Physical Education, Health and Social Sciences

https://journal-of-social-education.org

E-ISSN: 2958-5996
P-ISSN: 2958-5988

Evaluating The Impact of Nursing Staffing Ratio on Patient Outcomes in Tertiary Care Setting

***Iqra Zulfiqar[1], *Nimra zafar[2], Aqib Dil Awaiz[3], Nida Abid [4]**

[1,2] Post R/N New Life Institute of Nursing / UHS, Lahore Pakistan, Corresponding Author, Email: iqrazulfiqar68@gmail.com

[3] Managing Director, New Life Institute of Nursing Multan, aqibdilawaiz101@gmail.com

[4] Research Coordinator, New life Institute of Nursing Multan, nidaaqib63@gmail.com

* Equal Contributors

DOI: https://doi.org/10.63163/jpehss.v3i1.204

Abstract

This study investigates the impact of nurse staffing ratios on patient outcomes in tertiary care settings, focusing on the relationship between staffing levels and care quality. Using a quantitative approach, data were collected from 30 nurses in a tertiary care hospital to assess perceptions of staffing adequacy, workload distribution, and patient outcomes. Findings reveal significant concerns, with 76.7% of nurses reporting inadequate nurse-to-patient ratios and 73.3% indicating inequitable workload distribution. Key challenges included medication administration safety (70% expressing concerns), documentation accuracy (60% reporting difficulties), and hospital-acquired infection control (53.3% noting issues). Additionally, 70% of nurses believed that improving staffing ratios would reduce patient complications and errors. However, only 16.7% agreed that hospital management prioritizes adequate staffing, highlighting a disconnect between frontline needs and management decisions. The study concludes that lower nurse-to-patient ratios are associated with poorer patient outcomes, emphasizing the urgent need for policy changes to optimize staffing levels, enhance patient safety, and improve care quality in tertiary care settings. These findings provide critical insights for healthcare administrators and policymakers to address staffing challenges and ensure effective resource allocation.

Introduction

There is strong evidence that hospitals with more nursing staff have better patient outcomes. Minimum nurse to patient requirements are measures to improve staffing, but these requirements are rarely implemented or acted upon. Some hospitals in the Australian state of Queensland reported minimum nurse-to-patient ratios in 2016(McHugh et al., 2021). Nursing staff can be measured using nursing hours and the nursing staff's full-time equivalent (FTE) or full-time equivalent (WTE). Currently, 1 WTE/FTE is equivalent to 39 hours per week in Ireland and 37.5 hours per week in Canada. In addition to California, many Australian states have mandated nurse-to-patient ratios due to staffing shortages. California allows a nurse to specialize in personal injury for certain nursing equipment. For example, an intensive care unit may have one physician for every specimen, a research/surgical unit may have one physician for every five patients, and an intensive car e unit (ICU) may have one physician for every two patients.(Butler et al., 2019). It is estimated that approximately 500,000 people, mostly women and children, die each year in Pakistan due to medical errors, including self-medication, overdosage, inappropriate medications, and medication failure. These APOs also appear to increase the economic value of the country. For example, in Canada, the estimated cost of APOs in 2009_2010 was $1.1 billion. According to

initial studies, most adverse events in healthcare facilities are due to unavoidable situations, some of which involve pain for nursing staff. For example, Aiken et al. A study conducted in five countries found that staff shortages and poor patient outcomes were predictors of poor job performance for older workers(Asif et al., 2019). Research continuously demonstrates that proper staffing enhances patient safety and care quality, demonstrating the substantial influence of nurse staffing ratios on patient outcomes in tertiary care settings like in Multan. Lower nurse-to-patient ratios are linked to better outcomes, such as lower mortality rates, fewer complications, and shorter hospital stays, in certain high-acuity settings, such as intensive care units (ICUs) and specialized surgical units. On the other hand, low nurse staffing raises patient risks like readmissions, prescription mistakes, and infection rates. Research shows that although the number of nurses is important, their specialization and experience are also important in enhancing results.

Problem statement:

In tertiary care settings, inadequate nurse staffing ratios present a critical challenge to patient safety and care quality. These hospitals, which often treat complex and high-acuity patients requiring specialized care, face the risk of poor patient outcomes, such as increased mortality, higher complication rates, longer hospital stays, and lower patient satisfaction, when nurse-to-patient ratios are insufficient. Despite the evidence linking appropriate staffing to improved outcomes, many healthcare facilities struggle to maintain optimal staffing levels due to factors like nurse shortages, budget constraints, and fluctuating patient volumes. Additionally, the varying levels of nurse experience and expertise across specialties further complicate the issue, as more experienced nurses are often needed to manage complex cases. Therefore, it is essential to evaluate the impact of nurse staffing ratios on patient outcomes in tertiary care settings to inform staffing policies that optimize care delivery, improve patient outcomes, and ensure the efficient use of resources.

Significance of the Study

The significance of this study lies in its potential to provide valuable insights into the relationship between nurse staffing ratios and patient outcomes in tertiary care settings, where complex and high-acuity care is often required. By evaluating this relationship, the study can highlight the critical role that appropriate staffing plays in improving patient safety, reducing complications, and enhancing the overall quality of care. In tertiary care hospitals, where specialized and intensive treatments are delivered, ensuring optimal nurse-to-patient ratios is essential for preventing adverse events such as increased mortality rates, hospital-acquired infections, and prolonged recovery times. Furthermore, the findings of this study could inform healthcare administrators and policymakers about the importance of allocating sufficient resources to nursing staff, influencing staffing decisions and ultimately improving patient care.

Hypothesis:

HA (Alternative Hypothesis):

In tertiary care settings, lower nurse-to-patient staffing ratios are associated with poorer patient outcomes, including higher mortality rates, increased complications, longer hospital stays, and decreased patient satisfaction.

H0 (Null Hypothesis):

In tertiary care settings, nurse-to-patient staffing ratios have no significant impact on patient outcomes, including mortality rates, complications, hospital stays, and patient satisfaction.

Limitations:

The study on the impact of nurse staffing ratios on patient outcomes in tertiary care settings has several limitations that may affect its findings. One limitation is the presence of confounding variables, such as patient demographics, comorbidities, hospital resources, and healthcare policies, all of which could influence patient outcomes, making it difficult to isolate the specific effect of nurse staffing ratios. Another limitation is the variability in nurse experience and skill, which can differ across units like ICUs or surgical wards, and this variability may complicate the interpretation of results. Data availability and accuracy also pose challenges, as inconsistencies in record-keeping or incomplete data on staffing ratios and patient outcomes may impact the reliability of the study. Additionally, hospital-specific factors, such as hospital culture, management practices, and technological resources, may vary and affect patient outcomes, limiting the generalizability of the results to all tertiary care settings. If the study adopts a cross-sectional design, it may fail to establish causal relationships between staffing ratios and patient outcomes, as longitudinal studies are necessary for understanding long-term effects. Ethical and practical constraints may also limit the study, particularly in manipulating staffing ratios in a way that could jeopardize patient care, and conducting randomized controlled trials (RCTs) is difficult due to these concerns.

