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THE IMPACT OF REGISTERED NURSES' TURNOVER ON PATIENT CARE AT TERTIARY CARE HOSPITALS OF PESHAWAR, KHYBER PAKHTUNKHWA; A CROSS SECTIONAL STUDY

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Nurses' turnover, patient care, tertiary care hospitals, job satisfaction, workload, Pakistan, retention, quality of care.

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Abstract

Background: Nurses' turnover is a persistent global healthcare challenge, causing staff shortages, decreased care quality, and compromised patient safety. Tertiary care hospitals face significant disruptions due to frequent staff changes, affecting teamwork and care continuity. Pakistan's healthcare sector, particularly in Peshawar, struggles with nurses' migration and job dissatisfaction.

Aim: This study investigated the impact of nurses' turnover on patient care in tertiary care hospitals of Peshawar.

Objectives: The objectives of this study were to assess the prevalence of nurses' turnover on patient care and to determine the impact of nurses' turnover on patient care outcomes.

Methods: A descriptive cross-sectional study was conducted among 204 registered nurses from Lady Reading Hospital and Khyber Teaching Hospital, using convenience sampling. The Anticipated Turnover Scale and MISSCARE Survey measured turnover

intention and care quality, respectively. Data analysis involved descriptive statistics and Pearson correlation tests.

Results: Findings showed 13.2% of nurses planned to leave immediately, while 14.7% were considering resignation. Most respondents (83.3%) were young female nurses aged 20-29. A significant negative correlation existed between nurse turnover intention and patient care quality ($r = -0.170$, $p = 0.015$). High turnover rates were observed in general and emergency wards due to excessive workload and burnout.

Conclusion: Nurses' turnover negatively impacts patient care outcomes by reducing service quality, continuity, and teamwork efficiency. Key contributors to turnover include excessive workload, lack of managerial support, and limited career opportunities. Strengthening leadership, improving working conditions, and implementing retention strategies can help stabilize the nursing workforce and ensure high-quality patient care.

INTRODUCTION

1.1 Background

Health organizations worldwide face ongoing challenges such as shortages of healthcare professionals and rising turnover, particularly among nurses. High turnover impairs the ability to meet patient needs and maintain high-quality care [1]. When staffing levels fall, the workload and stress for remaining staff increase which can decrease job satisfaction and productivity and eventually prompt nurses to leave their jobs [2]. Inadequate staffing also contributes to poor patient outcomes, such as higher mortality, infection, and error rates [3][4].

Nurses' turnover creates a widening gap between workforce supply and demand which adversely influences patient safety, quality of care and operational costs. Variations in economic, political and social conditions have produced unequal distribution of the health workforce, compounded by globalization and increased migration of healthcare professionals, especially nurses, from developing to developed nations [2]. Internationally, nurse turnover ranges from 15% in Australia to 44% in New Zealand, disrupting service delivery, raising operational costs and undermining quality of care

[5].Health systems are under pressure from a persistent rise in attrition among healthcare professionals, with nurse turnover emerging as one of the most pressing workforce issues. Turnover disrupts staffing levels, increases operational expenditure, and compromises quality and safety of care [1]. High attrition in a healthcare is especially problematic because staff stability directly affects service quality. Unequal distribution of healthcare workers is being intensified by globalization and increased migration of nurses from developing to developed nations, creating severe imbalances in supply and demand [2].

This level of mobility not only undermines care continuity but also increases costs associated with recruitment, orientation, training, and legal or reputational risks for healthcare organizations [5]. Evidence shows that turnover can diminish efficiency, escalate burnout among remaining staff and erode patient satisfaction scores, which are critical quality indicators for hospitals [6].This expansion has challenged the country's ability to ensure a stable supply of qualified nurses and exacerbated the consequences of turnover in hospitals [2]. Addressing this problem requires understanding local determinants—such as workload, job satisfaction, supervisory support, compensation, and leadership gaps—as well as their effects on nurse outcomes (burnout, stress) and patient outcomes (safety incidents, satisfaction). Generating such evidence is essential for designing effective retention strategies and sustaining quality of care in a competitive healthcare environment [1].

1.2 Purpose of the study

The primary purpose of studying nurse turnover in relation to patient care is to gain an in-depth understanding of the complex factors that influence why nurses voluntarily leave their jobs and how this impacts the healthcare system. Another goal was to explore how job satisfaction, workload, workplace culture, and generational differences contribute to nurses' intentions to leave.

Moreover. the purpose was to support the development of evidence-based retention strategies that strengthen the nursing workforce and improve patient outcomes in all healthcare environments.

1.3 Significance of the study

Nurses' turnover is a significant concern because it directly affects the stability and performance of healthcare systems. High turnover rates disrupt teamwork, increase workloads, and reduce morale among remaining staff, often leading to lower quality of care and patient dissatisfaction. Studies have shown that frequent nurse replacement results in decreased continuity of care, increased medical errors, and greater risk of patient complications such as falls or medication mistakes. These disruptions not only threaten patient safety but also place emotional and physical strain on the nursing workforce, contributing to stress and burnout.

Economically, nurse turnover generates considerable costs for healthcare organizations, including recruitment, training, and productivity losses during staff transitions. Indirect expenses, such as reduced efficiency and the loss of experienced staff, further weaken hospitals' ability to deliver consistent, high-quality care. Recognizing the significance of this issue allows healthcare leaders to focus on improving retention through supportive leadership, empowerment, and better work environments. By addressing turnover causes, healthcare institutions can enhance staff well-being, ensure patient safety, and maintain a stable, skilled nursing workforce.

1.4 Objectives:

To assess the prevalence of Nurses' turnover at Tertiary care hospitals of Peshawar, Khyber Pakhtunkhwa.

To determine the impact of Nurses' turnover on the patient care at Tertiary Care Hospitals of Peshawar, Khyber Pakhtunkhwa.

1.5 Research Questions:

1.What is the prevalence of nurses' turnover at Tertiary care hospitals of Peshawar, Khyber Pakhtunkhwa?

2. What is the impact of nurses' turnover on the patient care at Tertiary Care Hospitals of Peshawar, Khyber Pakhtunkhwa?

1.6 Operational definitions:

1.6.1 Nurses' Turnover:

It is defined as a permanent departure of a nurse from their position, either voluntarily or involuntarily. This includes any job change that results in a vacancy and necessitates replacement and will be measured through anticipated turnover scale (ATS).

