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PATIENT SAFETY CULTURE IN CRITICAL CARE UNITS IN PUBLIC HOSPITALS OF TSHWANE REGION IN GAUTENG PROVINCE

By
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Submitted in fulfilment of the requirements for the degree
Magister Curationis (Clinical) in Health Sciences

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DEDICATION

I dedicate this study to the Almighty God, my creator and strong pillar, source of inspiration, wisdom, knowledge and understanding, in addition to being my source of strength throughout this project. Furthermore, I dedicate this work to my supervisor Dr CJ Filmalter and co-supervisor Prof T Heyns, who constantly guided me in this process and all the committees who kept me on track. I also dedicate this dissertation to my husband and my children, who have been affected in every way possible by this quest and for encouraging me throughout the study to give it my all and to ensure that I finish what I started. Lastly, a special dedication to my late son Boitumelo Seshoka, who passed away during the data analysis in March 2023. I thank him for always assisting me with the computer; he will always be in my heart, and may his soul continue to rest in peace.

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DECLARATION

Student Number: 10655192

I, Mamogale Jurry Seshoka, declare that this dissertation, titled '***Patient safety culture in critical care units in public hospitals of the Tshwane Region in Gauteng Province,'*** is my original work. It has not been submitted to any other institution before for any degree or examination. All the sources used and quoted are acknowledged by means of complete references in the text and bibliography.

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ABSTRACT

Introduction

Hospitals are continuously striving to improve patient safety, with hospital management increasingly recognising the importance of establishing a culture of safety. To achieve this, the management and personnel are required to foster teamwork, communication openness, reporting of events and organisational learning. Effective patient safety culture is related to lowering the rate of patients' complications and fewer adverse events. The complexity of patients' conditions and treatment processes in critical care units predisposes patients to more adverse events.

Aim and Objectives of the Study

The study aims to determine the patient safety culture in critical care units in the Tshwane region.

Research Design and Methods

A non-experimental quantitative, descriptive design was followed. Population composed of professional and enrolled nurses working in the critical care units of the selected public hospitals in the Tshwane region, Gauteng province and met the inclusion criteria. A total population sampling method was used, which is the type of purposive sampling where the whole population of interest is studied. Data collection was done using a standardised validated questionnaire using the paper method. Collected data was entered directly into a Hospital Data Entry and Analysis Tool that works with Microsoft Excel, developed by and obtained from Agency for Health Research and Quality (AHRQ). This tool automatically creates tables and graphs to display survey results. The data were analysed in collaboration with the statistician using descriptive statistics.

Findings

The results of this study revealed the overall rating of the patient safety culture at the three selected hospitals as good. But a few aspects of the patient safety culture in these hospitals deserve attention to improve. Those aspects that need attention to improve are the staff shortages and long working hours. Another element that needs attention is that hospital management is not providing adequate resources to improve patient safety. Whereas the aspects related to communication and the supervisor who considered staff‘s suggestions to improve patient safety were rated the highest and required no attention to improvement

Key Terms and Concepts

Critical care nurse, critical care unit, patient safety culture, public hospital.

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LIST OF ACRONYMS

AHRQ	Agency for Healthcare Research and Quality
CCU	Critical Care Unit
CINAHL	Cumulative Index to Nursing and Allied Health Literature
EN	Enrolled Nurse
HSOPSC	Hospital Survey on Patient Safety Culture
KZN	KwaZulu-Natal
PN	Professional Nurse
SA	South Africa
US	United States
WHO	World Health Organization

CONTENTS

1. OVERVIEW OF THE STUDY

1.1. Introduction and background

Globally, there is a high rate of adverse events in healthcare settings, raising concerns about patient safety. In the last few decades, the world scientific community has highlighted mortality rates due to failures in healthcare, becoming aware of the need to improve patient safety. (Gomides, Fontes, Silveira & Sadoyama 2019:496). Adverse events happen frequently even though at least a third of the cases are preventable. These events are rooted in system failures, care processes and working conditions that do not promote safety processes (Occelli, Quenon, Kret, Domecq, Delaperche et al. 2013:459). The Institute of Medicine reported the seriousness of safety issues to the World Health Organization (WHO), launching the Alliance for Patient Safety as a strategy for the global mobilisation of health institutions (Gomides et al. 2019:496).

The Agency for Healthcare Research and Quality (AHRQ) defines patient safety culture as the beliefs, values, and norms shared by healthcare practitioners and staff throughout the organisation that influence their actions and behaviours. The AHRQ is the lead federal agency in the United States (US) which sponsors and conducts research that provides evidence-based information on healthcare outcomes, quality, and cost, use and access (Rockville, Sorra, Gray, Streagle, Famolaro et al. 2018:1).

Building a culture of safety, prevention and learning from errors which involves healthcare professionals, healthcare organisations, and patients, is necessary when healthcare aims to improve patient safety (Ramya 2017:510). Highly dependent patients, such as those in critical care units, are more prone to adverse events than in any other healthcare setting (Mjadu & Jarvis 2018:81). The most common adverse events occurring in critical care units are surgical site infections, ventilator-associated pneumonia, catheter-related blood-borne infections, patient falls, pressure ulcers, restraint-related injuries, and medication errors leading to compromised patient safety. Errors are more likely to occur in critical care units because the nurses working in these units are often stressed and overworked due to the severe nature of these patients' illnesses and busyness of these units (Yesilyaprak & Demir Korkmaz 2021:3).

Patient safety culture has been the reason for great concern for the communities due to high number of failures resulting from inadequate healthcare. Worldwide, millions of patients lose their lives every year as a direct result of unsafe care. In Palestine alone, between 44000 and 98000 people lose their

lives every year from iatrogenic medical events (Aymen, Ali, Arash, Yousef, Mahmoud et al. 2017:115).

A study conducted in two university hospitals in South Korea in 2018 reported that 5% to 13% of adverse events resulted in death. A study conducted in Tunisia showed that 41.1% of patients admitted to critical care units suffered from at least one adverse event, and they confirmed that 60% of these events were preventable (Yesilyaprak & Demir-Korkmaz 2021:1). According to Ramya (2017: 509) these adverse events have a significant impact in terms of cost of care and patient outcome, including aspects like prolonged hospital stay, residual disability and mortality.

To improve patient safety, institutions need to promote, create, and maintain a positive patient safety culture. Institutions with a positive patient safety culture are characterised by effective communication between management and staff about adverse events based on mutual trust, perceptions of the importance of safety, and reliance on effective preventive actions. Staff and institutions recognise mistakes, learn from them, and improve (Granel, Manresa-Dominguez, Watson, Gomez Ibanez & Bernabeu-Tamayo 2020:1). Patient safety has been considered a global goal and important initiatives have been taken to adapt health facilities to meet patient safety needs. One of these initiatives conforms to the Patient Safety National Program established by Decree No. 529 in April 2013. One of the program's objectives is to improve healthcare by supporting the implementation of protocol-based care and encouraging patient safety culture among health facilities.

The culture of safety encourages workers to be accountable for their actions and to acquire a new perspective on adverse events, ensuring impartiality and abandoning punitive practices and no longer blaming workers who commit an unintentional adverse event (Souza, Tomasschewski-Barlem, Rocha, Barlem Silva et al. 2019:1). In South Africa, the National Department of Health developed a National Policy on Incident Reporting and Learning in the Public Health Sector. This policy supports strong relevance to patient safety, especially in the public health sector that services 80% of the country's inhabitants, where the critical care environment plays a vital role in providing specialised care for many people in a critical stage of their lives (Mjadu & Jarvis 2018:82).

1.2. Research Aim

The study aims to determine the patient safety culture in critical care units in the Tshwane region.

1.3. Problem Statement

The researcher, as an educator responsible for theoretical and practical training and implementing evidence-based practice in the critical care units, observed that adverse events such as restraint-related injuries, falls, pressure ulcers and adverse drug events are occurring in the critical care units of public hospitals in Tshwane leading to compromised patient safety.

Patient safety culture is a very important component of healthcare quality measures and contributes to minimising the risk of adverse events. Patient safety is the reduction of unnecessary harm associated with healthcare to an acceptable minimum. Unsafe acts within healthcare services have a huge impact in terms of the cost of care and outcomes for patients, which include aspects like prolonged stay in the hospital, residual disability, and mortality (Lee, Scott, Dahinten, Vincent, Lopez et al. 2019:280). Healthcare organisations realised that creating a patient safety culture would improve the healthcare system and prevent adverse events. Although this is critically important in all areas of hospitals, the high rates of preventable conditions such as central line-associated bloodstream infections and ventilator-associated pneumonia emphasize the importance of reflecting and modifying clinical practices to improve outcomes in the critical care units (Ramya 2017:509-510).

The culture of patient safety is associated with better patient outcomes. Quality in hospital services means providing patient care at minimal risk. Therefore, it is important to determine the existing patient safety culture in order to enhance the quality of care through training that will promote further development and maintenance of patient safety culture (Okuyama, Galvao & Silva 2018:1). Determining the existing patient culture could allow the researcher to develop an educational program focused on specific skills and tools to enhance patient safety and performance. The skills and tools developed by the AHRQ to improve patient outcomes include communication, leadership, mutual support, and situational monitoring skills (Amiri, Khademian and Nikandish 2018:3).

1.4. Research Question

What is the existing patient safety culture in critical care units of public hospitals in the Tshwane region?

1.5. Research Objectives

The objective of this study is:

- To determine the existing patient safety culture in selected critical care units in Tshwane.

1.6. Definition of Terms

1.6.1. Critical care nurse

According to South African Nursing Council Competencies for critical care nurse specialist (2014:2), critical care nurse is a nurse who takes care of patients with life-threatening illnesses and injuries. Critical care nursing occurs within a continuum from the scene of initial incident or onset of critical illness such as home through stabilisation, transfer/transportation, emergency and intensive care up to and including transfer to care in lower acuity levels/ step down units. Critical care is complex care offered either with or without technology by highly skilled nursing personnel. Critical care nurse is assigned on a 1:1 basis with a running or floor nurse who is often a team leader. In this study critical care nurse is a specialised nurse who is responsible for constant monitoring of the patient's condition, as well as recognition of any subtle changes in a critical care unit.