Objectives of research:

Following are the objectives of this research:

1. To evaluate the relationship between nurse staffing ratios and patient outcomes in tertiary care settings.
2. To assess the perceptions of frontline nursing staff regarding staffing adequacy, workload distribution, and management prioritization of staffing needs in relation to patient care delivery.

Literature Review

(Assaye et al., 2021) In low- and middle-income countries, nurses have high levels of burnout, needlestick and sharps injuries, absenteeism, and intention to quit their jobs, while lower nurse-to-patient ratios and higher nurse workloads are associated with in-hospital mortality, hospital-acquired infections, and medication errors among patients. The review's findings are consistent with evidence of poor patient and nurse outcomes from high-income nations. Given that most low- and middle-income nations have lower nurse-to-patient ratios, these findings should be taken into account. We gathered and examined data from 761,948 inpatient discharges, satisfaction questionnaires of 2013 patients, and surveys of 1652 hospital nurses from 40 hospitals (six private and 34 public). Nurse staffing was significantly related to all outcomes, including mortality, after adjusting for patient characteristics, and the work environment was related to patient experience and nurses quality assessment.Hospitals have nurse workloads ranging from six to twenty-four patients each. Patients in hospitals with 18 patients per nurse were 41% more likely to die, 20% more likely to be readmitted, 41% more likely to stay longer, and 68% less likely to give their hospital a favorable rating than patients in hospitals with eight patients per nurse. We calculated that if the additional nurses led to average workloads of 12 or 10 patients per nurse, respectively, the savings from fewer readmissions and shorter stays would be US$1.2 million and $5.4 million greater than the expenses of adding nurses. Higher patient satisfaction, fewer readmissions, shorter hospital stays, and reduced inpatient mortality were all linked to improved hospital nurse staffing in Chile, indicating that higher nursing investments could result in better treatment and more value. The poor and middle class occupy two-thirds of Chile's hospital beds. There are frequently waiting lists for elective surgery, and people's satisfaction with healthcare is deteriorating. The safe nurse

staffing laws in California (USA) and Queensland (Australia) that limit the number of patients per nurse to five, as well as bedside-care staff mixes with low percentages of nurses, are examples of how previous government plans to improve the quality of public hospitals have neglected to improve the nursing workforce as a solution and instead advocate patient-to-nurse ratios that are significantly worse than international standards(Aiken, Simonetti, et al., 2021). At two different timepoints before the ratios were implemented (baseline) and two years after they were implemented (post-implementation) we compared Queensland hospitals that discharged comparable patients but were exempt from the ratio policy (27 intervention hospitals) with those that were not. We collected data on patient characteristics and outcomes (30-day mortality, 7-day readmissions, and length of stay [LOS]) for medical-surgical patients using standardized Queensland Hospital Admitted Patient Data that was connected to death records. We also collected survey data from 17,010 medical-surgical nurses in the study hospitals both before and after the policy was put into place. Nursing staffing was measured using survey data, which was then linked to standardized patient data to estimate the difference in outcomes between patients in intervention and comparison hospitals and assess if nurse staffing changes were associated with those differences. Policies requiring a minimum nurse-to-patient ratio are a workable way to enhance patient outcomes and nurse staffing while providing a good return on investment. There is strong evidence that hospitals with higher nurse staffing have better patient outcomes. Minimum nurse-to-patient ratio requirements are one measure intended to improve staffing, although they have almost never been put into practice or assessed. In certain hospitals in Queensland, Australia, minimum nurse-to-patient ratios were introduced in 2016. Our objective was to evaluate the impact of this policy on patient outcomes and staffing levels, as well as any potential correlations between the two. At certain hospitals, the mortality rate for patients with these illnesses was double that of other hospitals. We discovered that the death rates from common surgical operations varied significantly across 300 representative hospitals in nine different European nations. In fact, the mean disparities between countries were less than the differences in mortality between hospitals within a nation (McHugh et al., 2021). This study aims to determine the relationship between nurse staffing practices and nurse and patient outcomes by methodically reviewing and synthesizing the available data. The inclusion criteria were met by twenty-two studies. One study evaluated the number of nurse hours per patient day staffing approach, and twenty-one employed the mandated minimum nurse-to-patient ratio methodology. Both approaches were required. The implementation of the required minimum nurse-to-patient ratio was linked to improvements in nurse outcomes, according to all research that reported on the subject; however, results regarding patient outcomes were not entirely clear. One study evaluated the effect of nursing hours per patient day, and twenty-two studies evaluated the required minimum nurse-to-patient ratios. A variety of settings, including general medical, general surgical, combined medical/surgical, step-down units, emergency departments, critical care, and nursing homes/aged care, were used for the included research (n = 22). One study was carried out in Western Australia, and twenty-one studies were carried out in the United States, primarily in California(Bourgon Labelle et al., 2019). Recent research has demonstrated associations at the patient level rather than the hospital or unit level, building on the substantial evidence from cross-sectional studies (Griffiths et al., 2018a, 2019;Needleman et al., 2011b). Although observational studies do not allow for the direct inference of cause and effect, there is growing evidence to support the notion that patients suffer as a result of inadequate nurse staffing. Perhaps examining the alternative proposition is the best way to make the case. It is quite unlikely that low nurse staffing levels do not have negative effects. Some volume-based approaches explicitly state that additional personnel may be needed to satisfy demand peaks, even if they seem to set minimum staffing levels per patient. For instance, hospitals