1.6.2 Patient Care:

It encompasses outcomes related to safety and satisfaction specifically measured through matric such as patient falls, medication errors, and patient satisfaction scores and will be measured through MISSCARE survey.

1.6.3 Registered Nurse:

A person who is registered with Pakistan nursing council and is legally allowed to practice.

1.6.4 Impact:

It refers to the direct or indirect effect, change or influence that one variable, action or condition has on another. It may be positive or negative and immediate or long-term, depending on the context and will be measured through MISSCARE survey.

1.7 Summary:

The healthcare sector is struggling to deal with significant challenges, including staff shortages and high turnover rates, particularly among nurses. This turnover compromises patient care, increases workload and stress for remaining staff, and ultimately affects job satisfaction and productivity. Insufficient staffing leads to poor patient outcomes, such as increased mortality and error rates. The gap between workforce supply and demand widens, impacting patient safety, care quality, and operational efficiency. Globalization and migration exacerbate the unequal distribution of healthcare professionals, with nurse turnover rates varying significantly across countries. This turnover disrupts service delivery, raises costs, and undermines care quality. To address this issue,

it's essential to understand the local factors driving turnover, such as workload, job satisfaction, and leadership gaps, and use this evidence to develop effective retention strategies. By doing so, healthcare organizations can sustain high-quality care and improve patient outcomes.

Literature Review

2.1 Introduction

This chapter describes relevant review on the impact of nurses' turnover on patient care, especially in tertiary care settings. A descriptive review method was used to evaluate the existent reflection of data available on nurses' turnover and patient care from local, national and international context. This chapter begins with a general overview regarding nurses' turnover and patient care across the globe.

2.2 Review Method

A descriptive review method was adopted to analyze relevant studies published between 2021 to 2025. Research articles were selected from credible databases, focusing on cross-sectional and quantitative studies, that specifically involved registered nurses in tertiary care hospital. These studies examined factors contributing to nurses turnover and its direct or indirect impact on patient safety, care quality, and satisfaction.

2.3 Objectives of the Literature Review

- To explore recent global and national literature on nurses' turnover in tertiary hospitals.
- To identify the factors associated with nurses' turnover and how they affect patient care quality.
- To highlight gaps in the current literature and the need for evidence-based strategies to reduce turnover.

2.4 Search Strategy

Key words used in systematic search were Nurses' turnover, patient care quality, tertiary hospitals, patient safety, workload, job dissatisfaction, retention, health care outcomes. Latest search engines used included PubMed and Google Scholar.

The literature was decided on the basis of inclusion and exclusion criteria to be included in the study. Articles focusing on the effects of Nurses' turnover on quality of care and patient outcomes were prioritized. Recent studies from 2021-2025 were selected to be the part of the existing studies to have an updated data according to the current context.

2.5 Introduction

Nurses' turnover has become a major issue affecting the quality and continuity of patient care, particularly in tertiary care hospitals. High turnover rates of registered nurses can lead to staff shortages, increased workload, and reduced attention to patients' needs, ultimately compromising care outcomes.

The dynamic of nursing staff in tertiary care hospital play a pivotal role in determining patient care outcomes. Nurses' turn over, characterized by the rate at which the nursing professionals leave their positions has been increasingly recognized as a critical factor influencing the quality, safety and continuity of care delivered in these high equity setting.

In the context of Peshawar Khyber Pakhtunkhwa (KPK), Pakistan where health care demands are high and resources are often limited, understanding the impact of Registered Nurses' turnover on patient care at tertiary care hospitals is crucial. This literature review aims to synthesize the existing research on the topic exploring the relationship between RN turnover and patient outcomes and identifying potential strategies to mitigate the adverse effect of turnover on patient care.

A systematic review conducted by Sung-Heui Bae on "Noneconomic and economic impacts of nurse turnover in hospitals" in the International Nursing Review. The review examined 16 quantitative studies from acute hospital settings across multiple countries. It explored how nurse turnover affects costs, work processes, nurse outcomes, and patient outcomes. Nine studies focused on economic

impacts, showing turnover is costly (often multiple times a nurse's annual salary). Turnover negatively affects nurse staffing and outcomes. Relationships with workgroup processes and patient outcomes had partial support. Bae's review shows nurse turnover imposes significant economic burdens and affects care delivery [7].

Moreover, regarding turnover another study was conducted at an academic hospital in Gauteng Province, South Africa in critical care units (CCUs). They interviewed nine unit managers with over eight years of CCU experience face-to-face. The study found high nurse turnover was due to inadequate staffing, absenteeism, and heavy workloads. This led to not following nurse-patient norms, putting unskilled nurses in specialized areas, and compromised patient care. Managers said turnover made it hard to plan, organize, and control unit functions, which weakened care quality and patient outcomes [8].

Furthermore, a study was conducted by Shen, McGarry, and Gandhi. They examined the link between healthcare staff turnover and care quality in U.S. nursing homes. They analyzed 1.45 million facility-week observations from 13,826 nursing homes. Staffing payroll data and quality indicators like health inspection citations and scores were used. Higher turnover among nursing staff before inspections led to more health citations. It also led to lower quality scores based on assessments and claims. This shows turnover is associated with declining care quality. A 10% increase in turnover led to a modest rise in citations. Turnover negatively impacts care processes, patient safety, and quality. Stable staff is crucial for maintaining high-quality care [9].

A study was conducted by Arredondo regarding turnover in which they found that higher turnover of Registered Nurses (RNs) in primary care teams of the U.S. Veterans Affairs (VA) resulted in longer wait times for patients. This indicates that turnover among nurses has a negative impact on how quickly patients can access care [10].

In addition, a survey conducted at a private healthcare facility in the United Arab Emirates (UAE) investigated the pattern and impact of nurse turnover. The results showed that 69.9% of nurses intended to leave the organization. The study found that turnover intention was significantly associated with job satisfaction ($p < 0.01$) and workload ($p < 0.001$). While patient falls and

medication errors were not statistically linked to turnover, there was a significant reduction in patient satisfaction with nursing services, suggesting compromised quality of care. The authors pointed out that heavy workload, lack of managerial support, and a non-conducive work environment are key drivers of turnover, and declines in patient satisfaction imply adverse effects on care quality [2].