1.6.2. Critical care Unit

A critical care unit (CCU) is a specialised unit or department of a hospital or healthcare facility in which specialised care is provided to patients by a multidisciplinary team of healthcare professionals who have in-depth education in the speciality field of critical care. Patients in the critical care unit are patients at high risk for actual or potential life-threatening health problems, and these patients require more intensive and vigilant nursing care (Urden, Stacey & Lough 2018:2). In this study, a critical care unit is a specialised unit in hospitals in the Tshwane region for patients with serious health problems who needs intensive medical care and monitoring.

1.6.3. Patient safety culture

Patient safety is reducing or mitigating unsafe acts within the healthcare services (Ramya 2017:509), whereas safety culture is an aspect of the culture of an organisation that refers to the way safety is seen and treated by the members of organisations (Danielsson, Nilsen, Rutberg & Arestedt 2019:328).

Patient safety culture is a dimension of organisational culture. It is the product of individual and group values, beliefs, attitudes, perceptions, norms, procedures, competencies, and patterns of behaviour that determine a health organisation's commitment to patient safety management (Farokhzadian, Nayeri & Borhani 2018:2). For this study, patient safety culture means teamwork, communication involving adverse events, hospital management support for patient safety, handoffs, and information exchange during shift changes and across the hospital units, and adequate staff to handle the workload in the critical care units which influence the staff's actions and behaviours. These composites help to assess patient safety culture (Rockville, Sorra, Yount, Famolaro & Gray 2019:2). For this study, the following definitions will be adopted.

1.6.4. Public Hospital

A public hospital means the whole or part of a public institution, facility, building or place that operates or is designed to provide inpatient or outpatient treatment, diagnostic or therapeutic interventions, nursing, rehabilitative, palliative, convalescent, and preventative or other health services (National Health Act No. 61 of 2003:12). According to Blackwell's dictionary of nursing (1997:329), a public hospital is an institution devoted to the diagnosis, treatment and rehabilitation of people who are mentally or physically ill or injured and is available for the use or benefit for people as a whole. For this study, a public hospital is owned by the state where people who are ill or injured may receive medical or surgical treatment and nursing care free of charge, and the costs are financed by funding received from the government.

1.7. Significance and Contribution

Determining patient safety culture in critical care units could assist in the development of a focused education program for nurses to deliver safe care, minimising the risk of errors, adverse events, and injuries from happening to patients. This could also ensure that patients receive safe patient care. When patients receive safe patient care, there could be reduced costs and improved outcomes for patients, which include aspects such as shorter time of stay in the hospital, fewer litigations, and reduced death rates. Improved patient outcomes may boost the morale of management and staff, reducing stress and burnout. Ensuring teamwork in the critical care units may lead to effective communication and reduced medical errors. Honest communication sustained continuous training and providing feedback are effective in reducing complaints from patients and relatives (Yesilyaprak & Demir Korkmaz 2021:5-8). Managerial support may increase the rate of incident reporting, which can contribute to decreasing

patient vulnerability in critical care units (Mjadu & Jarvis 2018:81). Managers who pay attention to the psychological, mental, and emotional support of their staff motivate them to promote their capabilities and implement safety programs. Continuous learning will ensure that all the staff acquire up-to-date competencies regarding their responsibilities to create an effective safety culture (Farokhzadian et al.2018:5).

1.8. Research Context

The setting for this study was critical care units in three public hospitals in the Tshwane region. Two of the hospitals are academic hospitals, and one is a provincial tertiary hospital. Hospital One has a fifteen-bedded general critical care unit with 94 nurses. Hospital Two has an eight-bedded general critical care unit with 33 nurses. Hospital Three has five critical care units. CCU One is a medical unit with ten beds and 10 nurses. CCU Two is a cardio-thoracic unit with ten beds and 17 nurses. CCU Three is a cardiology unit with eight beds and 12 nurses. CCU Four is a trauma and surgical unit with eleven beds and 23 nurses. CCU Five is a neurology unit with eight beds and 23 nurses.

Critical care units cater for patients who are at high risk for actual and potentially life-threatening health problems. These patients are severely ill and need more intensive and vigilant nursing care. In each critical care unit, there is one shift leader and a unit manager. The shift leader does overall supervision to ensure that safe nursing care is provided to the patients.

There are 212 nurses of which 200 are professional nurses (PNs) and 12 are enrolled nurses (ENs) working in these units. Only professional and enrolled nurses are working directly with the patients. Enrolled nursing auxiliaries only work with stock. Consultants and medical officers attend to patients daily and there is always one medical officer available in all these units around the clock. The researcher as the nurse educator for post graduate diploma in adult critical care nursing she does clinical accompaniment when students are placed in these units.

1.9. Overview of Design and Methods

1.9.1. Research Design

Research design is an overall plan for addressing a research question, including specifications for enhancing the study's integrity outlines (Polit & Beck 2021:801). For the current study, the research design was a non-experimental quantitative, descriptive design because the Hospital Survey on Patient

Safety Culture (HSPSC) questionnaire was used to determine the status of patient safety culture in the critical care units.

A non-experimental study is a study in which a researcher collects data without introducing an intervention (Polit & Beck 2021:795). Quantitative research is the investigation of phenomena that lend themselves to precise measurement and quantification, often involving a rigorous and controlled design (Polit & Beck 2021:800)

Descriptive studies undertake to describe the frequency of occurrence of behaviours or conditions rather than to study relationships (Polit & Beck 2021:197). For this study, patient safety culture was determined by analysing information collected with questionnaires and was described in detail. The methods are described in detail in Chapter 3.

1.10. Ethical Considerations

From the research perspective, ethics means a system of moral values concerned with the degree to which research procedures adhere to professional, legal, and social obligations to the study participants (Polit & Beck 2021:785). A letter requesting permission was sent to the hospital management to conduct the study at their hospitals. Permission was granted by the hospitals and these letters are attached to Annexure A. Ethical approval was also obtained from the Faculty of Health Sciences Research Ethics Committee, University of Pretoria, which is attached in Annexure D; protocol reference number is 224/2022. Nursing, as a profession, is firmly based on the ethical principles of respect for persons, beneficence, and justice. These ethical principles that guide nursing practice must also be the standards for the conduct of nursing research (Gray & Grove 2021:191).

1.10.1. Respect

The principle of respect for persons holds that persons have the right to self-determination and the freedom to participate or not participate in research (Gray & Grove 2021:194). For this study, participants were afforded an opportunity to give their permission to participate by signing informed consent forms. This consent form is attached in Annexure E. Participation in this study was entirely voluntary, and participants had the right to withdraw their participation anytime they wished without reason. Collected data from participants was strictly confidential.

1.10.2. Beneficence

The principle of beneficence requires the researcher to do well and avoid harm. Researchers should protect participants from discomfort and harm while ensuring that they receive the greatest possible balance of benefits in comparison with harm (Gray & Grove 2021:194). The outcomes of this study may benefit the patients and staff in critical care units, the community, and the government by improving patient safety culture because with improved patient safety culture cost of care and litigations may be reduced, prolonged stay of patients in critical care units may be prevented and mortality rate may also be reduced.

Discomfort and harm can be physiological, emotional, social, or economic in nature (Gray & Grove 2021:208). For this study, participants were protected from emotional, social, and economic harm because their participation was anonymous, therefore, responses were not associated with them and there were no expenses for the participants. Participants were prevented from risks of covid-19 by being sanitised during the distribution of questionnaires, social distancing was maintained when participants were interviewed in groups, a good, ventilated environment was used and lastly, all participants were requested to wear their face masks all the time.

1.10.3. Justice

The principle of justice is an ethical principle that states that human subjects should be treated fairly, as groups and as individuals (Gray & Grove 2021:814). One aspect of justice concerns the equitable distribution of benefits and burdens of the research.

Participation selection was based on study requirements and not on a group's vulnerability. The right to fair treatment means that researchers must treat people who decline to participate or withdraw from the study in a non-prejudicial manner (Polit & Beck 2021:135). The researcher selected nurses from critical care units as participants for the study because they were able to give information on the patient safety culture of critical care units. Feedback will not only be conveyed to nurses who participated in the study, thus ensuring that everyone benefits from the study outcomes.

1.11. Chapter Outline

In this section, chapters 1 to 5 are outlined.

Chapter 1: Overview of the study

This chapter gives an introduction concerning patient safety culture. Patient safety culture has been the reason for great concern for the communities due to the high number of failures resulting from the provision of inadequate/deficient healthcare globally. Worldwide, millions of patients lose their lives every year as a direct result of unsafe care. It also provides a problem statement, the research objectives, research questions, key concepts and significance of the study, research context, overview of designs and methods and an outline of chapters.

Chapter 2: Literature Review

This chapter gives a review of the literature related to patient safety culture. The literature review highlights other studies about patient safety culture in hospitals.

Chapter 3: Research Methodology

The research design and method, population and sampling, the pilot study and the data collection process, data analysis, the validity and reliability of the research and ethical considerations are addressed in this chapter.

Chapter 4: Analysis, interpretation, and discussion of results

The analysed data are provided in detail and the results are visually presented by means of figures and tables.

Chapter 5: Conclusion, implications, limitations, and recommendations

This chapter includes the conclusions drawn from the data analysis, the limitations of the study, as well as recommendations for further research and critical care practice. The researcher also reflected on the aim of the study and the course of events during the research.

1.12. Summary

This chapter discussed the importance of establishing a culture of patient safety in healthcare facilities. The discussion included the study setting, research design and methodology, and ethical and legal considerations. Chapter 2 will discuss the literature review conducted for the study.

2. LITERATURE REVIEW

2.1. Introduction

Chapter 1 provided an introduction and background of the study and the significance of the study. This chapter focuses on the literature related to patient safety culture. The literature review highlights results and findings of other studies about patient safety culture in hospitals. This chapter is arranged in the following manner, firstly, the literature search, followed by what is patient safety culture, and then the importance of patient safety culture. The discussion then addresses the components of patient safety culture.

Patient safety culture is a new and emerging phenomenon, but historical evidence indicates that concerns for patient safety culture existed for many years before modern healthcare. More than 150 years ago, Florence Nightingale stated that the first requirement in a hospital is to not harm patients. In 2001, the Institute of Medicine emphasized that patients should be free of danger or risk caused by the healthcare system (Farokhzadian et al.2018:1).