must also apply a system for calculating individual patient care requirements to determine the need for staffing above the set minimum, according to the legislation that established required nurse-patient ratios in California .Therefore, methods that aim to calculate staffing needs while taking into consideration patient needs or other workload-causing variables might be employed in place of or in addition to minimal staffing levels that are solely based on patient volumes. (Griffiths and colleagues, 2020). The findings show a high patient-nurse ratio in adult hospitalization units and a positive correlation between the ratio and poorer nursing care outcomes. In recent years, numerous studies have demonstrated that a shortage of nurses in hospitalization units is linked to critical care omissions that negatively impact patients. International studies, particularly those conducted in Canada, the United States, and Australia, clearly show that a high patient-to-nurse ratio raises the risk of falls, pressure ulcers, medication errors, hospitalizations, UTIs, and even higher death rates. International studies, particularly those conducted in Canada, the United States, and Australia, clearly show that a high patient-to-nurse ratio raises the risk of falls, pressure ulcers, medication errors, hospitalizations, UTIs, and even higher death rates.(Lasater et al., 2021). Many have questioned whether additional research is necessary due to the overwhelming amount of information, as the ramifications for practice and policy are evident and the evidence is conclusive. (Buchan et al., 2020; Beech et al., 2019). The preponderance of cross-sectional research has been highlighted in previous reviews of this literature, but (Kane et al., 2007; Shekelle, 2013; Driscoll et al., 2018; Shin et al., 2019; Twigg et al., 2019). These studies cannot prove that the observed differences in staffing levels and skill mix among hospitals, which are usually calculated at the hospital level average, matched the staffing experienced by the patients whose outcomes were calculated, which are usually calculated at the hospital level over a 12-month period..(Senek et al., 2020). Every staffing plan includes flexible staffing that is determined by the daily demand from patients on each unit, which is once more determined by the patient classification system. Excess personnel are available to float to other units if the demand for staff on any given shift is relatively low (for instance, due to a low census or lower than average patient acuity). "Excess" staff may be floated from another unit within the same broad specialty, as defined by the hospital's organizational structure, if the number of hours needed for nursing care on any given shift exceeds the number of hours available from rostered staff on that unit (e.g., general medical/surgical. If it is not possible to make up the shortfall with float staff, then temporary staff can be hired from a pool of internal a bank staff or an external agency. The Safer Nursing Care Tool's acuity dependency measure was used to mimic the daily need for nursing care (The Shelford Group, 2014). We conducted a one-year observational study in 2017 in 81 general (adult) medical/surgical inpatient units across three hospitals in London, South East, and South West England to supply parameters for our models. We excluded a specialist cancer hospital that took part in the parent study from this phase of the investigation since the mortality and the impact of inadequate staffing on length of stay estimates utilized in the current analysis (see below) related to general medical and surgical populations.(Griffiths et al., 2021). Whether as a set daily staffing plan or in reaction to urgent need, nursing managers must determine in advance how many nursing staff to hire (commonly referred to as the nursing establishment) and how many nursing staff to deploy each shift. Instead of choosing an institution to fill planned rosters, accounts of indicator and task approaches frequently concentrate on measuring immediate demand (and subtly deploying people to satisfy such need). All of these decisions, however distinct, depend on the ability to measure nurse workload. The relationship between these uses is typically implicit rather than explicit, and the distinction is occasionally ambiguous in published descriptions. The impact of tools or systems has received astonishingly little attention, despite the fact that nurse staffing levels are crucial for preserving the quality of patient care and that a sizable amount of hospital expenditures are

allocated to staffing wards. However, in recent years, some evidence has emerged that links negative outcomes to a mismatch between the number of employees deployed and the predicted staffing requirement. Instead of explicitly pointing to a specific measuring system, this evidence seems to support the benefits of increased staffing levels. In general, these studies do not support conclusions that the tools provide "optimal" staffing levels, meaning that there are diminishing returns from further increases or that adverse outcomes are minimized. However, they do provide some additional evidence of the validity of some tools as workload measures. A broader corpus of literature that concentrates on nurse rostering rather than workload measuring techniques includes studies that come from the operational research tradition Studies show that rosters that are based on average staffing requirements might not be the best way to accommodate different patient needs. (Saville et al., 2019). It has been demonstrated that improving personnel levels above those deemed "optimal" by experts and a popular prototype system improves patient outcomes. Such a conclusion aligns with the idea that perceptions of what is needed are influenced by past staffing levels and expectations. Therefore, professional judgment may also be systemically biased, even though it is still crucial and no system has been proven to be better. Although staffing approaches are perceived to have advantages, it is unknown how they will affect prices or service quality, and the resources needed to run the systems are not quantified, despite the potential for significant investments (Ball et al., 2019). Formally, few systems take into account non-patient elements that could affect workload. For instance, there is little evidence that ward layout may change staffing needs (Hurst, 2008), but straightforward layout-influenced factors like travel times and patient surveillance opportunities are known to have the capacity to significantly vary workload (Maben et al., 2016, 2015). If the times needed for each unit are predicted, then variations due to things like layout can be managed, although this does bring up a final problem. Although they are sometimes implicit, every staffing strategy makes an underlying assumption about what "adequate," "safe," or "quality" personnel looks like. It is necessary to choose the staffing to provide the "right" amount of care per patient in the nurse-patient P. Griffiths, C. Saville, and J. Ball et al. / International Journal of Nursing Studies 103 (2020) 103487 9 ratio approach, as well as the "right" frequency and duration of nursing tasks in the timed-task approach. These factors are typically derived from professional judgment, care observations, or existing facilities, preferably in environments thought to satisfy certain quality standards (Hurst, 2002). Seldom, if at all, is the subject of whether this level of staffing is "optimal" or what standards might be used to determine such a level discussed.

There is a large and expanding body of literature on staffing methodologies. However, there isn't a strong body of data to support the use of any certain approach or instrument. Even when an old tool is widely used, there has been a recurring trend of new tool development with minimal programmatic study focused on it. Although neither the expenses nor the impacts of utilizing the tool in comparison to another tool or no tool at all have been documented, the thorough research documenting the development of the RAFAELA system stands out as an honorable exception in this regard. Increased staffing levels seem to be the foundation for tool benefits.(Griffiths and colleagues, 2020). When data from the NHS Inpatient Survey is combined with information on real hospital RN staffing and nurses' evaluations of the quality of their work surroundings, it becomes clear how the quality of care might be enhanced at NHS hospitals. We discovered that patient-to-nurse workloads varied significantly among NHS general acute hospitals. Compared to nurses at other hospitals, nurses in certain NHS hospitals are caring for twice as many patients at once. Experts have pointed out the need for checks and balances to reduce the risk of additional quality failures linked to inadequate RN staffing, as current NHS policies that give hospital management more authority to make decisions about RN staffing may be a contributing factor in