Similarly, in South Korea, a study titled "Association Between Nurses' Turnover and Nurses' Perception of Patient Outcomes: A Cross-Sectional Study" was conducted in 2025. It surveyed 159 nurses from 35 general hospitals to examine how nurse turnover relates to perceived patient care outcomes. The study measured turnover over the past 6 months and attitudes toward quality of care, safety, and adverse events. It found a significant positive association between higher turnover and poor perceptions of quality of care (i.e., higher turnover led to nurses perceiving lower quality). However, turnover was not significantly associated with perceptions of patient safety or adverse events after adjusting other factors [11].

Another study was done in 19 hospitals in the Netherlands to determine if improving the nursing work environment through differentiated nursing roles could reduce nurse turnover. The study surveyed 5,411 nurses before and after the changes. It was found that while some aspects of the work environment improved—such as teamwork and staffing support—the nurses' intention to leave their jobs did not decrease. Additionally, the changes did not lead to improvements in the quality of care foundations. This indicates that although some progress was made, simply changing roles was insufficient to reduce nurse turnover or enhance patient care quality. A broader and more supportive system is necessary to achieve a significant impact [12].

Likewise, a cross-sectional study was conducted at a tertiary care hospital in Karachi, Pakistan, to examine the factors affecting staff turnover and its impact on the quality of care. The study was carried out between May and October 2022 and included a sample of 80 clinical staff members selected through quota sampling. The researchers used validated tools, including the Anticipated Turnover Scale (ATS) and Brooks' Quality of Nursing Work Life (QNWL) scale, to assess turnover intention and work-life quality. The results showed that 61% of participants had a high intention to

leave their jobs. The study found that low work-life quality scores were significantly associated with a higher turnover intention, especially among nurses aged 31–50. The authors concluded that high turnover intention among healthcare staff can negatively affect continuity of care, team collaboration, and ultimately patient outcomes [13].

Furthermore, a study in three hospitals of Islamabad found high nurses' turnover negatively impacts healthcare delivery. This leads to delays in patient care and poorer health outcomes. Patient satisfaction and perceived care quality also decrease [14].

Another study conducted at Mardan Medical Complex in Khyber Pakhtunkhwa examined nurse workload effects. It surveyed 107 registered nurses on patient safety and care quality. Many nurses felt overworked due to inadequate staffing. Despite high workload, some nurses reported satisfaction but delivered care apathetically. Poor care quality linked to high workload and low nurse-to-patient ratio. Nurse workload negatively affects patient health. Standardizing nurse-patient ratios is essential for holistic patient care [15].

2.6 Summary:

Various studies across countries like the UAE, U.S, South Africa, South Korea, Netherlands and Pakistan highlight the negative impacts of nurses' turnover. Nurses leave due to heavy workload, lack of managerial support and poor work environment, leading to the lower patients' satisfaction. Nurses' Turnover adversely affects nurse staffing and outcomes, and is linked to declining care quality. Higher turnover leads to more health citations in nursing home, longer wait times in primary care, and compromised patient care in critical units. While improving work environments showed some benefits, but it was not enough to reduce nurses' turnover or enhanced care quality without broader support system.

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Methodology

3.1 Study design:

This research was a cross sectional study so we used a Descriptive cross sectional study design for conducting this research to explore how nurse turnover affects patient care in tertiary care hospitals.

3.2 Study setting:

The research was conducted in two tertiary care hospitals i-e LRH and KTH Peshawar, Khyber Pakhtunkhwa, Pakistan.

3.3 Study duration:

The study was conducted in a period of six months starting from 7 July, 2025 till December, 2025.

3.4 Population:

All registered nurses who were working in critical care areas of public tertiary care hospitals at Peshawar was our population. There were total 1450 registered nurses in the critical care areas of the mentioned hospitals.

3.5 Sample size:

Sample size of study was 204 calculated by Rao soft, keeping 95% confidence interval and 5 % margin error and 80% power

3.6 Sampling technique:

The sampling technique used in this study was convenience sampling .as we had limited resources in terms of time and money.

3.7 Selection criteria:

3.7.1 Inclusion criteria:

The registered nurses who were working in LRH and KTH, tertiary care hospitals of Peshawar with at least 4 years' experience in a related department.

3.7.2 Exclusion criteria:

Nurses on leave and who were not willing to participate were excluded from the study

Pakistan Journal of Medical & Cardiological Review
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Online ISSN 3007-2387
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3.8 Data collection tool:

Data was collected through an adopted questionnaire, which included:Demographic details , Nurse turnover-related questions , A patient care assessment scale MISSCARE survey

Cronbach alpha value of Anticipated turnover scale was 0.84 to 0.91 and MISSCARE was 0.88. The questionnaire consisted of two sections, one was ATS (anticipated turnover scale) and other was MISSCARE SURVEY.

3.9 Data collection procedure:

Permission was taken from HODs of the mentioned hospitals and the ethical review committee. Data collection lasted for four weeks. Participants received a briefing about the study, and written Informed consent was taken before distributing the questionnaires. A total of 204 nurses participated in the study. Questionnaires were distributed among the registered nurses and they themselves filled the questionnaire and returned to us.

3.10 Data collection analysis:

Data was entered and analyzed by using SPSS Latest version. Descriptive statistics such as mean, standard deviation, frequencies, and percentages were calculated. For categorical variables frequency and percentages were calculated, and for continuous variables mean and standard deviations were calculated. Categorical variables were presented through pie and bar chart. For association between nurse turnover and patient care Pearson correlation was applied.

3.11 Ethical Consideration:

Approval was taken from the Institutional Review Board. Participants signed informed consent forms. Anonymity and confidentiality were maintained. Participation was voluntary.

Results

This chapter contains a detailed description of the study results. Both descriptive and inferential statistics have been described in detail. Descriptive part contains frequencies and percentages of the categorical variables whereas mean and standard deviation have been described for the continuous variables. The inferential part contains all the necessary tests that we thought to be applied for

determining association or statistical difference in the mean across the different categories of the independent variables.