2.2. Literature Search

Database searches were conducted through Google Scholar, PubMed and CINAHL (Cumulative Index to Nursing and Allied Health Literature). The search was conducted to find literature about patient safety culture in hospitals. The literature included the culture composites intended to be measured during this study phenomenon. The search aimed to identify what is known about this study and to identify any gaps in the knowledge. The key terms explored during the data search are the following: *patient safety culture, reporting of adverse events, communication means about errors, staffing, teamwork in nursing and transfers and transitions.* These terms were used because it is believed that they will enable the researcher to determine the status of patient safety culture in critical care units. The selected terms are composites of patient safety culture. The inclusion criteria for data search were the articles published from 2018 to current to comply with the requirements of the university and articles written in English for better understanding and referencing. The exclusion criteria were articles published before the year 2016. During the literature search, 53 articles were identified and analysed. After analysing the abstract, introduction and background, findings and discussions of these articles, 28 articles were selected as relevant to the study, and included in this literature review.

2.3. Patient Safety Culture

In this section, a discussion on what other authors mentioned about patient safety culture in hospitals both locally and internationally, to show the importance of patient safety culture is provided. The 12 composites of patient safety culture will be discussed in the next section as to assess the status of patient safety culture in this study context to improve patient safety and healthcare quality in critical care units.

Patient safety culture has been the reason for great concern for the communities due to a high number of failures resulting from the provision of healthcare globally (Aymen et al. 2017:115). Patient safety culture is a very important component of healthcare quality measures and contributes to minimising the risk of adverse events. A higher culture of patient safety is associated with better patient outcomes, whereas lower patient safety culture is associated with poor patient outcomes. Quality in hospital services means providing patient care at minimal risk. Therefore, implementing strategies to improve organisational and safety culture enhances quality and promote patient safety culture (Okuyama et al. 2018:1).

Safety culture is the set of shared values, attitudes, perceptions, beliefs, and behaviours that support safe practices among individuals in healthcare organisations. Promoting safety culture among healthcare providers has enormous benefits, such as increasing provider and patient satisfaction with care (Abuosi, Akologo & Anab 2020:35). Safety culture is sometimes used interchangeably with the concept of safety climate, which has been defined as surface features of the safety culture from attitudes and perceptions of individuals at a given point in time or the measurable components of safety culture (Lee et al. 2019:280). Because healthcare is often delivered by teams of different professions and organisational units that make up a larger organisation, the influence of group values, perceptions and behaviours can play a greater role than that of an individual caretaker (Lee et al. 2019: 280).

Patient safety culture plays an important role in identifying and reducing adverse events. Lack of coordination among healthcare personnel, fear of negative consequences of reporting, failure to recognise healthcare errors and resistance to change prevent the establishment of a patient safety culture. High-level safety culture should be established to reduce morbidity and mortality (Yesilyaprak & Korkmaz 2021: 2). Another important concept relating to safety culture is patient safety which is the reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum. Often confused with the concept of patient safety, quality of care in healthcare is a broad concept and defies

simple definition because it is influenced by the different perspectives and interests of various stakeholders as well as various healthcare facility characteristics. Therefore, quality of care has been defined concerning multiple dimensions such as accuracy, reliability, efficacy, effectiveness, empathy, safety, and affordability. Regardless of the definitions, safety is one of the components of quality, but other dimensions of care are needed to ensure the care is high quality (Lee et al. 2019: 280).

A strong patient safety culture may be associated with improved patient outcomes in hospitals. Patient safety is a vital component of healthcare quality (Hessels, Paliwal, Weaver, Siddiqui and Wurmser 2019:1). A culture of patient safety, characterised by shared healthcare provider perspectives of the importance of safety, transparency of communications and shared confidence in the efficacy of preventative measures has been associated with some improved patient outcomes. An emerging body of evidence suggests that features inherent in a better patient safety culture, such as attention to workload, organisational priorities and communication are associated with less missed nursing care by supporting nurses to do the important work they perform every day (Hessels et al. 2019: 2).

The Institute of Medicine recommended a patient safety culture for building safety into the processes of care, and ever since that evidence has been accumulating on the importance of cultivating a patient safety culture to reduce adverse events and improve patient safety (Ali, Ibrahem, Mudaf, Fadalah, Jamal and El-Jardali 2018: 1). Assessing patient safety culture in hospitals is the first step of defining and refining a solid safety culture (Ali et al. 2018: 1). Hospitals can now access and evaluate issues such teamwork, managerial actions, leadership support, staffing challenges, reporting of incidents and other related issues. This allows healthcare organisations to develop a clearer view of the areas where they need to focus their attention as part of their efforts to strengthen patient safety culture. Before hospitals embark on developing and improving patient safety culture, they must first diagnose their current state and patient safety culture surveys are crucial to assess areas of strengths and weaknesses in patient safety culture (Ali et al. 2018: 2).

At the organisational level, safety improvement is closely related to good management and the effective implementation of a safety culture. Consistent and salient safety culture is a critical determinant of the success of safety interventions, and many organisations now measure their safety culture over time using a validated instrument available from Agency for Healthcare Research and Quality (AHRQ) and the Hospital Survey on Patient Safety Culture (HSOPSC) (Bates & Singh 2018: 1738).

2.4. Twelve Composites of Patient Safety Culture

In this section, the researcher is going to discuss the 12 composites of patient safety culture according to the HSOPSC that was developed by AHRQ as part of the goal to improve patient safety and healthcare quality (Arrieta, Suarez and Hakim 2018:187).

2.4.1. Teamwork within the Units

Teamwork is when the staff supports each other, treat each other with respect and work together as an effective team (Rockville et al.2019:2). Engaging frontline staff with leadership to address and discuss safety issues plays a major role in improving both the quality of care delivered to patients and teamwork; this approach increases staff awareness and builds trust and commitment to the decisions made. Failure to openly address safety issues and errors could lead to an accumulation of clinical issues with detrimental consequences for critical care patients, making them a special area of concern (Aldawood et al. 2020:2).

Complex settings like critical care units, comprising multiple teams, require high levels of coordination and interpersonal communication. Because the unit care team involves many disciplines, for example, physiotherapists, dieticians, nurses and so forth, clear communication is required to ensure that care is aligned and carried out as planned, this creates a learning culture in which the team shares knowledge, experience, and mutual support (Aldawood et al. 2020:2)

Healthcare delivery is inherently interdependent and increasingly complex. No one individual can assure that a patient receives the highest standard of care, nor can they protect the patient from all potential harms stemming from increasingly complex and powerful therapies. Therefore, if there is no teamwork, patient safety will be negatively affected (Rosen, Diaz Granados, Diets, Benishek, and Thompson et al. 2018:433).

2.4.2. Supervisor Expectations and Actions to Promote Safety Data

Supervisor expectations and actions refer to the degree to which supervisors consider staff suggestions to promote patient safety, praise staff for following patient safety procedures and do not overlook patient safety problems (Reis, Paiva & Souza 2018:662). Speaking up is essential for patient safety, but healthcare professionals often hesitate to voice their concerns. Direct supervisors have an important

role in influencing speaking up. Nurses who perceive higher levels of commitment-based safety management feel safer taking interpersonal risks and are more willing to speak up about patient safety concerns (Alingh, van Wijngaarden, van de Voorde, Paauwe and Huijsman 2019:1).

The expectations supervisors hold regarding patient safety are not only contingent upon the actions they initiate but also on how they take what staff members have to say into consideration. Therefore, it is likely that when the supervisor's expectations are high, there is a climate where patient safety is valued by subordinates in the unit as well. And if the supervisor's expectations are low, there is a climate where patient safety is not valued by the staff (Hernandez 2016:12).

2.4.3. Organisational Learning - Continuous Improvement

Organisational learning means that work processes are regularly reviewed, and changes are made to prevent mistakes from happening again. It is the degree to which errors have led to positive changes and the changes for efficacy have been evaluated. Adverse events are seen as providing information-rich data for learning and systems improvement by leaders who proactively strengthen patient safety culture and it has been seen that patient safety culture is significantly impacted through education and coaching when leaders follow up on reports that are made (Rockville et al.2019:2).

In developing countries, leaders frequently focus their activities on data collection, audit and reporting rather than on catalysing learning and supporting systems that lead to quality improvement. However, a coaching program has successfully promoted alternative perspectives and supported positive change, coaching has emerged as a major tool to continue the education process and enable a change to team-based care. Up-to-date guidance and the support of educators and coaches mean that nurses participate in life-long learning and a culture of safety is created and enhanced (Chegini, Kakemam, Jafarabadi & Janati 2020:2).

Healthcare team members should apply knowledge, attitude and perception of patient safety while caring for patients. Nurses are the leading healthcare team members, and if they are not continuously learning and keeping abreast, they will not be able to provide quality patient care because a lack of knowledge lead to unsafe nursing practice (Jamshidi, Maslakpak and Parizad 2021:2).

2.4.4. Support Given by Hospital Management for Patient Safety

The degree to which the management of the hospital offers a working climate that promotes patient safety and shows that safety is a top priority. Management also provides adequate resources to ensure patient safety (Rockville et al.2019:2). There was a significant positive relationship between the ethical leadership of nursing managers, perception of patient safety culture and organisational commitment. Implementing ethical leadership seems to be one feasible strategy to improve nurses' organisational commitment and perception of patient safety culture. Efforts by nurse managers to develop ethical leadership reinforce the organisational commitment to improving patient outcomes. The less time and effort the manager spent will negatively influence quality and safety processes, performance, and ultimately patient outcomes (Lofti, Shoorideh, Mohtashami & Nasiri 2018:726).

In the last several decades, hospital managers have seen increases in responsibilities for patient care quality and safety, making new structures of administration, education, and quality care assessment. Reis et al. (2018:661) reported that hospital safety culture survey assessment is used as a management tool and encouraged by health policymakers and managers in countries around the world.

The safety culture survey assessment has the following uses:

(i) Building staff awareness of patient safety.
(ii) Evaluating the present state of patient safety culture in the organisation.
(iii) Identifying strong points of safety culture and areas for improvements.
(iv) Evaluating the impact on the safety culture of initiatives and interventions to improve patient safety.

For hospital organisational cultures that were underdeveloped or weak regarding patient safety, for them to be effective, safety culture evaluation should be tied to strategies designed to develop a safety culture hospital-wide (Reis et al. 2018:660).

2.4.5. Communication and Feedback about Errors

Communication about errors should be clear and accurate, guaranteeing improvement of actions. This process should be through surveillance systems, medical records and other records that allow for consultation and analysis (De Souza, De Souza Alves & De Alencar 2018:2). Focusing on improving

response to an error is crucial to improve error reporting, the likelihood of voluntary incident reporting was found to improve by focusing efforts on cultural changes such as improving event feedback mechanisms and communication of event-related improvements. Evidence has shown that feedback can positively stimulate improvement in patient safety culture if it is tailored to specific departments and if outcomes were comprehensible for intended users. (Ali et al. 2018:2).