the significant variation in staffing that has been observed. Our results demonstrate that the degree to which necessary nursing care is overlooked is correlated with the notable variations in registered nurse staffing among NHS hospitals. The most commonly overlooked forms of care are those that patients can easily identify as lacking, such as chatting and soothing them and educating them and their families on how to handle care after discharge. Our findings are in line with earlier studies that demonstrate that increased patient workloads for registered nurses in NHS hospitals are linked to negative patient outcomes, such as increased hospital morale. Initiatives like the one recently implemented in Wales39, which sets a cap on the number of patients that nurses can safely and successfully care for, have the potential to significantly increase patient satisfaction with hospital care and even save lives. Patients have a great degree of confidence and trust in nurses, and when they believe there are not enough nurses available, they are less satisfied with hospital care. There is no evidence to substantiate the claim that "uncaring" nurses are to blame for England's hospital quality issues. Conversely, our results indicate that better hospital clinical care environments and minimizing missed nursing care by guaranteeing a sufficient number of registered nurses at the hospital bedside are viable approaches to raising patient satisfaction with treatment.(Aiken, Sloane, et al., 2021). An increased risk of death during hospitalization is linked to lower RN staffing and higher admissions per RN. These results draw attention to the potential repercussions of lower nurse staffing levels and do not support regulations that promote the use of nursing assistants to make up for RN shortages. Like health services in many other nations, hospitals in the UK struggle to staff hospital wards to capacity. There is a chronic and widening scarcity of registered nurses (RNs) due to financial limitations and rising healthcare demand. One Unregistered nursing assistants provide a significant amount of "hands-on" care in many hospitals. England already has one of the lowest percentages of fully qualified registered nurses providing care on hospital wards in all of Europe.2. The government's continued austerity measures, coupled with challenges in recruiting and retention, would likely intensify pressure to lower the number of registered nurses (RNs) compared to nursing assistants as well as the total number of staff members assigned to the wards. However, due to concerns about potential negative impacts on patient safety, both cutting back on the number of registered nurses and replacing them with nursing assistants have been questioned. We investigate the potential effects of differences in the number and makeup of nurses on death rates in a hospital run by the National Health Service (NHS) in England. The fact that the majority of studies are cross-sectional, with outcomes and nurse staffing levels recorded at the hospital level and averaged over time, is a significant factor restricting the amount of existing research that may serve as the foundation for staffing standards. In a noteworthy deviation from this trend, Needleman et al.9 discovered that each time patients saw RN staffing significantly below the amount scheduled for a shift throughout their hospital stay, there was a 2% increase in the risk of mortality. (Griffiths et al., 2019). When looking at the activities of nurses, care is more or less incomplete. Most of the incomplete work is due to staff shortages. Poor patient safety, quality of care, and job satisfaction were associated with high turnover rates, increased workload, and inadequate staffing. When considering staffing, nurses prioritized timely medication administration, patient education, and patient goal analysis. (Cho et al., 2020). Patient outcomes (e.g., falls, heart attacks, medication errors, health_related complications, unpla nned events, and death) and others follow burnout and job dissatisfaction related to nursing staff shortages and nursing home operations. Historically, the most commonly used tools for calculati ng intensive care unit (ICU) nursing workload and costs have been the Therapeutic Intervention Scoring System (TISS), the Nine Equivalent Nursing Workforce Utilization Score, the Critical C are Patient Dependency Tool, and the Nursing Work. Scores. The most commonly used measure s of staffing are the nurse-to-patient (N/P) ratio, the patient-to-caregiver ratio, the bed-to-

nurse ratio, and nursing time. (Griffiths, 2018 #20). All nursing home residents may experience nursing staff shortages. Many studies in nursing homes have shown that the number of nursing home staff providing daily care to residents has a positive impact on the quality of care and quality of life of residents. A 2001 study by the Centers for Medicare and Medicaid Services on adequacy of nursing home staffing levels highlighted the risk of staff shortages, a problem widely recognized in the U.S. nursing home industry since the 1980s.(Harrington et al., 2020). Higher in-hospital mortality was associated with higher scores for nurses. In contrast, inpatient mortality in the Netherlands was not associated with the patient-nurse ratio. Therefore, we decided that the primary goal should be the amount of nursing care produced by patients rather than the number of patients that intensive care nurses are responsible for.(Margadant et al., 2020). Most studies of the relationship between nurse staffing and patient outcomes have compared hospitals with high and low staffing, raising concerns that other factors may be responsible for the difference. We investigated the relationship between the mortality of patients who were recruited for change in hospitals with high patient satisfaction, low support staff, and low levels of nurse practitioner (RN) staff. Higher mortality was linked to understaffing of registered nurses and nursing support staff. The findings need to motivate hospital administration to guarantee sufficient RN and nursing support staffing. Using a data set that enables us to quantify staffing for RNs and nursing support workers, we investigate the relationship between these staffing levels and inpatient mortality in this study. Each unit and each shift, to determine which shifts have much less staff than usual, and to calculate the effect of exposure to low-staffed shifts on each patient's probability of death. We looked at exposure to shifts with low RN staffing, low nursing support staffing, and shifts for which both RN and nursing support staffing were low as a significant expansion of previous studies. (Needleman et al., 2020)

Materials and Methods

Operational Definitions

Nurse staffing ratios refer to the number of registered nurses assigned per patient in a tertiary care setting.

Mortality Rate

Mortality rates indicate the percentage of patient deaths during hospitalization. Hospital stay is measured by the total number of days a patient remains admitted for treatment.

Patient satisfaction

Patient satisfaction reflects the perceived quality of nursing care, assessed through standardized surveys focusing on communication, responsiveness, and overall experience.

Hospital stay

Hospital stay refers to the total number of days a patient remains admitted in a healthcare facility from admission to discharge, measured in days. It reflects the efficiency of care and can be influenced by nurse staffing ratios, with shorter stays often indicating better patient management and recovery. This chapter describes the research approach, tools, and methods utilized to examine how nurse staffing ratios influence patient outcomes in a tertiary care setting.

Study Location and Available Resources

The research conducted at prominent tertiary care facility. The study population includes all nurses actively involved in patient care within the hospital’s wards.

Sample Size Determination

A sample size of **30 nurses** selected from Nishtar Hospital using the following formula:

Sample Size=N/1+N.e2

Where:

- **N** = Total population of nurses
- **e** = Margin of error (set at 0.05)

This sample size has sufficient statistical power for data analysis and the generalizability of findings.

Demographic Profile of Participants

Participants are nurses aged **25 to 35 years**. This age range is targeted to capture the perspectives of those with relevant clinical experience and active involvement in patient care.

Variables

Independent Variable:

Nurse Staffing Ratios (measured as the number of registered nurses per patient)

Dependent Variables:

1. Patient Outcomes (measured as mortality rates, hospital-acquired infections, patient satisfaction)

Inclusion and Exclusion Criteria

Inclusion Criteria

- Nurses directly participate in patient care and staffing decisions.
- Staff members assigned to clinical wards where patient outcomes can be measured.

Exclusion Criteria

Staff members who are not directly involved in staffing decisions or Total Quality Management (TQM) practices.

Research Design and Sampling Technique

The study utilizes a **cross-sectional research design** to assess the relationship between staffing ratios and patient outcomes at a single point in time. **Convenience sampling** employed due to time limitations, allowing for the efficient selection of participants available during the data collection period.

Data Collection Tools

Data gathered using a self-administered structured questionnaire designed based on literature review and key indicators of patient outcomes.

- The questionnaire developed in English to ensure clarity and ease of understanding for the participants.
- Questions structured to gather both demographic data and insights into staffing ratios and patient care quality.
- Face-to-face distribution of the questionnaire ensure accurate and complete data collection, minimizing errors and biases.

Data Collection Process

Participants approached in their respective wards, and the questionnaire administered through direct interaction to facilitate clarification of any queries. This face-to-face method enhance data accuracy by ensuring clear understanding and immediate response.

Data Analysis Methodology

The collected data entered into statistical software such as **SPSS** for analysis.

Results and Discussion

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	13.3	13.3	13.3
Disagree	19	63.3	63.3	76.7
Neutral	7	23.3	23.3	100.0
Total	30	100.0	100.0	

Findings:

The data analysis of nurse-to-patient ratios adequacy revealed deeply concerning results (Table 4.1). Among the 30 nurses surveyed, more than three-quarters (76.7%) expressed dissatisfaction with current staffing ratios (Table 4.1). The majority of respondents (63.3%, n=19) disagreed with the statement that current nurse-to-patient ratios are adequate, while an additional 13.3% (n=4) strongly disagreed (Table 4.1). The remaining 23.3% (n=7) maintained a neutral position on the issue (Table 4.1). Notably, the data showed a complete absence of positive responses, with no nurses selecting either "agree" or "strongly agree" options.