4.1 Demographic data

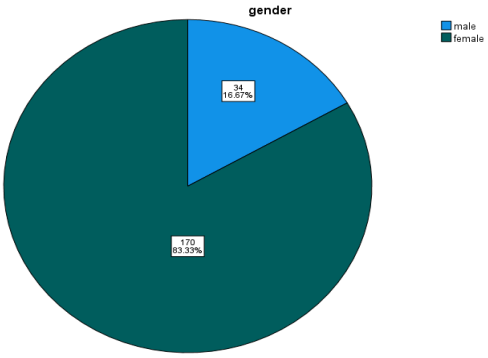
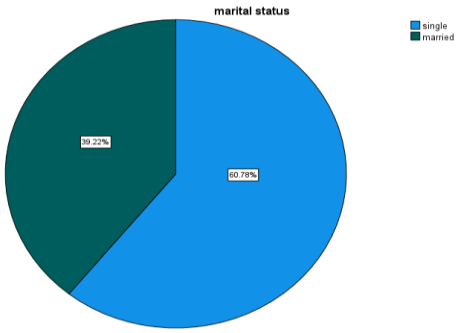


Figure 1: Gender of the participants

4.1.1 Gender: Regarding gender, 34(16,67%) were males whereas 170(83.33%) were females. Thus majority of the participants were male shown in the figure-I.



4.1.2 Marital Status: Regarding the marital status of the participants, majority (60.78%) were single and rest of (39.22%) were female.

Pakistan Journal of Medical & Cardiological Review
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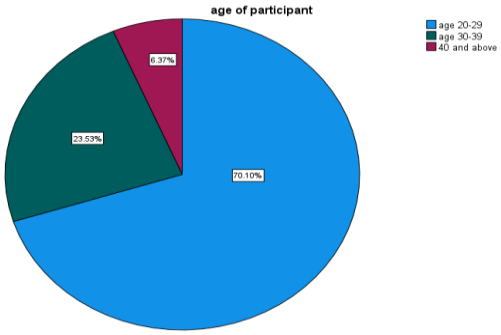

Figure 2: age of the participants

4.1.3 Age of participants:

As for as the age of the participants is concerned, majority (70.10%) of the participants were in age 20-29 category followed by (23.53%) who were falling in the age category of 30-39 as shown in figure-II

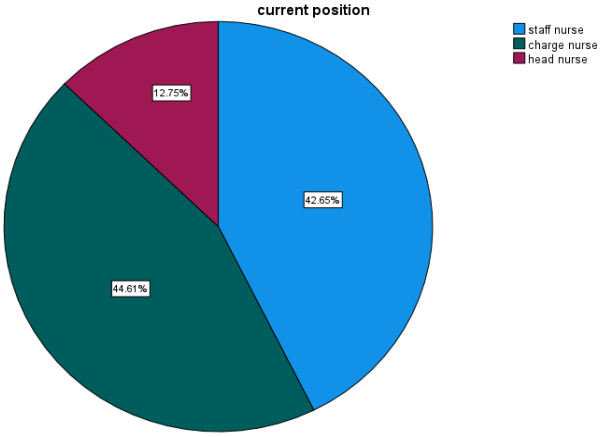

Figure 3: current job position

4.1.4 Current position:

Figure-III shows the distribution of nurses by their current positions. So majority of them were charge nurses (44.61%) followed closely by staff nurses (42.65%) and then head nurses (12.75%).

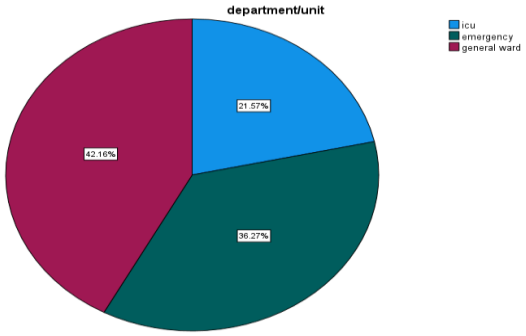

Figure 4: working unit of nurses

4.1.5 Working unit / department: Nurses were sampled from different units of the tertiary care hospitals. Figure-4 shows the distribution of nurses across three hospital units which include ICU, Emergency and general wards. The general wards had the largest percentage (42.16%) followed by emergency (36.27%) and then ICU (21.57%).

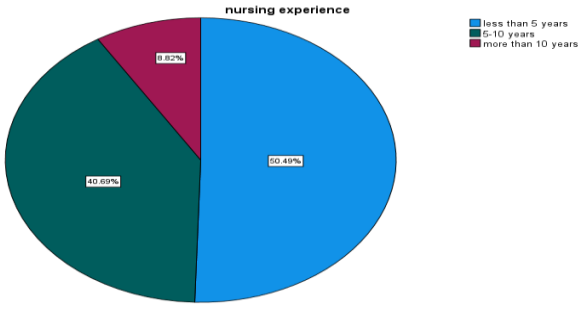

Figure 5: Experience of participants

4.1.6 Nursing experience:

Regarding experience of the participants, 50.4% had an experience of less than five years, 40.69% had an experience of 5-10 years and a very small portion (8.82%) had an experience of more than ten years as shown in figure-5.

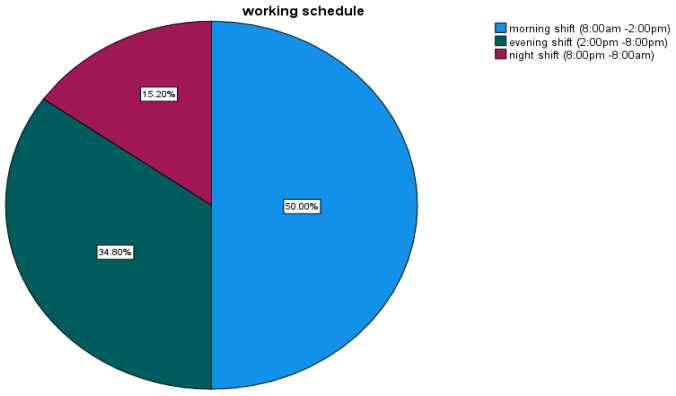

Figure 6: working schedule or shifts

4.1.7 Working schedule / shifts:

Regarding the working schedule of the registered nurses, 50% were doing their duties in morning shift, 34.8% were in evening and only 15.2% were working in night shift as shown in figure-6.

Figure 7: working place

4.1.8 Working place:

The pie chart shows the distribution between two working places: LRH and KTH. 67.16% of the participant were selected from LRH and 32.84% were selected from KTH.