Nurse Managers should continuously provide constructive feedback to the staff and should also be able to encourage feedback from others. This will enable everyone to learn from their mistakes to improve patient safety. Lack of communication and feedback between managers and staff will lead to job dissatisfaction and consequently poor patient safety (Fowler & Robins 2021:1486).

2.4.6. Frequency of Reported Incidents

The degree to which errors are reported for the following types:

(i) Errors detected and corrected before affecting the patient.
(ii) Errors without the possibility of damaging the patient.
(iii) Errors that could harm the patient, but do not.

The most common errors occurring in critical care units are patient falls, pressure ulcers, restraint-related injuries, and medication errors leading to compromised patient safety. Errors are more likely to occur in critical care units because critical care nurses are often stressed and overworked due to the serious nature of these patients' illnesses and busyness of these units (Yesilyaprak & Demir Korkmaz 2021:3). Errors can occur at any point in the patient management process, including diagnosis, treatment and prevention and they may or may not result in an adverse event. Errors risk the patients' health and well-being, as well as their lives and can increase the cost of medical treatment, such as the quality of care is negatively affected. Several factors influence medical error and reporting among nurses. One of these is the fear of creating a negative impression by ward staff towards the person who reports an error. Lack of support is another factor. Therefore, it is imperative to support health professionals in error-related events (Chegini et al. 2020:1).

Administrative factors such as rigidity, cost-cutting measures, lack of policy and standard operating procedure and fault finding were other reasons for under-reporting the errors. Minor errors and near misses often go unreported as they pose no harm to patients. Near miss events in healthcare means the situations of near error or incident identified in time to be avoided or minimised, for example, if

medication is prescribed without considering the patient's allergies but the nurse notices the patient is allergic before being administered (Maia, Ferrari, Cardelli, Higarashi, Carvalho et al. 2020:2). Recognising and reporting near miss events is proactive patient safety and a quality improvement strategy that needs to be adopted to prevent similar and harmful events occurring in the future (Chegini et al. 2020:2).

2.4.7. General Perception of Patient Safety

The degree to which procedures and systems are good for preventing errors and there is a lack of patient safety issues. Efforts to reduce hospital errors largely focused on hospital safety. Adverse events such as hospital-acquired infections were considered a cost of doing business (Bates & Singh 2018:1737) Central line-associated bloodstream infections represent a notable example. Peter Pronovost and his team from Johns Hopkins University showed that by following a bundle of safety procedures could reduce the incidence of these infections to nearly zero. The bundle included steps to follow during central venous catheter insertion, the handling and maintenance of lines and the prompt removal of unnecessary lines. After following these bundles, the incidence of infections was reduced remarkably (Bates & Singh 2018:1737). If the staff are not following the bundle of safety procedures, hospital-acquired infections will increase, leading to high morbidity and mortality rates, especially among patients in critical care units. Hospital-acquired infections, often due to multidrug-resistant organisms, occur in approximately one in ten admissions leading to increased length of stay and costs (Armour, Patrick, Reddy, Sibanda, Naidoo et al. 2018:1).

2.4.8. Communication Openness

The degree to which the staff think they could freely question those with more authority without hesitation in a situation they see could affect the patient negatively. Open communication between leadership and staff at the unit level is vital in promoting safe hospital culture. Daily quick meetings are proven to improve a team's dynamics through sharing knowledge and discussing safety issues. Moreover, a timely leadership response to frontline staff's concerns builds trust and brings the team together, which is positively reflected in the care provided to patients and their families (Aldawood, Kazzaz, Alshehri, Alali and Al-Suhirim 2020:1). Promoting a culture of communication openness and learning from mistakes within an organisation, rather than a culture of blame and punishment is of vital importance. These cultures have been slow to develop in the national health services.

Poor communication, failure to disseminate information, scapegoating and unwillingness to learn lead to patient harm (Donography, Doherty & Irwin 2018:509).

2.4.9. Working in Teams throughout the Units

Staffing is important for patient safety in healthcare services. In hospitals, teamwork seems to be a significant contributing factor to patient safety and building sound teams with mutual trust and collaboration should therefore be an essential part of managers' work with patient safety. The focus when building a good patient safety culture should be on open communication, ensuring that staff's ideas and suggestions are valued (Ree & Wiig 2019:1).

Collaborative actions, cooperation, and effective communication among nurses throughout hospital units contribute to the successful management of mild and complex cases of diseases. Teamwork involves effective communication actions, participation in decision-making, cohesion, coordination of services and problem-solving. It is recognised that the lack of these factors diminishes the effectiveness of nursing care. In the United States, it was highlighted that lack of teamwork is one of the components responsible for the inadequate functioning of a healthcare system, resulting in the cost of billions and loss of many lives (Belarmino, Rodrigues, Anjos & Ferreira Junior 2020:1-2).

2.4.10. Staff

The degree to which there is enough staff to handle the workload and the hours of work are appropriate to provide the best patient care. A recent study in critical care departments has shown that medical errors occurred amongst 46.8% of nurses in critical care departments, which are overcrowded, with shortages of staff and equipment, and patients admitted with life-threatening illnesses, all making it more likely that there will be a higher incidence of medical errors (Chegini et al. 2020:2).

Evidence from previous investigations showed that reduced staffing is significantly associated with many nursing-sensitive outcomes related to nursed patients. Furthermore, previous studies applied to existing databases of more than 124000 patients also concluded that reduced nursing staff was significantly associated with the development of pneumonia in patients who require more nursing care (Almenyan, Albuduh and Al-Abbas 2021:2).

A previous multicentre study in the United States showed that patients admitted for surgeries had a higher risk of developing pneumonia which was significantly reduced by 8.9% when the nursing staff

was increased by one hour per day for these patients. Evidence showed that an increased rate of nursing workload was significantly associated with increased rates of nosocomial infections (Almenyan, Albuduh and Al-Abbas 2021:2).

2.4.11. Transfer and Transitions

Transitions of patient care are vulnerable periods in healthcare delivery that expose patients to potential breakdowns in communication, medical errors, and adverse events (Rockville et al. 2019:2).

The transfer of a patient from the intensive care unit to a hospital ward represents an example of a common high-risk inter-speciality transition of care where patients with complex life-threatening problems transition from the care of a critical care medicine physician to a medical, surgical, or primary care physician (Brown, Leigh, Kamran, Baqshaw, Fowler et al. 2018:1). Ineffective handoffs can lead to approximately 10% of adverse events in critical care units. Efforts to improve transitions of care have focused on patient transfers during end-to-end shifts or end-of-service handoffs. However, there may be differences in culture and clinical focus between providers in different service areas of a hospital, such as the transfer of a patient from a critical care unit to a hospital ward (Brown, Leigh, Kamran, Baqshaw, Fowler et al. 2018:1).

A report from the Canadian Institute for Health Information found that unintended harm occurs in one out of every 18 hospitalisations (Brown et al. 2018:1). Communication issues are the root cause of such adverse events. Effective transitions of patient care, which have been previously described as including continuous communication and coordination of patient needs across the health continuum, contribute to improved patient care safety and experience (Brown et al. 2018:2). Quality and effective handovers also enable nurses to recognise changes in patient's health and prevent risks. Ineffective handovers are associated with severe risks to patient safety and are attributed to adverse outcomes including incorrect treatment, medication errors, delayed diagnosis, prolonged hospitalisation, and high healthcare costs (Khan, Ali, Bhatti & Hayat 2022:572).

2.4.12. Non-Punitive Response to Errors

Reporting systems are designed to identify patient care issues so changes can be made to improve patient safety. However, a culture of blame discourages event reporting and reporting seen as punitive can inhibit individual and system performance in patient safety. Punitive reports have important

implications for reporting systems because they may reflect a culture of blame and a failure to recognise system influences on behaviours. Reporting systems should focus on patient outcomes and learning from systems issues, not blaming individuals (Feeser, Jackson, Savage, Layng, Senn et al. 2021:449).

In Arab countries, it was identified that a non-punitive response to an error is a major challenge and healthcare professionals in these countries reported that a culture of blame prevents them from reporting incidents (Ali et al. 2018:2). Focusing on improving error response is crucial to improving error reporting and in fact, the likelihood of voluntary incident reporting was found to improve by focusing efforts on cultural changes such as improving event feedback mechanisms and communication of event-related improvements. Evidence has shown that feedback can positively stimulate improvement in patient safety culture if it is tailored to specific departments and if outcomes were comprehensible for intended users (Ali et al. 2018:2).

2.5. Conclusion

Chapter 2 discusses the existing literature on patient safety culture. The chapter provided an overview of what patient safety culture is and the importance of patient safety culture. In addition, it provided an in-depth discussion on the composites of patient safety culture with a focus on hospitals.
Chapter 3 will discuss the research methodology in depth. The research design and methods will be included. The study aimed to determine the patient safety culture in the critical care units in public hospitals.

3. RESEARCH METHODOLOGY

3.1. Introduction

In Chapter 2, a literature review regarding patient safety culture in hospitals was conducted. In this chapter, the research design and methodology of this study are discussed. The methods used in this study are explained and a justification of the methods is provided.

3.2. Research Design

Research design is an overall plan for addressing a research question, including specifications for enhancing the study's integrity outlines (Polit & Beck 2021:801). The essence of research design is to translate a research problem into data for analysis to provide relevant answers to research questions at a minimum cost. Research design is a reflection upon the researcher's ideas. It helps prevent frustration by binding research together through a structured plan that shows how all the major parts of the research work simultaneously to try and address research questions (Asenahabi 2019:76). For this study, a non-experimental quantitative, descriptive design was used as the research design because the Hospital Survey on Patient Safety Culture (HSPSC) questionnaire was used to determine the status of patient safety culture in the critical care units.

Quantitative research is a formal, objective, systematic study process that counts or measures to answer a research question, and the data is analysed numerically (Gray & Grove 2021:820). Quantitative research design is a technique and measurement that produces quantifiable or discrete values. The collected data results from empirical observations and measures. Data is gathered through the structured tool and tend to have closed-ended questions (Asenahabi 2019:79).