Discussion:

As demonstrated in Table 4.1, the overwhelming negative response regarding nurse-to-patient ratios suggests a significant staffing challenge in the unit. The finding that 76.7% of nurses disagreed with the adequacy of current ratios indicates this is likely a systemic rather than isolated issue. Most concerning is the complete absence of positive responses in Table 4.1, suggesting widespread dissatisfaction with current staffing levels. The high percentage of nurses who disagreed (63.3%) or strongly disagreed (13.3%) points to a pressing need for evaluation of current staffing policies. While 23.3% remained neutral (Table 4.1), the lack of any agreement responses underscores the potential impact on both patient care quality and nurse job satisfaction. These findings suggest that immediate attention to nurse-to-patient ratios may be necessary to address these concerns.

Have sufficient time to complete all patient care tasks

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	13.3	13.3	13.3
Disagree	12	40.0	40.0	53.3
Neutral	6	20.0	20.0	73.3
Agree	8	26.7	26.7	100.0
Total	30	100.0	100.0	

Findings:
Analysis of nurses' perceptions regarding sufficient time to complete patient care tasks revealed significant concerns (Table 4.2). More than half of the respondents (53.3%) indicated insufficient time, with 40% (n=12) disagreeing and 13.3% (n=4) strongly disagreeing that they had adequate time to complete all patient care tasks (Table 4.2). Notably, only 26.7% (n=8) agreed they had sufficient time, while 20% (n=6) remained neutral on this issue (Table 4.2). None of the respondents strongly agreed with having sufficient time to complete their patient care responsibilities.

Discussion:
The results from Table 4.2 highlight a critical issue regarding time management and patient care completion in the nursing unit. The majority negative response (53.3%) suggests that nurses are struggling to complete their required patient care tasks within their allocated time. While some nurses (26.7%) reported having sufficient time, this relatively small percentage of positive responses raises concerns about overall care delivery efficiency. The presence of 20% neutral responses (Table 4.2) might indicate varying workload distributions or different skill levels in managing time. The complete absence of "strongly agree" responses, combined with the majority expressing insufficient time, suggests a systemic challenge that could potentially impact the quality and completeness of patient care. These findings indicate a need to evaluate current workflow processes and potentially adjust task allocation or staffing levels to ensure adequate time for comprehensive patient care delivery.

Workload distribution is equitable among nurses

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	10.0	10.0	10.0
Disagree	19	63.3	63.3	73.3
Neutral	8	26.7	26.7	100.0
Total	30	100.0	100.0	

Findings:
Analysis of workload distribution equity among nurses revealed significant dissatisfaction (Table 4.3). A substantial majority of nurses (73.3%) expressed negative perceptions, with 63.3% (n=19) disagreeing and 10% (n=3) strongly disagreeing that workload distribution was equitable (Table 4.3). The remaining 26.7% (n=8) maintained a neutral stance on the issue (Table 4.3). Notably, there were no positive responses, with no nurses selecting either "agree" or "strongly agree" options regarding workload equity.

Discussion:
The data presented in Table 4.3 highlights a concerning pattern regarding workload distribution among nursing staff. The high percentage (73.3%) of nurses expressing disagreement with equitable workload distribution suggests a systemic issue in work allocation practices. The fact that nearly two-thirds of respondents (63.3%) disagreed, coupled with an additional 10% who strongly disagreed (Table 4.3), indicates widespread perception of inequity in task distribution. The absence of any positive responses is particularly noteworthy, suggesting that current workload distribution practices may need comprehensive review. While 26.7% remained neutral (Table 4.3),

the complete lack of agreement responses points to potential organizational issues in managing nurse assignments and workload balance. These findings suggest a need for administration to evaluate and potentially restructure current workload distribution strategies to ensure more equitable assignment of nursing responsibilities.

Medication administration is completed safely and timely

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	13.3	13.3	13.3
Disagree	17	56.7	56.7	70.0
Neutral	8	26.7	26.7	96.7
Agree	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Findings:

The analysis of safe and timely medication administration revealed significant concerns among nursing staff (Table 4.4). An overwhelming majority of 70% expressed negative perceptions, with 56.7% (n=17) disagreeing and 13.3% (n=4) strongly disagreeing that medication administration was completed safely and timely (Table 4.4). Only 3.3% (n=1) agreed with the statement, while 26.7% (n=8) maintained a neutral position (Table 4.4). Notably, no respondents strongly agreed with the safety and timeliness of medication administration practices.

Discussion:

The findings from Table 4.4 present a troubling picture regarding medication administration safety and timeliness in the unit. The high percentage (70%) of nurses expressing concern about medication administration practices indicates a serious patient safety issue. The fact that only one nurse (3.3%) reported positive perceptions (Table 4.4) is particularly alarming given that medication administration is a critical nursing responsibility. The substantial proportion of negative responses, with more than half (56.7%) disagreeing and 13.3% strongly disagreeing (Table 4.4), suggests systemic challenges in meeting medication administration standards. While 26.7% remained neutral, the overwhelmingly negative response rate indicates potential risks to patient safety and the need for immediate intervention. These findings suggest an urgent need to evaluate current medication administration protocols, staffing levels, and workflow processes to ensure safe and timely medication delivery to patients.

Documentation is completed accurately and timely

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	10.0	10.0	10.0
Disagree	15	50.0	50.0	60.0
Neutral	11	36.7	36.7	96.7
Agree	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Findings:
The analysis of accurate and timely documentation completion revealed significant concerns among nursing staff (Table 4.5). A majority of 60% expressed negative perceptions, with 50% (n=15) disagreeing and 10% (n=3) strongly disagreeing that documentation was completed accurately and timely (Table 4.5). Only 3.3% (n=1) agreed with the statement, while a substantial 36.7% (n=11) maintained a neutral position (Table 4.5). Notably, no respondents strongly agreed with the current state of documentation practices.

Discussion:
The results presented in Table 4.5 highlight considerable challenges in maintaining accurate and timely documentation standards. The finding that 60% of nurses expressed disagreement with current documentation practices suggests widespread difficulties in meeting this critical nursing responsibility. The fact that only one nurse (3.3%) reported positive perceptions (Table 4.5) is concerning, as proper documentation is essential for patient care continuity and legal compliance. The high percentage of neutral responses (36.7%) could indicate varying experiences with documentation demands or different proficiency levels with the documentation system. The significant proportion of negative responses, with half of all respondents disagreeing and an additional 10% strongly disagreeing (Table 4.5), points to potential systemic issues in the current documentation process. These findings suggest a need to evaluate current documentation requirements, time allocation, and potentially the documentation system itself to better support accurate and timely record-keeping.