Pakistan Journal of Medical & Cardiological Review
https://pakjmcr.com/index.php/1/about
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4.2 Section: Anticipated Turnover Scale (ATS)

Instructions: Please Indicate the Extent to Which You Agree with Each of the Following Statements (1) = Strongly Agree, (2) = Agree, (3) = Somewhat Agree, (4) Neutral, (5) Somewhat Disagree, (6) Disagree, (7) Strongly Disagree.

Table 1: Nurses turnover public tertiary care hospitals Peshawar 2025

QUESTIONS	SA	A	SWA	N	SWD	D	SD
1. I plan to leave my job as soon as possible	24 (11.8%)	27 (13.2%)	24 (11.8%)	8 (3.9%)	16 (7.8%)	59 (28.9%)	46 (22.5%)
2. I am seriously thinking about quitting my job.	26 (12.7%)	30 (14.7%)	30 (14.7%)	12 (5.9%)	16 (7.8%)	46 (22.5%)	44 (21.6%)
3. I am actively looking for a job outside this organization.	31 (15.2%)	40 (19.6%)	16 (7.8%)	25 (12.3%)	18 (8.8%)	47 (23.0%)	27 (13.2%)
4. I often think about quitting my job.	17 (8.3%)	40 (19.6%)	28 (13.7%)	19 (9.3%)	19 (9.3%)	55 (27.0%)	26 (12.7%)
5. I will probably not be working here a year from now.	27 (13.2%)	25 (12.3%)	20 (9.8%)	21 (10.3%)	32 (15.7%)	42 (20.6%)	37 (18.1%)
6. I have made plans to leave my job.	36 (17.6%)	43 (21.1%)	20 (9.8%)	4 (2.0%)	6 (2.9%)	58 (28.4%)	37 (18.1%)

Pakistan Journal of Medical & Cardiological Review
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7. I would like to continue working for this organization.	55 (27.0%)	72 (35.3%)	22 (10.8%)	19 (9.3%)	16 (7.8%)	13 (6.4%)	7 (3.4%)
8. I see myself working here in the next few years .	47 (23.0%)	61 (29.9%)	15 (7.4%)	19 (9.3%)	22 (10.8%)	28 (13.7%)	12 (5.9%)
9. I would recommend this job to a friend.	67 (32.8%)	58 (28.4%)	19 (9.3%)	18 (8.8%)	7 (3.4%)	20 (9.8%)	15 (7.4%)
10. I feel loyal to this organization.	119 (58.3%)	57 (27.9%)	10 (4.9%)	10 (4.9%)	2 (1.0%)	1 (0.5%)	5 (2.5%)
11. I am satisfied with my job.	90 (44.1%)	65 (31.9%)	20 (9.8%)	11 (5.4%)	8 (3.9%)	2 (1.0%)	8 (3.9%)
12. I am committed to this organization.	75 (36.8%)	68 (33.3%)	20 (9.8%)	11 (5.4%)	9 (4.4%)	16 (7.8%)	5 (2.5%)

The above table-2 is related to the questions asked from registered regarding their turnover. The table-2 result shows that the nurses response to statement “I plan to leave my job as soon as possible” 28.9% responded in disagree, 22.5% responded in strongly disagree, 13.2% responded in agree to leave the job as soon as possible. Regarding statement "I am seriously thinking about quitting my job." Disagree (22.5%) is a top response regarding quitting the job. Responses are mixed with agree (14.7%) and somewhat agree (14.7%) showing some consideration about quitting. Regarding Statement 3: "I am actively looking for a job outside this organization.” (23.0%) responded in disagree while some responded in agree (19.6%) and strongly agree (15.2%) they're looking elsewhere. Regarding Statement 4: "I often think about quitting my job." Some responded in disagree (27.0%) while (19.6%) responded in agree showing that they think about quitting Regarding Statement 5: "I will probably not be working here a year from now." Most respondents disagree (20.6%) and somewhat disagree (15.7%) with not being there in a year. Smaller portions strongly agree (13.2%).

Pakistan Journal of Medical & Cardiological Review
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Regarding Statement-6: I have made plans to leave my job. (18.1%) strongly disagree, (28.4%) disagree, (21.1%) agree. About (28.4%) of respondents disagreed and (18.1%) strongly disagreed having plans to leave their job, while only about (21.1%) agreed to leave their job. Regarding Statement-7"I would like to continue working for this organization" About (35.3%) of respondents agreed wanting to continue working for the organization, while about (27.0%) strongly agreed and (10.8%) were somewhat agreed.

Regarding Statement- 8" I see myself working here in the next few years. (29.9%) of respondents agreed" (23.0%) were strongly agreed with seeing themselves working there in the next few years, while about (13.7%) were strongly disagreed. Regarding Statement-9" I would recommend this job to a friend" About (32.8%) of respondents strongly agreed with recommending the job to a friend, while about (28.4%) agreed and (9.8%) disagreed. Regarding Statement 10: "I feel loyal to this organization." A majority of nurses (58.3%) were found to be strongly agreed they feel loyal, with another (27.9%) agreed. Only a small percentage (0.5%) were disagree. They don't feel loyal to the organization. Regarding Statement-11 "I am satisfied with my job."(44.1%) of nurses strongly agree they were satisfied with the job, (31.9%) were agree. About (5.4%) were neutral, a smaller percentage of (3.9%) strongly disagree and (1%) disagree who aren't satisfied. Regarding Statement-12 "I am committed to this organization."(36.8%)strongly agree they're committed, and 33.3% agree. Some (5.4%) were neutral, and a small percentage (2.5%) was strongly disagreeing and only (7.8%) disagree were not committed.