Non-experimental is when a researcher collects data without introducing an intervention (Polit & Beck 2021:795). Non-experimental design is quantitative research, which does not involve experiments in the process of data collection. It is divided into three groups: survey design, causal-comparative design and correlation. For this study, the researcher used a survey design which provides a numeric description of attitudes, opinions, or trends of a population by studying a sample of that population (Asenahabi 2019:79).

Descriptive designs were applied to observe, describe, and document aspects of a situation as it occurs naturally. Sometimes it serves as a starting point for generating a hypothesis or a theoretical development (Polit & Beck 2017:726). In descriptive studies, no intervention is administered, so the purpose of this study is to improve the precision of measurement and describe what exists (Grove and Gray 2021:59). Descriptive studies are undertaken to describe the frequency of occurrence of behaviours or conditions rather than to study relationships (Polit & Beck 2021:197). For this study, patient safety culture was determined by analysing information collected with questionnaires and described in detail.

3.3. Research Methods

Polit and Beck (2021:793) define methods as the steps, procedures, and strategies for gathering and analysing information for the study. The methods utilised in this study will be described in terms of population, sampling and sample size, data collection and organisation, data analysis and quality control.

3.3.1. Population

A population is a complete set of persons or objects that possess common characteristics that are of interest to the researcher (Brink, Van der Walt & Van Rensburg 2018:202). In this study, the target population composed of professional and enrolled nurses working in the critical care units of the selected public hospitals in the Tshwane region, Gauteng province and met the inclusion criteria. Polit and Beck (2021:797) defined population as the entire group of individuals or objects having the same characteristics and represents the aggregation of cases in which the researcher was interested, as was the case in this study where critical care nurses were selected for the study. According to Gray and Grove (2021:60), the population refers to all the elements (individuals) that fulfil specific inclusion criteria.

3.3.2. Sampling and Sample Size

Sampling is the process of selecting a portion of the population to represent the entire population under study. For this study, the total population sampling method was used, which is the type of purposive sampling where the whole population of interest is studied (Polit & Beck 2021:802). This sampling method was applied because the population size was small, and this assisted the researcher in gaining

deep insights into the phenomena that the researcher was interested in and the risk to miss potential insights from members that are not included was reduced (Etikan, Musa & Alkassim 2016:3).

The sample size for this study was all the critical care nurses willing to participate in the three selected public hospitals in the Tshwane region. The total number of critical care nurses working at the three selected public hospitals in the Tshwane region is 212. Hospital One has 94 critical care nurses, Hospital Two has 33, and Hospital Three has 85.

3.3.2.1. Inclusion and Exclusion Criteria

The inclusion criteria for this study were:

- Nurses who are willing to participate, working in critical care units on permanently and have been part of the unit for more than six months.

The exclusion criteria were:

- All nursing managers, regardless of the level of management, as they are not always working directly with the patients.
- Nurses working in the CCUs through an agency because they do not have enough information regarding patient safety culture of these units as they only come to work when there is not enough permanent personnel on duty.

3.3.3. Data Collection and Organisation

Gray and Grove (2021:808) define data collection as the precise, systematic gathering of information relevant to the research purpose and specific objectives and questions of a study. The researcher had ethical clearance from the University of Pretoria to conduct the study (See Annexure D). The researcher also obtained permission from the hospital management to do the study at these hospitals and the permission letters are attached in Annexure B. The researcher met with the management of the critical care units per appointment and introduced the study and explained the data collection instrument and procedures to them.

3.3.3.1. Data Collection Instrument

Hospital Survey on Patient Safety Culture (HSPSC) is widely used and validated tool for measuring patient safety culture and it was developed by the Agency for Healthcare Research and Quality (AHRQ) in the United States of America (Elmonstri, Almashrafi, Banarsee & Majeed 2017:2). In this study, questionnaires were used to collect data on patient safety culture in critical care units. This questionnaire was developed by AHRQ to measure patient safety culture in hospitals.

The questionnaire consists of eight sections.

Section A: This is about the unit/work area.

This section intends to find out if there is enough staff and teamwork in the unit because if there is no teamwork, patient safety will be negatively affected (Rosen et al. 2018:433). A recent study in critical care departments has shown that medical errors occurred among 46.8% of nurses in critical care departments which are overcrowded, with shortages of staff and equipment (Chegini et al. 2020:2).

Section B: Is about the Supervisor/Manager

This section intends to assess the degree to which the supervisor or manager considers staff suggestions for improving patient safety. Also, if the supervisor praises staff for following patient safety procedures and does not overlook patient safety problems, the staff are encouraged and motivated to continue promoting patient safety in their unit at all times (Reis et al.2018:662).

Section C: Communication

This section intends to assess the degree to which staff are informed about the errors that occur, given feedback about changes implemented and provided with discussions about ways to avoid errors by their leaders. Evidence has shown that feedback can positively stimulate improvement in patient safety culture (Ali et al. 2018:2).

Section D: Reporting of patient safety events

This section intends to determine how many patient safety events are reported by the staff. Recognising and reporting safety events is proactive patient safety and a quality improvement strategy that needs to be adopted to prevent similar and harmful events from occurring in the future (Chegini et al. 2020:2).

Section E: Patient safety rating

This section intends to ascertain how the staff rate their unit on patient safety and their suggestions on what can be done to improve patient safety in their units. Engaging frontline staff with leadership to address and discuss safety issues plays a major role in improving the quality of care delivered to patients (Aldawood et al. 2020:2).

Section F: About the hospital

This section intends to assess whether important information is often left out or not when transferring patients from one unit to another in the hospital. Transitions of patient care are vulnerable periods in healthcare delivery that expose patients to potential breakdowns in communication, medical errors, and adverse events (Rockville et al. 2019:2).

Section G: Background questions

In this section, the background knowledge of participants is questioned to inform the researcher of the years that the participants have worked in the unit and if they interact with patients. This enables the researcher to confirm if the participants meet the inclusion criteria for participation.

Section H: Comments of participant

In this section, a participant can elaborate on their patient safety rating in the space provided for comments or they can write any comments about how things are done or could be done in their units that might affect patient safety. Comments by participants are optional.

3.3.3.2. Pilot Test

A pilot test is a smaller version of a proposed study conducted with the same research population, setting, interventions and plans for data collection and analysis (Gray & Grove 2021:818). For this study, the researcher conducted a small pilot test to check for the understanding of the terminology and phrases used. The inclusion criteria used during the pilot test were the same as for the actual study. The researcher recruited five critical care nurses not working in the selected critical care units from her personal network to complete the data collection instrument to check for understanding, these results were omitted in the study. The data collection instrument was easily understood, and there was no need to make any changes. The data collection instrument was used as is.

3.3.3.3. Collecting the Data

Questionnaires were handed to participants in their workplaces by the researcher. The researcher sanitised hands and participants' hands before handing out questionnaires and ensured social distancing among participants according to Covid-19 regulations and guidelines. Participants were requested not to put any identifying information on the questionnaire as the data collection is anonymous. Participants completed questionnaires during their spare time to ensure that it does not interfere with patient care. After completing the questionnaires, participants put completed questionnaires in a sealed drop-box provided in the units. The researcher collected a drop box with completed questionnaires after a few days. The researcher had the challenge of not receiving some questionnaires back and had to return to hand out more questionnaires on weekends. Most participants managed to complete questionnaires immediately because it was not very busy in the units at the time of completion.

3.4. Data Analysis

Polit and Beck (2021:783) define data analysis as the systematic organisation and synthesis of research data and the testing of the hypothesis using those data. For this study, collected data was captured directly into a Hospital Data Entry and Analysis Tool that works with Microsoft Excel, which was developed by and obtained from AHRQ. Captured data was then sent to the statistician for analysis. The data was analysed using descriptive statistics. The advantage of using descriptive analysis for this study is that it is vital in interpreting the results of large-scale research and that it is the most important technique to describe and summarise data (Brink, Van der Walt & Van Rensburg 2018:167).

Graphs and tables were used to present the collected data. The researcher then produced an overall feedback report that included data from all three hospitals where the study took place. The report was then provided to hospital management, unit managers and the unit staff (Rockville et al. 2019: 26).

3.5. Rigour and Quality Control

In a quantitative study, rigour means a high degree of accuracy, consistency, attention to all measurable aspects of the research and strictly logical deductive reasoning (Gray & Grove 2021:822). Checking on the validity of the study's findings and the ability of other researchers to yield the same results using

the same processes and methods to reach the same conclusions are further features of rigour (Brink, Van der Walt & Van Rensburg 2018:82).

3.5.1. Instrument Validity and Reliability for this Study

Instrument validity seeks to ascertain whether an instrument provides accurate measures given the context in which it is applied. To determine the validity of an instrument, different types of validity have been suggested in the literature and are listed as follows: face, content, and construct validity (Brink, Van der Walt & Van Rensburg 2018:82).

Face validity is the extent to which a measuring instrument looks as though it is measuring what it purports to measure (Polit & Beck 2021:787). Face validity is a subjective decision based on the researcher's feelings, thoughts, and intuition about the functioning of the measuring instrument (Surucu & Maslakci 2020:2701). For this study, face validity is what the instrument looks like, which is the questionnaire.

Content validity is the degree to which a multi-item instrument has an appropriate set of relevant items reflecting the full content of the construct domain being measured. Content validity evaluates whether expressions in the measuring tool represent the phenomenon intended to be measured (Surucu & Maslakci 2020:2697). For this study, the content is the questions in the questionnaire.

Construct validity of an instrument is the degree to which it measures the construct under investigation (Polit & Beck 2021:781). Construct validity is concerned with the degree to which the instrument measures the concept, behaviour, idea, or quality that it purports to measure (Surucu & Maslakci 2020:2700). For this study, the construct is the ability of the questionnaire to measure patient safety culture in critical care units. The researcher used a questionnaire developed by AHRQ to measure patient safety culture in hospitals to ensure that it is relevant to the research question.

Reliability is the accuracy and consistency of information in a study. In measurement, the extent to which a measurement is free from errors. In statistics, the degree to which the results support an inference about what is true in the population (Polit & Beck 2021:801). The data collection instrument for this study was used in Saudi Arabia to assess the nurses 'perceptions of the patient safety culture of several hospitals, and the construct validity of the tool among nurses was confirmed by investigating the correlations of the 12 dimensions, which yielded correlation coefficients ranging between 0.23 and

0.60 (Alquwez, Cruz, Almoghairi, Al-otaibi, Almutairi & Colet 2018:424). A correlation coefficient is a statistical measure of the degree to which changes in the value of one variable predict change to the value of another (Sheng Du 2019:564).