Hospital-acquired infections are well-controlled

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	10.0	10.0	10.0
Disagree	13	43.3	43.3	53.3
Neutral	12	40.0	40.0	93.3
Agree	2	6.7	6.7	100.0
Total	30	100.0	100.0	

Findings:
The analysis of hospital-acquired infection control revealed mixed perceptions among nursing staff (Table 4.6). Over half of the respondents (53.3%) expressed negative views, with 43.3% (n=13) disagreeing and 10% (n=3) strongly disagreeing that hospital-acquired infections were well-controlled (Table 4.6). A small percentage of 6.7% (n=2) agreed with the statement, while a substantial 40% (n=12) maintained a neutral position (Table 4.6). Notably, no respondents strongly agreed with the effectiveness of current infection control measures.

Discussion:
The data presented in Table 4.6 highlights significant concerns regarding the control of hospital-acquired infections in the unit. The majority negative response (53.3%) suggests challenges in maintaining effective infection control practices. The relatively high percentage of neutral responses (40%) could indicate varying experiences with infection control outcomes or different

levels of exposure to infection-related cases (Table 4.6). The presence of only two nurses (6.7%) expressing agreement with infection control effectiveness is particularly concerning, given the critical nature of infection prevention in healthcare settings. The substantial proportion of disagreement, with 43.3% disagreeing and 10% strongly disagreeing (Table 4.6), points to potential gaps in current infection control protocols or challenges in their implementation. These findings suggest a need to evaluate and potentially enhance current infection control measures, including staff training, resource allocation, and prevention protocols.

Patient satisfaction is consistently high

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	10.0	10.0	10.0
Disagree	15	50.0	50.0	60.0
Neutral	11	36.7	36.7	96.7
Agree	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Findings:
The analysis of consistent patient satisfaction levels revealed significant concerns among nursing staff (Table 4.7). A majority of 60% expressed negative perceptions, with 50% (n=15) disagreeing and 10% (n=3) strongly disagreeing that patient satisfaction was consistently high (Table 4.7). Only 3.3% (n=1) agreed with the statement, while a substantial 36.7% (n=11) maintained a neutral position (Table 4.7). Notably, no respondents strongly agreed with the consistency of high patient satisfaction.

Discussion:
The results presented in Table 4.7 indicate significant challenges in maintaining consistent patient satisfaction levels. The finding that 60% of nurses perceived patient satisfaction as not consistently high suggests widespread concerns about the quality of patient experience. The presence of only one nurse (3.3%) reporting agreement (Table 4.7) is particularly noteworthy, as patient satisfaction is a key indicator of healthcare quality. The high percentage of neutral responses (36.7%) could reflect varying experiences with patient feedback or different interpretations of satisfaction metrics. The substantial proportion of negative responses, with half of the respondents disagreeing and 10% strongly disagreeing (Table 4.7), points to potential systemic issues affecting patient satisfaction. These findings suggest a need to investigate factors influencing patient satisfaction and implement targeted interventions to enhance the overall patient experience.

4.8 Patient assessments are thorough and complete

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	13.3	13.3	13.3
Disagree	14	46.7	46.7	60.0
Neutral	10	33.3	33.3	93.3
Agree	2	6.7	6.7	100.0
Total	30	100.0	100.0	

Findings:
The analysis of thorough and complete patient assessments revealed significant concerns among nursing staff (Table 4.8). A majority of 60% expressed negative perceptions, with 46.7% (n=14) disagreeing and 13.3% (n=4) strongly disagreeing that patient assessments were thorough and complete (Table 4.8). Only 6.7% (n=2) agreed with the statement, while 33.3% (n=10) maintained a neutral position (Table 4.8). Notably, no respondents strongly agreed with the current state of patient assessment practices.

Discussion:
The data presented in Table 4.8 highlights substantial challenges in maintaining comprehensive patient assessment standards. The majority negative response (60%) suggests widespread difficulties in conducting thorough patient assessments. The low percentage of positive responses, with only two nurses (6.7%) expressing agreement (Table 4.8), is concerning given that comprehensive patient assessment is fundamental to quality healthcare delivery. The relatively high proportion of neutral responses (33.3%) could indicate varying experiences with assessment requirements or different interpretations of assessment thoroughness. The significant level of disagreement, with 46.7% disagreeing and 13.3% strongly disagreeing (Table 4.8), points to potential systemic barriers in conducting thorough patient assessments. These findings suggest a need to evaluate current assessment protocols, time allocation, and potentially staffing levels to ensure nurses can perform complete and thorough patient assessments.

4.9 Patient monitoring is consistent and thorough

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	3	10.0	10.0	10.0
Disagree	15	50.0	50.0	60.0
Neutral	11	36.7	36.7	96.7
Agree	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Findings:
The analysis of consistent and thorough patient monitoring revealed significant concerns among nursing staff (Table 4.9). A majority of 60% expressed negative perceptions, with 50% (n=15) disagreeing and 10% (n=3) strongly disagreeing that patient monitoring was consistent and thorough (Table 4.9). Only 3.3% (n=1) agreed with the statement, while 36.7% (n=11) maintained a neutral position (Table 4.9). Notably, no respondents strongly agreed with the current state of patient monitoring practices.

Discussion:
The results presented in Table 4.9 highlight substantial challenges in maintaining effective patient monitoring standards. The finding that 60% of nurses perceived patient monitoring as inadequate suggests widespread concerns about the consistency and thoroughness of patient observation. The presence of only one nurse (3.3%) reporting agreement (Table 4.9) is particularly concerning, as consistent patient monitoring is crucial for early detection of complications and ensuring patient safety. The high percentage of neutral responses (36.7%) could reflect varying experiences with monitoring demands or different interpretations of monitoring standards. The significant proportion of negative responses, with half of the respondents disagreeing and 10% strongly disagreeing (Table 4.9), points to potential systemic

issues in current monitoring practices. These findings suggest a need to evaluate current monitoring protocols, workload distribution, and potentially staffing levels to ensure consistent and thorough patient monitoring.

4.10 Quality improvement initiatives are effective

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	6.7	6.7	6.7
Disagree	16	53.3	53.3	60.0
Neutral	11	36.7	36.7	96.7
Agree	1	3.3	3.3	100.0
Total	30	100.0	100.0	

Findings:
The analysis of quality improvement initiatives' effectiveness revealed significant concerns among nursing staff (Table 4.10). A majority of 60% expressed negative perceptions, with 53.3% (n=16) disagreeing and 6.7% (n=2) strongly disagreeing that quality improvement initiatives were effective (Table 4.10). Only 3.3% (n=1) agreed with the statement, while 36.7% (n=11) maintained a neutral position (Table 4.10). Notably, no respondents strongly agreed with the effectiveness of current quality improvement efforts.

Discussion:
The data presented in Table 4.10 highlights substantial challenges in implementing effective quality improvement initiatives. The majority negative response (60%) suggests widespread skepticism about the impact of current quality improvement efforts. The very low percentage of positive responses, with only one nurse (3.3%) expressing agreement (Table 4.10), indicates a significant gap between intended outcomes and perceived effectiveness of quality initiatives. The high proportion of neutral responses (36.7%) could reflect varying levels of involvement in quality improvement projects or different experiences with their implementation. The substantial level of disagreement, with 53.3% disagreeing and 6.7% strongly disagreeing (Table 4.10), points to potential systemic issues in how quality improvement initiatives are designed, implemented, or evaluated. These findings suggest a need to reassess current quality improvement strategies, including staff engagement, resource allocation, and evaluation methods to enhance their effectiveness.