4.3 MISSCARE Survey - Missed Nursing Care

Instructions: Please Indicate How Often the Following Elements of Patient Care Are Missed On Your Unit (1 = Never Missed, (2) =Rarely Missed, (3) = Occasionally Missed, (4) = Frequently Missed, (5) = Always Missed):

Table 2: Patient care

QUESTIONS	NM	RM	OM	FM	AM

1. Vital Signs Assessed as Ordered.	170 (83.3%)	27 (13.2%)	5 (2.5%)	1 (0.5%)	1 (0.5%)
2. Monitoring Of Intake And Output.	149 (73.0%)	38 (18.6%)	9 (4.4%)	5 (2.5%)	3 (1.5%)
3. Ambulation Of Patients Three Times Per Day Or As Ordered.	106 (52.0%)	66 (32.4%)	27 (13.2%)	4 (2.0%)	1 (5%)
4. Turning Patient Every 2 Hours.	93 (45.6%)	61 (29.9%)	29 (14.2%)	10 (4.9%)	11 (5.4%)
5. Feeding Patients When Food Is Still Warm.	99 (48.5%)	44 (21.6%)	32 (15.7%)	15 (7.4%)	14 (6.9%)
6. Patient Education About Illness, Tests, And Diagnostic Studies.	147 (72.1%)	41 (20.1%)	10 (4.9%)	5 (2.5%)	1 (0.5%)
7. Emotional Support To The Patient And /Or Family.	134 (65.7%)	45 (22.1%)	16 (7.8%)	7 (3.4%)	2 (1.0%)
8.Patient Bathing And Skin Care.	91 (44.6%)	52 (25.5%)	44 (21.6%)	8 (3.9%)	9 (4.4%)
9.Oral Hygiene.	140 (68.6%)	45 (22.1%)	8 (3.9%)	7 (3.4%)	2 (1.0%)
10. Assisting Patient with Toileting Needs Within 5 Minutes Of Request.	77 (37.7%)	61 (29.9%)	44 (21.6%)	10 (4.9%)	12 (5.9%)
11 Response To Call Lights Within 5 Minutes.	120 (58.8%)	49 (24.0%)	24 (11.8%)	9 (4.4%)	2 (1.0%)
12.PRN Medication Requests Acted On Within 15 Minutes.	128 (62.7%)	34 (16.7%)	25 (12.3%)	17 (8.3%)	0

Pakistan Journal of Medical & Cardiological Review
https://pakjmcr.com/index.php/1/about
Online ISSN 3007-2387
Print ISSN 3007-2379

13.Assessing The Effectiveness Of Medications.	138 (67.6%)	53 (26.0%)	6 (2.9%)	5 (2.5%)	2 (1.0%)
14.Full Documentations Of All Necessary Data.	164 (80.4%)	22 (10.8%)	17 (8.3%)	1 (0.5%)	0
15.Handwashing Between Patients .	117 (57.4%)	58 (28.4%)	13 (6.4%)	12 (5.9%)	4 (2.0%)
16.Bedside Glucose Monitoring As Ordered.	171 (83.8%)	24 (11.8%)	5 (2.5%)	4 (2.0%)	0

Regarding Question-1 " Vital Signs Assessed as Ordered" A large majority (83.3%) never missed assessing vital signs as ordered, (13.2%) rarely missed, and very few (2.5%) occasionally missed, (0.5%) frequently missed, and (0.5%) always missed. Regarding Question-2 "Monitoring of Intake and Output" (73.0%) never missed monitoring intake and output.18.6% rarely missed, 4.4% occasionally missed, 2.5% frequently missed, and 1.5% always missed. Regarding Question-3, "Ambulation of Patients Three Times Per Day or as Ordered" 52.0% never missed ambulating patients as ordered. (32.4%) rarely missed, 13.2% occasionally missed, 2.0% frequently missed, and 5% always missed. Regarding Question-4, "Turning Patient Every 2 Hours" 45.6% never missed turning patients every 2 hours.29.9% rarely missed, 14.2% occasionally missed, 4.9% frequently missed, and 5.4% always missed.

Regarding Question-5, "Feeding Patients When Food Is Still Warm. 48.5% never missed feeding patients when food was warm.21.6% rarely missed, 15.7% occasionally missed, 7.4% frequently missed, and 6.9% always missed. Regarding Question-6, Patient Education about Illness, Tests, and Diagnostic Studies" A significant majority (72.1%) fall into the first category, 20.1% in the second, with decreasing percentages in subsequent categories (4.9%, 2.5%, 0.5%). Regarding Question-7, "Emotional Support to The Patient and /Or Family" 65.7% was in the first category, 22.1%, 7.8%, 3.4%, and 1.0% in subsequent categories, showing a gradual decrease.

Pakistan Journal of Medical & Cardiological Review
https://pakjmcr.com/index.php/1/about
Online ISSN 3007-2387
Print ISSN 3007-2379

Regarding Question-8, "Patient Bathing and Skin Care. Distribution is more spread out (44.6%, 25.5%, 21.6%, 3.9%, and 4.4%). Regarding Question-9, "Oral Hygiene" Majority (68.6%) in the first category.22.1%, 3.9%, 3.4%, and 1.0% in subsequent categories. Regarding Question-10, "Assisting Patient with Toileting Needs Within 5 Minutes of Request" More even distribution across first three categories (37.7%, 29.9%, 21.6%).4.9%, 5.9% in the last two categories. Regarding Question-11, "Response to Call Lights Within 5 Minutes" A majority (58.8%) fall into the first category.24.0%, 11.8%, 4.4%, and 1.0% in subsequent categories.

Regarding Question-12 which says that PRN Medication Requests Acted On Within 15 Minutes, (62.7%) were in the first category, 16.7%, 12.3%, 8.3%, and 0% in subsequent categories. Regarding-13, "Assessing The Effectiveness of Medications" (67.6%) were in the first category.26.0%, 2.9%, 2.5%, and 1.0% in subsequent categories. Regarding Question-14, "Full Documentations of All Necessary Data" Majority (80.4%) were in the first category.10.8%, 8.3%, 0.5%, and 0% in subsequent categories. Regarding Question-15, "Handwashing Between Patients.57.4% in the first category" 28.4%, 6.4%, 5.9%, and 2.0%. Regarding Question-16, "Bedside Glucose Monitoring as Ordered" A significant majority (83.8%) were in the first category.11.8%, 2.5%, 2.0%, and 0% in subsequent categories.

4.5 Descriptive statistics

The two outcome variables were transformed into a continuous variables and then descriptive statistics like mean, maximum, minimum and standard error were calculated as the both the questionnaires were Likert scales that is one questionnaire was on nurses 'turnover and the other was related to patients' care. The mean of nurses' turnover was found to be 40.62 with a standard deviation of 9.76 for nurses 'turnover whereas the mean for patients 'care was 25.68 with a standard deviation of 7.64 as shown in table-3.