In South Africa, the reliability and validity of this data collection instrument were tested in three critical care units of tertiary level KwaZulu Natal (KZN) provincial hospitals and Cronbach's alpha was 0.73 (Mjadu & Jarvis 2018:83). Cronbach's alpha is a way of assessing reliability by comparing the amount of shared variance or covariance amongst the items making up an instrument to the amount of overall variance. If the instrument is reliable there should be a great deal of covariance among the items relative to the variance. Cronbach's alpha reliability coefficient normally ranges from 0 and 1, and the closer Cronbach's alpha reliability coefficient is to 1.0, the greater the internal consistency of the items in the scale (Hayes & Coutts 2020:1).

The design team examined the reliability and factor structure of the patient safety composites. Based on this analysis, the final items and composites in the Hospital Survey on Patient Safety Culture were determined to have sound psychometric properties, which means that this instrument is valid and reliable (Rockville et al. 2016:2). Psychometric properties are an evaluation of the quality of an instrument, in which its measurements properties, i.e., its reliability, validity and responsiveness (Polit & Beck 2021:799).

3.6. Conclusion

The research design and method, population and sampling, the pilot study and the data collection process, the validity and reliability of the research and ethical considerations were addressed in this chapter. In the next chapter, the report of the findings of the study in detail and the results will be visually presented through figures and tables.

4. DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF RESULTS

4.1. Introduction

The previous chapter discussed the research design and method, population and sampling, the pilot study and the data collection process, the research's validity and reliability, and ethical considerations. The researcher used a quantitative approach to determine patient safety culture in critical care units of public hospitals in the Tshwane Region of Gauteng Province.

This chapter presents a summary of data collection and analysis, the results, and a discussion of findings.

4.2. Data Collection and Analysis

Data collection took place from the 5th to the 16th of September 2022 at the selected three public hospitals in the Tshwane Region, using the English version of the 'Hospital Survey on Patient Safety Culture' (HSOPSC) questionnaire adapted from the Agency for Healthcare Research and Quality (AHRQ). The total number of critical care nurses working at the three selected public hospitals in the Tshwane region is 212. One hundred and fifty (150) questionnaires were distributed, but only 115 participants (Hospital A = 53 participants, Hospital B = 21 participants and Hospital C = 41 participants) completed and returned questionnaires, achieving a response rate of 76.6%.

The collected data were captured directly into a Hospital Data Entry and Analysis Tool that works with Microsoft Excel, developed by, and obtained from AHRQ. The data were analysed in collaboration with the statistician using descriptive statistics.

4.3. Research Results

The results are represented in tables and graphs, with the percentages rounded to one decimal point. The results are organised into two sections.

Section A: Nurses' working backgrounds in the hospitals.

Section B: This section presents the results of 34 questions of HSOPSC from the questionnaire and is grouped into 12 composites, as shown in Table 4.4

4.3.1. Section A: Nurses' Working Background in the Hospitals

Section A covers nurses' working background in terms of numbers in each hospital, duration of service, and their level of interaction with the patients.

4.3.1.1. Hospital Representation

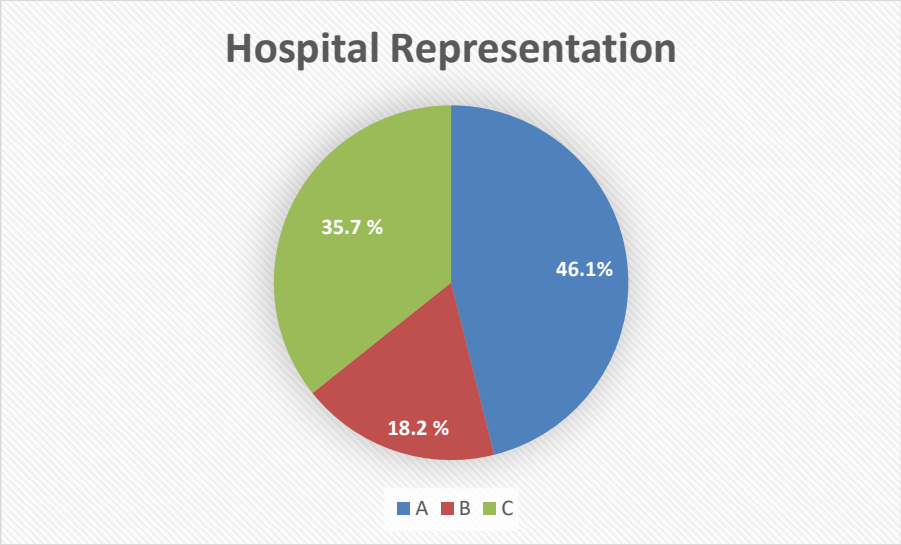

Figure 4.1: Nurses' Hospital Representation

The majority (n=53; 46.1%) worked in Hospital A, (n=21; 18.2%) in B, and (n=41; 35, 7%) in Hospital C. All (n=115; 100%) participants were working in adult critical care units. Hospitals A and C are academic hospitals, and Hospital B is a tertiary hospital.

4.3.1.2. Position of Nurses in the Hospitals

Table 4.1 presents nurses' positions in the hospitals.

Table 4.1: Position of Nurses in the Hospitals

Staff positions	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
Professional Nurse	46 (86.8%)	20 (95.2%)	38 (92.7%)	104 (90.4%)
Enrolled nurse	7 (13.2%)	1 (4.8%)	3 (7.3%)	11 (9.6%)

4.3.1.3. Nurses' Duration of Work in the Hospitals

Table 4.2 presents the nurses' duration of work in the hospital and the units.

Table 4.2: Nurses' Duration of Work in the Hospitals

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
G1. How long have you worked in this hospital?	Less than 1 year	1 (1.9%)	1 (4.8%)	1 (2.4%)	3 (2.6%)
	1 to 5 years	19 (35.8%)	11 (52.4%)	9 (22.0%)	39 (33.9%)
	6 to 10 years	22 (41.5%)	7 (33.3%)	16 (39.0%)	45 (39.1%)
	11 or more years	11 (20.8%)	2 (9.5%)	15 (36.6%)	28 (24.3%)
G2. How long have you worked in your current unit?	Less than 1 year	5 (9.4%)	4 (19.0%)	8 (19.5%)	17 (14.8%)
	1 to 5 years	28 (52.8%)	9 (42.9%)	17 (41.5%)	54 (47.0%)
	6 to 10 years	13 (24.5%)	8 (38.1%)	8 (19.5%)	29 (25.2%)
	11 or more years	7 (13.2%)	0 (0.0%)	8 (19.5%)	15 (13.0%)
G3. How many hours per week do you work in this hospital?	Less than 30 hours per week	1 (1.9%)	0 (0.0%)	0 (0.0%)	1 (0.9%)
	30 to 40 hours per week	47 (88.7%)	18 (85.7%)	31 (75.6%)	96 (83.5%)
	More than 40 hours per week	5 (9.4%)	3 (14.3%)	10 (24.4%)	18 (15.7%)

Concerning the number of years that nurses have worked in the hospitals, only a small percentage (2.6%, n=3) have worked for less than one year. Of the nurses (33.9%, n=39) who have worked for one to five years in the hospitals, 35.8% (n=19) are from Hospital A, 52.4% (n=11) are from Hospital B, and 22.0% (n=9) are from Hospital C. Almost forty per cent of nurses (39.1%, n=45) have worked in the hospitals for six to ten years. Most of these nurses are from Hospital A (41.5%, n=22), followed by Hospital C (39.0%, n=16), and then Hospital B (33.3%, n=7). Some nurses (13.0%, n=15) have

worked for 11 years or more. Among these nurses, 13.2% (n=7) are from Hospital A, and 19.5% (n=8) are from Hospital C.

Regarding the number of years nurses have worked in the units, 14.8% (n=17) have worked for less than one year. Among these nurses, 9.4% (n=5), 19.0% (n=4), and 19.5% (n=8) are from hospitals A, B, and C, respectively. Almost half of the nurses (47.0%, n=54) have worked in the units for one to five years. Of these nurses, 52.8% (n=28) are from Hospital A, 42.9% (n=9) are from Hospital B, and 41.5% (n=17) are from Hospital C. Just under a quarter of nurses (25.2%, n=29) have worked in the hospitals for six to ten years. Among these nurses, 24.5% (n=13), 38.1% (n=8), and 19.5% (n=8) are from hospitals A, B, and C, respectively. Lastly, only a small percentage of nurses (13.0%, n=15) have worked in the units for 11 years or more. Among these nurses, 13.2% (n=7) are from Hospital A, and 19.5% (n=8) are from Hospital C.

Regarding the number of hours nurses work per week, only a small percentage (0.9%, n=1) work less than 30 hours. Most nurses (83.5%, n=96) work between 30 to 40 hours per week. Among these nurses, 88.7% (n=47), 85.7% (n=18), and 75.6% (n=31) are from hospitals A, B, and C, respectively. Only a few nurses (15.7%, n=18) work more than 40 hours weekly. Of these nurses, 9.4% (n=5) are from Hospital A, 14.3% (n=3) are from Hospital B, and 24.4% (n=10) are from Hospital C.

4.3.1.4. Nurses' Interactions with Patients

Table 4.3 presents the nurses' level of interaction with patients.

Table 4.3: Nurses 'Interaction with Patients

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
G4. In your staff position, do you have direct interaction or contact with patients?	Yes	53 (100.0%)	20 (95.2%)	41 (100.0%)	114 (99.1%)
	No	0 (0.0%)	1 (4.8%)	0 (0.0%)	1 (0.9%)

All nurses from Hospital A (100%; n=53) and Hospital C (100%; n=41) have direct interaction with patients. Only 0.9% (n=1) of nurses did not directly interact with patients. Overall, 99.1% (n=114) of nurses directly interact with patients.

4.3.2. Section B

The section presents the results of 34 questions of HSOPSC from the questionnaire and they grouped into 12 composites, as shown in Table 4.4

Table 4.4: Composite of HSOPSC

Composite	Questions
1. Teamwork	[A1] "In this unit, we work together as an effective team". [A8] "During busy times, staff in this unit help each other." [A9] "There is a problem with disrespectful behaviour by those working in this unit."
2. Staffing and work pace	[A2] "In this unit, we have enough staff to handle the workload". [A3] "Staff in this unit work longer hours than is best for patient care". [A5] "This unit relies too much on temporary, float or PRN staff". [A11] "The work pace in this unit is so rushed that it negatively affects patient safety".
3. Organisational learning (Continuous improvement)	[A4] "This unit regularly reviews work processes to determine if changes are needed to improve patient safety". [A12] "In this unit, changes to improve patient safety are evaluated to see how well they worked"? [A14] "This unit lets the same patient safety problems keep happening".
4. Response to error	[A6] "Staff feel like their mistakes are held against them". [A7] "When an event is reported in this unit, it feels like the person is being written up, not the problem". [A10] "When staff make errors, this unit focuses on learning rather than blaming individuals".