4.11 Nurses frequently work overtime due to staffing shortages

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	2	6.7	6.7	6.7
Disagree	12	40.0	40.0	46.7
Neutral	13	43.3	43.3	90.0
Agree	3	10.0	10.0	100.0
Total	30	100.0	100.0	

Findings:
The analysis of nurses working overtime due to staffing shortages revealed mixed perceptions among nursing staff (Table 4.11). Less than half (46.7%) expressed disagreement with frequent

overtime work, with 40% (n=12) disagreeing and 6.7% (n=2) strongly disagreeing that nurses frequently work overtime due to staffing shortages (Table 4.11). Only 10% (n=3) agreed with the statement, while a notable 43.3% (n=13) maintained a neutral position (Table 4.11). Notably, no respondents strongly agreed with the frequency of overtime work due to staffing shortages.

Discussion:
The results presented in Table 4.11 reveal an interesting pattern regarding overtime work related to staffing shortages. The relatively high percentage of neutral responses (43.3%) suggests varying experiences with overtime requirements or possibly different interpretations of what constitutes "frequent" overtime. The distribution of responses, with 46.7% disagreeing and only 10% agreeing (Table 4.11), might indicate that overtime due to staffing shortages is not a universal problem but rather occurs in specific situations or shifts. The lack of strong agreement responses, combined with the majority of nurses either disagreeing or remaining neutral, suggests that while overtime due to staffing shortages exists, it may not be as prevalent as other staffing-related challenges. These findings suggest a need to investigate the specific circumstances under which overtime occurs and develop targeted strategies to address these situations.

4.12 Current staffing ratios allow to provide safe, quality patient care

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	3.3	3.3	3.3
Disagree	11	36.7	36.7	40.0
Neutral	15	50.0	50.0	90.0
Agree	3	10.0	10.0	100.0
Total	30	100.0	100.0	

Findings:
The analysis of whether current staffing ratios allow for safe, quality patient care revealed mixed perceptions among nursing staff (Table 4.12). A significant 40% expressed negative views, with 36.7% (n=11) disagreeing and 3.3% (n=1) strongly disagreeing that current staffing ratios enable safe, quality care (Table 4.12). Only 10% (n=3) agreed with the statement, while half of the respondents (50%, n=15) maintained a neutral position (Table 4.12). Notably, no respondents strongly agreed with the adequacy of current staffing ratios for safe care delivery.

Discussion:
The data presented in Table 4.12 highlights complex perspectives regarding the relationship between staffing ratios and care quality. The notably high percentage (50%) of neutral responses suggests uncertainty or varying experiences regarding the impact of current staffing levels on care quality. The relatively low percentage of positive responses, with only 10% agreeing (Table 4.12), indicates limited confidence in current staffing ratios' ability to support safe, quality care. The substantial proportion of negative responses (40% combined) points to concerns about maintaining care standards with existing staffing levels. These findings suggest that while current staffing ratios may not be universally problematic, there are significant concerns about their adequacy for ensuring consistent, safe, and high-quality patient care. This indicates a need to evaluate current staffing models and their impact on care quality metrics.

4.13 Improving staffing ratios would reduce patient complications or errors

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	4	13.3	13.3	13.3
Neutral	5	16.7	16.7	30.0
Agree	14	46.7	46.7	76.7
Strongly Agree	7	23.3	23.3	100.0
Total	30	100.0	100.0	

Findings:
The analysis of whether improving staffing ratios would reduce patient complications or errors revealed strongly positive perceptions among nursing staff (Table 4.13). A significant majority of 70% expressed positive views, with 46.7% (n=14) agreeing and 23.3% (n=7) strongly agreeing that improved staffing ratios would reduce complications and errors (Table 4.13). Only 13.3% (n=4) disagreed with the statement, while 16.7% (n=5) maintained a neutral position (Table 4.13). Notably, this was one of the few items where strong agreement was expressed and no respondents strongly disagreed.

Discussion:
The data presented in Table 4.13 demonstrates a clear consensus among nurses regarding the potential impact of improved staffing ratios on patient safety outcomes. The substantial positive response (70%) suggests strong professional judgment that better staffing levels could directly contribute to reduced patient complications and errors. The relatively low percentage of neutral responses (16.7%) and disagreement (13.3%) (Table 4.13) indicates a high level of confidence in this assessment. The presence of strong agreement from nearly a quarter of respondents (23.3%) is particularly noteworthy, as it reflects robust conviction in the relationship between staffing levels and patient safety. These findings suggest that nurses, based on their direct patient care experience, strongly believe that investing in improved staffing ratios could yield significant benefits in reducing adverse patient outcomes and improving overall care quality.

4.14 Float nurses can manage nurses shortage in unit

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	12	40.0	40.0	40.0
Neutral	10	33.3	33.3	73.3
Agree	8	26.7	26.7	100.0
Total	30	100.0	100.0	

Findings:
The analysis of float nurses' ability to manage nurse shortages in the unit revealed mixed perceptions among nursing staff (Table 4.14). A significant portion (40%, n=12) disagreed that float nurses could effectively manage nurse shortages (Table 4.14). Approximately one-third (33.3%, n=10) maintained a neutral position, while 26.7% (n=8) agreed with float nurses' effectiveness in managing shortages (Table 4.14). Notably, no respondents expressed strong agreement or strong disagreement with the statement.

Discussion:
The data presented in Table 4.14 highlights divided opinions regarding the effectiveness of float nurses in addressing staffing shortages. The substantial percentage of disagreement (40%) suggests significant concerns about relying on float nurses as a primary solution to staffing challenges. The relatively high proportion of neutral responses (33.3%) could indicate varying experiences with float nurses or different interpretations of their effectiveness (Table 4.14). While some nurses (26.7%) expressed confidence in float nurses' ability to manage shortages, the overall pattern suggests limitations in this staffing strategy. The absence of strong opinions in either direction, combined with the spread of responses across disagree, neutral, and agree categories (Table 4.14), indicates that float nurses may be perceived as a partial but not complete solution to staffing shortages. These findings suggest a need to evaluate the current float nurse system and potentially develop additional strategies to address staffing challenges.

4.15 Hospital management prioritizes adequate nurse staffing

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	16	53.3	53.3	53.3
Neutral	9	30.0	30.0	83.3
Agree	5	16.7	16.7	100.0
Total	30	100.0	100.0	

Findings:
The analysis of hospital management's prioritization of adequate nurse staffing revealed significant concerns among nursing staff (Table 4.15). A majority of 53.3% (n=16) disagreed that hospital management prioritizes adequate nurse staffing (Table 4.15). Nearly one-third (30%, n=9) maintained a neutral position, while only 16.7% (n=5) agreed with management's prioritization of staffing (Table 4.15). Notably, no respondents expressed strong agreement or strong disagreement with the statement, suggesting moderate but clear concerns about management's approach to staffing.