Table 3: descriptive statistics of the transformed continuous data

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
total score	204	51.00	14.00	65.00	40.6176	9.75618	95.183
totalscore2	204	42.00	16.00	58.00	25.6863	7.63706	58.325
Valid N (list wise)	204						

4.5 Inferential statistics

4.5.1 Correlation

Karl Pearson correlation test was run to see whether there is a correlation between Nurses' turnover and Patients' care, so, it was found significant (r = -0.170, p = 0.015). this indicate that as the turnover increases, the patients' care is drastically affected as shown in table-4.

Table 4: Correlation between Nurses' turnover and Patients' care

		total score1	totalscore2
total score	Pearson Correlation	1	-.170*
	Sig. (2-tailed)		.015
	N	204	204
totalscore2	Pearson Correlation	-.170*	1
	Sig. (2-tailed)	.015	
	N	204	204

Table 5: group statistics

gender	N	Mean	Std. Deviation	Std. Error Mean

Pakistan Journal of Medical & Cardiological Review
https://pakjmcr.com/index.php/1/about
Online ISSN 3007-2387
Print ISSN 3007-2379

totalscore1	male	34	36.1471	10.30779	1.76777
	female	170	41.5118	9.42126	.72258

= 4.5.2 Application of Independent Samples Test to see mean difference between males and females regarding turnover

Independent samples T-test was applied to see whether there is any difference between males and females staff regarding turnover. It was found to be significant across the gender (p= 0.015, T = -2.983, CI = -8.91038, -1.81904) as shown in table-6.

Table 6: Application of independent Samples T-test for gender regarding patients' care

	F	Sig	t	df	lower	upper
Equal variances assumed	0.287	0.593	-2.983	202	-8.91038	-1.81904
Equal variances not assumed			-2.809	44.705	-0.21183	-1.51758

Similarly, to see whether there is a difference in the mean scores of males and females regarding patients 'care, independent samples T-test was applied and was not found significant (P = 0.109, CI = -0.81141, 7.70552) as shown in table-7

Table 7: Application of independent samples T-test for gender regarding patients' care

	F	Sig	t	df	lower	upper
Equal variances	38.249	<0.01	2.431	202	0.65166	6.24246

assumed						
Equal variances not assumed		P = 0.109	1.640	36.830	-0.81141	7.70552

Discussion

5.1 Introduction:

This chapter discusses the findings of the study in relation to the research question, reflecting on these findings within the context of existing literature related to the study's phenomenon. A descriptive cross-sectional study was conducted among 204 registered nurses across the province using convenience sampling. Data collection utilized an adopted questionnaire, and analysis was performed using the latest version of SPSS. Significant results are discussed in this chapter, supported by relevant prior literature. The chapter summary concludes the overall discussion of the study's findings.

5.2 Nurses' turnover and patient care:

Turnover among nurses is a crucial factor that significantly impacts the quality of patient care. Various factors contribute to turnover, including age, gender, marital status, years of nursing experience, current position, department, work schedule, and workplace. Importantly, the level of turnover is modifiable, suggesting that it can be influenced and controlled through targeted strategies.

A descriptive cross-sectional study was conducted among nurses nationwide. The study's findings are based on data from 204 participants currently employed at LRH and KTH. Data collection utilized adapted questionnaires, specifically the Anticipated Turnover Scale (ATS) and the MISSCARE survey, which includes twenty-eight Likert-scale questions. The study assessed how turnover affects quality care and its relationship with specific demographic variables using these questionnaires.

Descriptive statistics for all categorical and continuous variables were computed. Mean differences and other required inferential statistics were calculated accordingly. According to the study, most demographic factors influencing turnover were significantly associated with the quality of care. The findings indicate a significant relationship between demographic variables and both turnover and quality of care.

According to the demographic results, most of the participants were female nurses (83.33%), with 70.1% in the 20–29-year age range. Half of them were part of a younger and relatively less experienced nursing workforce. This can be compared with previous research that were conducted in Saudi Arabia and United States, which also found that nurses in the early stages of their careers tend to have higher turnover intentions [16][17].

Female nurses tend to have higher turnover scores compared to male nurses. This implies that female nurses might experience more stress due to workload, role strain, and limited flexibility in the workplace. These findings align with research that was conducted in acute care hospital South Korea, which found similar differences in turnover behavior based on gender [18].

According to the Anticipated Turnover Scale (ATS), a significant percentage of nurses showed moderate to high intentions of leaving their jobs. Specifically, 13.2% of nurses agreed they had plans to quit, and 14.7% often thought about quitting. The main factors contributing to this turnover intention were lack of supportive leadership and poor working conditions. A study conducted in Indonesia highlighted that hospitals with positive leadership styles, effective orientation programs, preceptorship, and mentoring had lower turnover rates and better care quality [19].

This study found a weak negative correlation ($r = -0.170$, $p = 0.015$) between turnover intention and patient care performance scores. This means as turnover intention increases, patient care performance scores tend to decrease. The significance value ($p = 0.05$) indicates that frequent staff replacement and instability subtly but consistently degrade care quality. A study conducted in United State brought similar results to our study. Similarly, another study also brought the same results. So, both of the studies are consistent with our study [17][20].

Our study's results show that most nurses were working in general wards (42.16%), followed by mergency (36.27%), and ICU (21.57%). This distribution shows that turnover pressures are more pronounced in general and emergency wards, where nurse-to-patient ratios are higher and workload is heavy. These observations match with the study conducted in northern Taiwan, this found that emergency departments and general wards experience higher burnout and turnover due to workload intensity and staffing [21].

In Pakistan, there's shortage of nurses. This has led to a cycle where when skilled nurses leave, their workload gets spread among fewer staff. This creates more pressure, especially when dealing with international standards. Participants noted that this extra workload and burnout lead to more nurses leaving. Another study was conducted in California; USA backs up, showing that not having enough staff results in higher mortality rates and lower patient satisfaction [22].

In contrast research was conducted in United States, that a moderate level of turnover might bring new ideas and energy into organizations, the current study found no such benefit. In tertiary care hospitals, where patients' conditions are complex and care requires constant staff experience, changes tend to cause confusion and inefficiency rather than innovation. The findings suggest that consistent staffing, rather than frequent turnover, is more beneficial for both nurses and patients [23].

According to the study, excessive workloads, lack of appreciation, and limited career growth opportunities are major reasons for turnover. These findings align with study conducted in Australia, where found that supportive supervision and organizational recognition play a crucial role in retaining nursing staff. The same trend was observed in this research, where dissatisfaction with working conditions and limited institutional support were strongly linked to turnover intentions [24].