	[A13] “In this unit, there is a lack of support for staff involved in patient safety errors”.
5. Supervisor Manager support for patient safety	[B1] "My supervisor or manager seriously considers staff suggestions for improving patient safety". [B2] "My supervisor or manager wants us to work faster during busy times, even if it means taking shortcuts". [B3] “My supervisor or manager takes action to address patient safety concerns that are brought to their attention”.
6. Communication about error	[C1] “We are informed about errors that happen in this unit”. [C2] “When errors happen in this unit, we discuss ways to prevent them from happening again”. [C3] "In this unit, we are informed about changes that are made based on event reports".
7. Communication openness	[C4] “In this unit, staff speak up if they see something that may negatively affect patient care”. [C5] “When staff in this unit see someone with more authority doing something unsafe for patients, they speak up”. [C6] “When staff in this unit speak up, those with more authority are open to their patient safety concerns”. [C7] “In this unit, staff are afraid to ask questions when something does not seem right”.
8. Reporting patient safety events	[D1] “When a mistake is caught and corrected before reaching the patient, how often is this reported?” [D2] "When a mistake reaches the patient and could have harmed the patient but did not, how often is this reported".
9. Hospital management	[F1] “The actions of hospital management show that patient safety is a top priority”. [F2] “Hospital management provides adequate resources to improve patient safety”.

support for patient safety	[F3] “Hospital management seems interested in patient safety only after an adverse event happens”.
10. Handoffs and information exchange	[F4] “When transferring patients from one unit to another, important information is often left out”. [F5] “During shift changes, important patient care information is often left out”. [F6] “During shift changes, there is adequate time to exchange all key patient care information”.
11. Number of events reported	[D3] "In the past 12 months, how many patient safety events have you reported?"
12. Patient safety rating	[E1] “How would you rate your unit on patient safety”.

4.3.2.1. Teamwork in the Units

Teamwork in the units refers to how staff members support one another, treat one another, and work together as a team. A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied to assess the nurses’ level of agreement with the patient safety culture of teamwork in the unit.

Table 4.5: Teamwork in the Units

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
A1. In this unit, we work together as an effective team	Strongly Disagree	1 (1.9%)	3 (14.3%)	2 (4.9%)	6 (5.2%)
	Disagree	7 (13.2%)	1 (4.8%)	3 (7.3%)	11 (9.6%)
	Neither Agree nor Disagree	6 (11.3%)	2 (9.5%)	4 (9.8%)	12 (10.4%)
	Agree	28 (52.8%)	11 (52.4%)	21 (51.2%)	60 (52.2%)

	Strongly Agree	11 (20.8%)	4 (19.0%)	11 (26.8%)	26 (22.3%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
A8. During busy times, staff in this unit help each other	Strongly Disagree	9 (17.0%)	3 (14.3%)	0 (0.0%)	12 (10.4%)
	Disagree	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)
	Neither Agree nor Disagree	7 (13.2%)	3 (14.3%)	5 (12.2%)	15 (13.0%)
	Agree	17 (32.1%)	10 (47.6%)	21 (51.2%)	48 (41.7%)
	Strongly Agree	20 (37.7%)	5 (23.8%)	14 (34.1%)	39 (33.9%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
A9. There is a problem with disrespectful behaviour by those working in this unit	Strongly Disagree	11 (20.8%)	7 (33.3%)	7 (17.1%)	25 (21.7%)
	Disagree	18 (34.0%)	6 (28.6%)	15 (36.6%)	39 (33.9%)
	Neither Agree nor Disagree	8 (15.1%)	3 (14.3%)	8 (19.5%)	19 (16.5%)
	Agree	4 (7.5%)	3 (14.3%)	10 (24.4%)	17 (14.8%)
	Strongly Agree	8 (15.1%)	2 (9.5%)	1 (2.4%)	11 (9.6%)
	Does not apply or do not know	4 (7.5%)	0 (0.0%)	0 (0.0%)	4 (3.5%)

Table 4.1 show nurses' rating on teamwork in the units. Of 115 nurses, 5.2% (n=6) strongly disagree that staff work together effectively in the units. Of the six nurses, 1.9% (n=1) were nurses from Hospital A, 14.3% (n=3) from Hospital B and 4.9% (n=2) from Hospital C. Additionally, 9.6% (n=11) of nurses disagreed with units working together as an effective team. Hospital A had the most nurses who disagreed (13.2%; n=7), followed by Hospital C (7.3%; n=3) and Hospital B (4.8%; n=1). A total of 10.4% (n=12) of nurses, six (11.3%) from Hospital A, two (9.5%) from Hospital B, and four (9.8%) from Hospital C neither agreed nor agreed that staff in units work together as an effective team. On the other hand, 52.2% (n=60) of nurses agreed that staff in the unit work together as an effective team. Hospital A had the most nurses who agreed (52.8%, n=28), followed by 52.4% (n=11) in Hospital B

and 51.2 %(n=21) in Hospital C. Lastly, a total of 22.3% (n=26) of nurses agreed that staff in the unit work together as an effective team. Hospital C has the most nurses who strongly agree (26.8%; n=11), followed by Hospital A (20.8%; n=11) and Hospital B (19.0%; n=4).

On the composite of staff helping each other during busy times, 10.4% (n=12) of nurses from the three hospitals strongly disagreed that staff in the unit help each other during busy times. Of those who strongly disagreed, 17.0% (n=9) were from Hospital A, 14.3% (n=3) from B and none from C. Only 0.9% (n=1) across the hospital disagreed with the statement. Furthermore, 13.0% (n=15) of nurses neither agreed nor disagreed, while 41.7% (n=48) agreed that staff in the unit help each other during busy times. Hospital C had the highest proportion of nurses who agreed (51.2%; n=21), followed by Hospital B with 47.6% (n=10) and Hospital A with 32.1% (n=17). Just over one-third of nurses (33.9%; n=39) strongly agreed that staff in the unit during busy times help each other. Most of the nurses who strongly agreed were from Hospital A (37.7%; n=20), followed by hospital c (34.1%; n=14), then Hospital B (23.8%; n=5).

Of the 115 nurses, 21.7% (n=25) strongly disagreed that there is a problem with disrespectful behaviour by those working in this unit. Among the nurses, 20.8% (n=11) are from Hospital A, 33.3% (n=7) from Hospital B and 17.1% (n=7) from Hospital C. Additionally, 34.0% (n=18), 28.6% (n=6) and 36.6% (n=15) nurses from Hospitals A, B and C, respectively, disagreed with this statement. A total of 16.5% (n=19) of nurses from the three hospitals neither agreed nor disagreed that there is a problem with disrespectful behaviour by those working in this unit. Some 14.8% (n=17) of nurses from the three hospitals agreed that those working in this unit have a problem with disrespectful behaviour. Of the 17 nurses that agreed, 7.5% (n=24) are from Hospital A, 14.3% (n=3) from Hospital B and 24.4% (n=10) from Hospital C. Furthermore, 9.6% (n=11) of nurses across three hospitals strongly agreed that there is a problem with disrespectful behaviour by those working in this unit. Among these nurses, 15.1% (n=8) nurses were from Hospital A, 9.5% (n=2) from Hospital B and 2.4 %(n=1) from Hospital C. Four nurses (3.5%) did not know or found the question not applicable.

4.3.2.1.1. Discussion

Teamwork was rated as a strength in the current study in all three hospitals. This area was also a strength in several studies conducted in Saudi Arabia, Turkey, and China. Thus, the nurses in the three hospitals perceived the presence of support, unity, respect, and cooperation among the staff in their unit to achieve high quality, safe, efficient, and immediate care (Alquwez et al. 2018:427).

A majority (52.2%) of the participants feel that there is teamwork amongst the staff in their unit. In a study that was conducted by (Granel et al. 2020:5). it also showed high percentages that staff supported each other, treated each other with respect, worked together and usually helped their colleagues during the busiest times.

A large number (55.6%) of staff think that there is respect amongst themselves in their unit. In a study conducted by Alquwez et al. (2018:427), the nurses perceived the presence of respect and cooperation among the staff to achieve patient safety. They perceived their relationship to be open, safe, flexible, and respectful.

4.3.2.2. Staffing and Working Pace

Staffing and working pace assessed the nurses' level of agreement with the extent to which the staffing levels and work hours are sufficient to provide patients with the highest quality care. A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied.

Table 4.6: Staffing and Working Pace

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
A2. In this unit, we have enough staff to handle the workload	Strongly Disagree	15 (28.3%)	4 (19.0%)	14 (34.1%)	33 (28.7%)
	Disagree	26 (49.1%)	12 (57.1%)	19 (46.3%)	57 (49.6%)
	Neither Agree nor Disagree	6 (11.3%)	1 (4.8%)	5 (12.2%)	12 (10.4%)
	Agree	6 (11.3%)	4 (19.0%)	3 (7.3%)	13 (11.3%)
	Strongly Agree	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
A3. Staff in this unit work	Strongly Disagree	1 (1.9%)	3 (14.3%)	5 (12.2%)	9 (7.8%)
	Disagree	14 (26.4%)	9 (42.9%)	13 (31.7%)	36 (31.3%)