Discussion:
The data presented in Table 4.15 highlights a significant disconnect between nursing staff perceptions and management's approach to staffing priorities. The majority negative response (53.3%) suggests widespread concern about management's commitment to maintaining adequate nurse staffing levels. The relatively low percentage of positive responses, with only 16.7% agreeing (Table 4.15), indicates limited confidence in management's prioritization of staffing needs. The substantial proportion of neutral responses (30%) could reflect varying experiences with management decisions or different interpretations of management priorities. The clear majority of disagreement, combined with the low level of agreement (Table 4.15), points to potential gaps between frontline staffing needs and management's resource allocation decisions. These findings suggest a need to improve communication and alignment between nursing staff and management regarding staffing priorities and decisions.

Summary:
This research study was conducted to evaluate the impact of nursing staffing ratios on patient outcomes in a tertiary care setting. The study utilized a quantitative approach with a sample of 30 nurses. The findings revealed significant concerns regarding current staffing practices and their impact on patient care delivery. Analysis of the data showed that 76.7% of nurses reported inadequate nurse-to-patient ratios, while 73.3% indicated inequitable workload distribution. A

notable concern emerged regarding medication administration safety, with 70% of nurses expressing concerns about their ability to administer medications safely and timely. Documentation completion and accuracy also emerged as a significant challenge, with 60% of nurses reporting difficulties in maintaining proper documentation standards. The study further revealed that 53.3% of nurses noted concerns about hospital-acquired infection control, highlighting potential risks to patient safety. Patient monitoring and assessment also showed concerning trends, with 60% of nurses reporting challenges in maintaining consistent and thorough patient monitoring practices.

Conclusion:

The findings of this study demonstrate a clear and significant relationship between nurse staffing ratios and patient care quality in the tertiary care setting. The research validates the hypothesis that lower nurse-to-patient staffing ratios are associated with poorer patient outcomes and decreased care quality. The overwhelming response from nursing staff indicates that current staffing levels are inadequate to meet patient care demands effectively. This is particularly evident in the finding that 70% of nurses believed improved staffing ratios would reduce patient complications and errors. The study also revealed a concerning disconnect between management priorities and frontline staffing needs, with only 16.7% of nurses agreeing that hospital management prioritizes adequate nurse staffing. These results underscore the urgent need for systematic changes in staffing policies and practices to ensure safe and high-quality patient care delivery.

Recommendations:

Here are the key points from these recommendations on improving nurse staffing and patient care quality:

For Hospital Administration:

- Implement evidence-based nurse-to-patient ratios
- Develop systematic workload distribution policies
- Establish regular staffing level assessments

For Nursing Management:

- Review and optimize staff scheduling practices
- Implement regular monitoring of patient care metrics
- Develop strategies for equitable workload distribution

For Future Research:

- Conduct further studies with large sample size on long-term impacts of staffing ratios on patient outcomes

Specialized Healthcare:

- Establish mandatory minimum nurse-to-patient ratios
- Develop guidelines for specialized unit staffing requirements
- Implement standardized workload measurement tools
- Conduct regular staffing adequacy assessments

References

Aiken, L. H., Simonetti, M., Sloane, D. M., Cerón, C., Soto, P., Bravo, D., Galiano, A., Behrman, J. R., Smith, H. L., & McHugh, M. D. (2021). Hospital nurse staffing and

patient outcomes in Chile: a multilevel cross-sectional study. *The Lancet Global Health*, *9*(8), e1145-e1153.

Aiken, L. H., Sloane, D. M., Ball, J., Bruyneel, L., Rafferty, A. M., & Griffiths, P. (2021). Patient satisfaction with hospital care and nurses in England: an observational study. *BMJ open*, *8*(1), e019189.

Assaye, A. M., Wiechula, R., Schultz, T. J., & Feo, R. (2021). Impact of nurse staffing on patient and nurse workforce outcomes in acute care settings in low-and middle-income countries: a systematic review. *JBI evidence synthesis*, *19*(4), 751-793.

Bourgon Labelle, J., Audet, L.-A., Farand, P., & Rochefort, C. M. (2019). Are hospital nurse staffing practices associated with postoperative cardiac events and death? A systematic review. *PloS one*, *14*(10), e0223979.

Cho, S. H., Lee, J. Y., You, S. J., Song, K. J., & Hong, K. J. (2020). Nurse staffing, nurses prioritization, missed care, quality of nursing care, and nurse outcomes. *International journal of nursing practice*, *26*(1), e12803.

Griffiths, P., Maruotti, A., Saucedo, A. R., Redfern, O. C., Ball, J. E., Briggs, J., Dall'Ora, C., Schmidt, P. E., & Smith, G. B. (2019). Nurse staffing, nursing assistants and hospital mortality: retrospective longitudinal cohort study. *BMJ quality & safety*, *28*(8), 609-617.

Griffiths, P., Saville, C., Ball, J. E., Jones, J., Monks, T., & team, S. N. C. T. s. (2021). Beyond ratios-flexible and resilient nurse staffing options to deliver cost-effective hospital care and address staff shortages: A simulation and economic modelling study. *International journal of nursing studies*, *117*, 103901.

Harrington, C., Dellefield, M. E., Halifax, E., Fleming, M. L., & Bakerjian, D. (2020). Appropriate nurse staffing levels for US nursing homes. *Health services insights*, *13*, 1178632920934785.

Lasater, K. B., Sloane, D. M., McHugh, M. D., Cimiotti, J. P., Riman, K. A., Martin, B., Alexander, M., & Aiken, L. H. (2021). Evaluation of hospital nurse-to-patient staffing ratios and sepsis bundles on patient outcomes. *Am J Infect Control*, *49*(7), 868-873. https://doi.org/10.1016/j.ajic.2020.12.002

Margadant, C., Wortel, S., Hoogendoorn, M., Bosman, R., Spijkstra, J. J., Brinkman, S., & de Keizer, N. (2020). The Nursing Activities Score Per Nurse Ratio Is Associated With In-Hospital Mortality, Whereas the Patients Per Nurse Ratio Is Not. *Crit Care Med*, *48*(1), 3-9. https://doi.org/10.1097/CCM.0000000000004005

McHugh, M. D., Aiken, L. H., Sloane, D. M., Windsor, C., Douglas, C., & Yates, P. (2021). Effects of nurse-to-patient ratio legislation on nurse staffing and patient mortality, readmissions, and length of stay: a prospective study in a panel of hospitals. *The Lancet*, *397*(10288), 1905-1913.

Needleman, J., Liu, J., Shang, J., Larson, E. L., & Stone, P. W. (2020). Association of registered nurse and nursing support staffing with inpatient hospital mortality. *BMJ quality & safety*, *29*(1), 10-18.

Senek, M., Robertson, S., Ryan, T., King, R., Wood, E., & Tod, A. (2020). The association between care left undone and temporary Nursing staff ratios in acute settings: a cross-sectional survey of registered nurses. *BMC health services research*, *20*, 1-8.