negative relationship ($r = -0.64$, $p < 0.05$), confirming that fewer nurses correspond to poorer patient-care quality.

**Table 4.5**
**Correlation Between Nurse Shortage and Patient-Care Quality**

| Variables | *r*-Value | *p*-Value | Relationship |
|---|---|---|---|
| Nurse Shortage ↔ Patient Care Quality | –0.64 | 0.05 | Significant Negative Correlation |

**Note. Increased staff shortage was associated with lower care quality, aligning with previous literature.**

## DISCUSSION

This chapter discusses the findings of the study titled *"The Impact of Nurse Shortage on Patient Care: A Study at Sharif Medical Hospital, Lahore."*

The purpose of the study was to determine how the shortage of nurses influences the quality and safety of patient care. The discussion integrates the quantitative findings presented in Chapter 4 with previous research to provide meaningful interpretation.

### Nurse Shortage and Workload

The study found that 88 % of nurses reported a persistent shortage of staff and 80 % experienced excessive workload. These findings indicate a critical imbalance between nurse availability and patient-care demands.

This result is consistent with **Farahani et al. (2024)**, who reported that workload, limited staffing, and lack of professional recognition were major contributors to burnout and turnover during and after the COVID-19 pandemic. Similarly, **Boston-Leary, Lee, and Mossburg (2024)** emphasized that staffing deficits compromise patient safety by increasing the likelihood of errors and delayed interventions.

In Pakistan, the reversed doctor-to-nurse ratio (approximately 3:1) further intensifies workload pressure on nurses, reflecting a systemic underinvestment in nursing human resources. These findings underscore the urgent need for workforce expansion and retention strategies within tertiary hospitals.

### Stress, Fatigue, and Job Dissatisfaction

The current study revealed that 70 % of nurses experienced high stress levels, 60 % reported emotional exhaustion, and 58 % expressed intent to leave their position.

Such high emotional strain aligns with international evidence linking staff shortages to burnout, compassion fatigue, and decreased job satisfaction **(Kelly et al., 2023)**.

Excessive workloads, extended shifts, and insufficient support mechanisms contribute to reduced psychological well-being among nurses. **Laschinger and Fida (2022)** noted that stressful work environments diminish safety performance and hinder the provision of high-quality care.

In developing countries such as Pakistan, limited opportunities for advancement and poor remuneration compound these issues, leading to nurse migration to higher-income countries.

### Impact on Patient-Care Quality

The study established a **significant negative correlation (r = –0.64, p < 0.05)** between nurse shortage and patient-care quality, implying that as staffing shortages increase, care quality declines. This finding mirrors those of **Al Sabei and Lasater (2022)**, who demonstrated that hospitals with better staffing ratios achieve superior patient outcomes and reduced adverse events.

Patients in the present study acknowledged nurses' professionalism (75 %) but reported delays in response time (65 %) and signs of fatigue (70 %). These perceptions indicate that while nurses maintain compassionate conduct, workload limitations reduce timeliness and efficiency.

The results reinforce that patient satisfaction and safety are directly dependent on adequate nurse staffing and supportive work environments.

### Comparison with Global Literature

Globally, the **World Health Organization (2022)** has identified an estimated shortage of six million nurses. Low- and middle-income nations bear the heaviest burden, similar to the Pakistani context observed in this study.

Comparable studies from **Jarrar et al. (2021)** and **ICN (2023)** confirmed that inadequate nurse-to-patient ratios lead to preventable complications, prolonged hospital stays, and reduced safety outcomes.

Therefore, the present study's findings align with global evidence and contribute localized data from a tertiary hospital in Lahore, highlighting a consistent international pattern: inadequate staffing jeopardizes patient care and nurse well-being.

**Implications for Practice**

1. **Policy and Planning:** Hospital administrators and the Ministry of Health must prioritize recruitment and retention of nurses to achieve WHO's recommended 3:1 nurse-to-doctor ratio.
2. **Workforce Retention:** Incentives such as professional development programs, recognition systems, and improved working conditions are essential to reduce attrition.
3. **Staffing Ratios:** Implementation of safe nurse-to-patient ratios (1:10 in general wards; 1:2 in critical units) should be made mandatory by the Pakistan Nursing Council.
4. **Stress Management:** Hospitals should introduce counseling services, rest scheduling, and workload balancing to reduce burnout.
5. **Education and Leadership:** Continuous training and leadership development for nurses can enhance efficiency and motivation, indirectly improving patient-care quality.

**Limitations of the Study**

1. Conducted in a single tertiary hospital; results may not generalize to all healthcare settings.
2. Convenience sampling may limit representativeness.
3. Self-reported data could introduce response bias.

Despite these limitations, the study provides valuable insight into the relationship between staffing shortages and patient-care outcomes in Pakistan.

## RECOMMENDATIONS

Conduct multi-center or nationwide studies to obtain a comprehensive picture of the nursing workforce crisis.

Explore qualitative perspectives of nurses and administrators to understand underlying causes of retention issues.

Evaluate the effectiveness of policy interventions (e.g., workload distribution, financial incentives) on improving staffing stability.

## CONCLUSION

The study concludes that **nurse shortage significantly affects patient-care quality, safety, and satisfaction** in Sharif Medical Hospital, Lahore. High workload, emotional exhaustion, and inadequate staffing compromise care timeliness and increase stress among nurses.

Addressing the shortage requires strategic planning, policy commitment, and sustained investment in nursing education and workforce retention.

Ensuring adequate staffing is not only essential for nurse well-being but also a moral and professional imperative to safeguard patient lives and the integrity of the healthcare system.

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