The research findings indicate that in South Korea, nurses' perception of the quality of patient care was significantly and positively impacted by lower turnover rates. Put simply, when turnover was high, it negatively affected how nurses perceived the quality of care [25]. Additionally, a study conducted in the UAE revealed that higher turnover intentions among nurses were linked to lower

job satisfaction ($p < 0.01$) and increased workload ($p < 0.001$), ultimately leading to compromised care quality [26].

5.3 Summary:

This chapter discusses how nurse turnover affects patient care quality. A study was done with 204 registered nurses from two tertiary hospitals using the Anticipated Turnover Scale and the MISSCARE Survey.

Results showed demographic factors like age, gender, and experience were linked to turnover intention and perceived care quality. Most participants were young female nurses who had higher turnover intentions due to heavy workload and lack of appreciation. There's a negative correlation between turnover and care quality. Turnover was more of an issue in general and emergency wards. Findings match international research emphasizing supportive leadership and adequate staffing for retention and patient satisfaction. High turnover hurts teamwork and patient trust, leading to burnout and inefficiency. Improving nurse retention through recognition, leadership support, and better conditions is crucial for staff stability and patient care.

Conclusion

This research comprehensively examined the influence of registered nurses' turnover on the quality of patient care at tertiary care hospitals of Peshawar, Khyber Pakhtunkhwa. The findings show that frequent turnover among nurses adversely affects the standard, safety, and continuity of patient care. A statistically significant but weak negative correlation between turnover intention and patient care outcome was found, indicating that as the tendency to leave increases, the quality of patient care correspondingly decreases.

The demographic results revealed that the majority of participants were young female nurses with less than five years of professional experience. This suggests that the nursing workforce in these hospitals is relatively inexperienced and therefore more susceptible to occupational stress and turnover. Major contributing factors identified included excessive workload, limited managerial support, poor working environments, and insufficient career growth opportunities. These findings

align with international literature, which associates such conditions with heightened burnout and job dissatisfaction among nurses.

High turnover was observed to disrupt teamwork and care coordination, leading to delays in patient response, incomplete documentation, and reduced emotional support for patients and families. Consequently, the quality and safety of patient care were compromised, and the morale of remaining staff weakened. The results highlight the urgent need for healthcare institutions to adopt effective retention measures, enhance leadership support, ensure equitable nurse-to-patient ratios, and provide opportunities for professional growth and recognition.

In conclusion, this study establishes that nurses' turnover is not merely an administrative concern but a serious challenge that directly undermines patient care quality and organizational efficiency. Addressing this issue demands an integrated approach involving improved working conditions, supportive leadership, fair compensation, and continuous professional development. Strengthening nurses' retention will not only enhance job satisfaction but also promote consistent, safe, and patient-centered healthcare delivery.

6.1 Recommendations

1. The findings of the study reveal that there is high nurse patient's ratio. So, we recommend a balance nurse patient ratio or as per international standards.

2. Retention strategies should be made in terms of increase in salaries, allowing nurses for higher education, need based leave and duty relaxation.

3. Safe and positive conducive environment should be created by addressing staffing shortages, equipment issues, and workplace stress.

4.Policies focused on nurse retention, resource allocation, and welfare programs should be developed.

5. In future study with large samples size and covering large geographical area should be conducted to enhance generalizability.

6.2 Strengths

1. This study provides valuable local data on nurses' turnover and patient care in tertiary care hospitals, addressing a critical issue in Pakistan's healthcare system.

2. This research utilizes internationally recognized tools (ATS and MISSCARE Survey) which are reliable and validated.

3. The methodology of this study follows proper ethical procedures, including informed consent and confidentiality assurance.

4.The study provides grounds through inferential statistics for future researchers to conduct analytical study on the mentioned topic.

6.3 Weaknesses:

1. Convenience sampling technique was used which reduces the generalizability of findings to all hospitals in the province.

2. Self-reported data may be influenced by social desirability bias.

4. This study's scope is to two tertiary hospitals, which may not represent the full diversity of healthcare institutions in the region.

6.4 Limitations of the Study

6.4.1 Sampling Technique: Convenience sampling method was used due to time and money constraints reducing the ability to generalize the results to all healthcare settings in Pakistan.

6.4.2 Self-Reported Data: The reliance on self-administered questionnaires (ATS and MISSCARE Survey) may have been influenced by recall bias or social desirability bias, potentially affecting the accuracy of responses.

6.4.3 Geographical Scope: The study was limited to two tertiary hospitals in Peshawar (LRH and KTH), which may not fully represent the broader healthcare system or conditions in other regions of Pakistan.

6.4.4 Unexplored Variables: Though the tools (ATS and MISSCARE survey) used were reliable and validated but certain variables such as leadership style, motivation, and institutional culture were not captured which might have influenced both turnover intention and patient care quality.

Pakistan Journal of Medical & Cardiological Review
https://pakjmcr.com/index.php/1/about
Online ISSN 3007-2387
Print ISSN 3007-2379

6.5 Implications of the Study

6.5.1 Implications for Nursing Practice:

The study emphasizes the necessity of implementing nurse-centered management practices that ensure equitable workloads, safe staffing ratios, and a positive work culture. Promoting recognition, autonomy, and supportive supervision can significantly enhance job satisfaction and reduce turnover intentions, ultimately improving patient outcomes.

6.5.2 Implications for Nursing Education:

Nursing education programs may integrate leadership, stress management, and professional resilience into their curricula. Incorporating these competencies will prepare nurses to adapt to demanding healthcare environments and strengthen their commitment to long-term clinical practice.

6.5.3 Implications for Hospital Administration:

Hospital management may prioritize nurse retention through evidence-based strategies such as mentoring programs, flexible scheduling, continuing education, and transparent promotion systems. Enhancing communication between management and nursing staff and providing recognition for professional achievements can foster loyalty and decrease attrition rates.

6.5.4 Implications for Policy makers:

Policymakers can formulate comprehensive retention and welfare policies to improve nurses' job satisfaction, ensure fair compensation, and create structured career pathways.

6.5.5 Implications for future research:

Future research may adopt longitudinal or mixed-method approaches to explore causal relationships between turnover and care quality, while also examining psychological and institutional factors influencing nurses' intention to stay.

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