longer hours than is best for patient care	Neither Agree nor Disagree	9 (17.0%)	3 (14.3%)	6 (14.6%)	18 (15.7%)
	Agree	13 (24.5%)	6 (28.6%)	12 (29.3%)	31 (27.0%)
	Strongly Agree	15 (28.3%)	0 (0.0%)	4 (9.8%)	19 (16.5%)
	Does not apply or do not know	1 (1.9%)	0 (0.0%)	1 (2.4%)	2 (1.7%)
A5. This unit relies too much on temporary, float or PRN staff	Strongly Disagree	16 (30.2%)	4 (19.0%)	5 (12.2%)	28 (24.3%)
	Disagree	21 (39.6%)	4 (19.0%)	5 (12.2%)	34 (29.6%)
	Neither Agree nor Disagree	2 (3.8%)	2 (9.5%)	3 (7.3%)	14 (12.2%)
	Agree	10 (18.9%)	8 (38.1%)	14 (34.1%)	29 (25.2%)
	Strongly Agree	2 (3.8%)	2 (9.5%)	12 (29.3%)	16 (13.9%)
	Does not apply or do not know	2 (3.8%)	1 (4.8%)	12 (31.7%)	16 (13.9%)
A11. The work pace in this unit is so rushed that it negatively affects patient safety	Strongly Disagree	6 (11.3%)	3 (14.3%)	9 (22.0%)	18 (15.7%)
	Disagree	18 (34.0%)	15 (71.4%)	13 (31.7%)	46 (40.0%)
	Neither Agree nor Disagree	7 (13.2%)	2 (9.5%)	5 (12.2%)	14 (12.2%)
	Agree	17 (32.1%)	1 (4.8%)	9 (22.0%)	27 (23.5%)
	Strongly Agree	5 (9.4%)	0 (0.0%)	5 (12.2%)	10 (8.7%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Regarding staffing and work pace, 28.7% (n=33) of nurses strongly disagreed that the units have enough staff to handle the workload. Of the 33, 15 (28.3% (n=15) are from Hospital A, 19.0% (n=4) from B, and 34.1% (n=14) from C. Most nurses (49.6%; n=57) disagreed that units have enough staff to handle the workload. Among the nurses who disagreed, 49.1%(n=26) were from Hospital A, 57.1% (n=12) were from Hospital B and 46.3% (n=19) from are from Hospital C. Twelve nurses, comprising

10.4% of the total, neither agreed nor disagreed that the units have enough staff to handle the workload. Hospital A had six nurses (11.3%), Hospital B had one nurse (4.8%), and Hospital C had five nurses (12.2%). About 11.3% (n=13) of nurses agreed that units have enough staff to handle the workload. Six (11.3%), four (19.0%) and three (7.3%) were for Hospitals A, B, and C, respectively. No one (0.0%) strongly agreed that units have enough staff to handle the workload.

On the question 'Staff in the unit work longer hours than is best for patient care,' 1.9% (n=1), 14.3% (n=3) and 12.2% (n=5) nurses from Hospital A, B and C strongly disagreed, totalling to 7.8% (n=9). Among 31.3% (n=36) nurses who disagreed that staff in the unit work longer hours than is best for patient care, 26.4% (n=14) were from hospital A, 42.9% (n=9) from B and 31.7% (n=13) from C. A total of 15.7% (n=18) nurses neither agreed nor disagreed with the statement, while 27.0% (n=31) agreed. Of the 31 nurses that agreed, 24.5% (n=13) nurses were from Hospital A, 28.6% (n=6) from B and 29.3% (n=12) from C. Furthermore, 16.5% (n=19) strongly agreed that staff in the unit work longer hours than is best for patient care. Among these nurses, 28.3% (n=15) nurses were from Hospital A, and 9.8% (n=4) were from Hospital C. Two nurses (1.7%) did not know or found the question not applicable.

About 24.3% (n=28) of nurses strongly disagreed that the unit relies too much on temporary, float or PRN staff. Of those who strongly disagreed, 30.2% (n=16) are from Hospital A, 19.0% (n=4) from B and 12.2% (n=5) from C. In addition, 29.6% (n=34) disagreed with the statement. Among those who disagreed, 39.6% (n=21) are from Hospital A, 19.0% (n=4) from B and 12.2% (n=5) from C. A total of 12.2% (n=14) nurses, two (3.8%) from Hospital A, two (9.5%) from Hospital B, and three (7.3%) from Hospital C, neither agreed nor disagreed. On the other hand, 25.2% (n=29) of nurses agree that the unit relies too much on temporary, float or PRN staff. Of the 29 that agreed, 18.9% (n=10), 38.1% (n=8), and 34.1% (n=14) were from Hospitals A, B and C, respectively. Lastly, 13.9% (n=16) of nurses strongly agree that the unit relies too much on temporary, float or PRN staff. Hospital C had the most nurses who strongly agreed (29.3; n=12), followed by Hospital B (9.5%; n=2) and Hospital A (3.8%; n=2). Sixteen (13.9%) of nurses did not know, or the question did not apply to them.

Regarding the pace of work in the units, a total of 15.7% (n=18) of 115 nurses strongly disagreed that the work pace in this unit is so rushed that it negatively affects patient safety. Of the 18 nurses, 11.3% (n=6) nurses are from Hospital A, 14.3% (n=3) from Hospital B and 22.0% (n=9) from Hospital C. Additionally, 34.0% (n=18), 71.4% (n=15) and 31.7% (n=13) nurses from Hospitals A, B and C, respectively, disagreed with this statement. About 12.2% (n=14) of nurses from the three hospitals

neither agreed nor disagreed that the work pace in this unit is so rushed that it negatively affects patient safety. Some nurses (23.5%; n=27) from the three hospitals agreed that the work pace in this unit is so rushed that it negatively affects patient safety. Of the 27 nurses that agreed, 32.1% (n=17) are from Hospital A, 4.8% (n=1) from Hospital B and 22.0% (n=9) from Hospital C. Furthermore, 8.7% (n=10) of nurses across three hospitals strongly agreed that the work pace in this unit is so rushed that it negatively affects patient safety. Among these nurses, 9.4% (n=5) were from Hospital A, and 12.2% (n=10) were from Hospital C.

4.3.2.2.1. Discussion

Seventy-eight-point one per cent of staff unanimously thought there were not enough personnel and that, sometimes, patients' care suffered because of the lack of staff (Granel et al. 2020:5). In critical care units where there are shortages of staff and equipment and patients admitted with life-threatening illnesses, it is more likely that there will be higher incidence of medical errors (Chegini et al. 2020:2).

The majority (43.5%) of the nurses agreed that there are staffing issues such as long working hours and increased job demand in promoting patient safety in their units. Participants worked longer hours than scheduled as the hospitals are trying to cope with shortage of nurses and this led to burnout of the staff. Higher levels of burnout were associated with unfavourable outcomes, patient dissatisfaction, and increased patient and family complaints (Garcia, Abreu, Ramos, Castro, Smiderle et al. 2019:9)

The majority (53.9%) of the participants disagree that their unit relies too much on temporary staff. Relying too much on temporary nurses can put pressure on permanent staff as they must supervise these nurses and look after the patient at the same time. This is more likely to cause burnout and stress on the nurses and consequently compromise patient safety. Therefore, hospitals should put effort to retain nurses to reduce the use of temporary nurses (O'Hara, Burke, Ditomassi & Lopez 2019:411).
The majority (55.7%) of the participants disagree that the work pace in their unit is rushed which affects patient safety negatively. However, it was in contradiction with the results of the other study in which it was observed that general healthcare-associated infection rates were not associated with burnout, but with the feeling of working faster and hard (Garcia et al. 2019:9).

4.3.2.3. Organisational Learning and Continuous Improvement

Organisational learning and continuous improvement have assessed the extent to which nurses agree that the errors have resulted in positive changes, and the efficacy of these changes is being evaluated. A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied.

Table 4.7: Organisational Learning and Continuous Improvement

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
A4. This unit regularly reviews work processes to determine if changes are needed to improve patient safety	Strongly Disagree	7 (13.2%)	2 (9.5%)	1 (2.4%)	10 (8.7%)
	Disagree	12 (22.6%)	5 (23.8%)	7 (17.1%)	24 (20.9%)
	Neither Agree nor Disagree	6 (11.3%)	3 (14.3%)	4 (9.8%)	13 (11.3%)
	Agree	17 (32.1%)	8 (38.1%)	22 (53.7%)	30 (26.1%)
	Strongly Agree	10 (18.9%)	2 (9.5%)	3 (7.3%)	18 (15.7%)
	Does not apply or do not know	1 (1.9%)	1 (4.8%)	4 (9.8%)	9 (7.8%)
A12. In this unit, changes to improve patient safety are evaluated to see how well they worked	Strongly Disagree	0 (0.0%)	3 (14.3%)	0 (0.0%)	3 (2.6%)
	Disagree	16 (30.2%)	1 (4.8%)	3 (7.3%)	20 (16.5%)
	Neither Agree nor Disagree	5 (9.4%)	4 (19.0%)	8 (19.5%)	17 (14.8%)
	Agree	21 (39.6%)	10 (47.6%)	23 (56.1%)	54 (47.0%)
	Strongly Agree	9 (17.0%)	3 (14.3%)	7 (17.1%)	19 (16.5%)
	Does not apply or do not know	2 (3.8%)	0 (0.0%)	0 (0.0%)	2 (1.7%)
	Strongly Disagree	12 (22.6%)	6 (28.6%)	8 (19.5%)	26 (22.6%)

A14. This unit lets the same patient safety problems keep happening	Disagree	22 (41.5%)	12 (57.1%)	18 (43.9%)	52 (45.2%)
	Neither Agree nor Disagree	6 (11.3%)	2 (9.5%)	8 (19.5%)	16 (13.9%)
	Agree	6 (11.3%)	1 (4.8%)	4 (9.8%)	11 (9.6%)
	Strongly Agree	3 (5.7%)	0 (0.0%)	1 (2.4%)	4 (3.5%)
	Does not apply or do not know	4 (7.5%)	0 (0.0%)	2 (4.9%)	6 (5.2%)

Table 4.7 indicates that of the nurses, 8.7% (n=1) strongly disagreed that the unit regularly reviews work processes to determine if changes are needed to improve patient safety. Among the nurses who disagreed, most of them (13.2%; n=7) were from Hospital A, followed by 9.5% (n=2) from Hospital B and 2.4% (n=1) from Hospital C. In addition, 22.6% (n=12), 23.8% (n=5) and 17.1% (n=7) from Hospitals A, B and C, respectively, disagreed, adding to a total of 20.9% (n=24). Few nurses (11.3%; n=13) neither agreed nor disagreed that the unit regularly reviews work processes to determine if changes are needed to improve patient safety. On the other hand, 26.1% (n=30) of nurses agreed. Among those who agreed, 32.1% (n=17) were from Hospital A, 38.1% (n=8) from Hospital B and 53.7% (n=22) are from Hospital C. Furthermore, 18.9%(n=10), 9.5%(n=2) and 7.3%(n=3) of nurses from Hospitals A, B and C strongly disagreed, totalling 15.7% (n=18) of nurses strongly agreed that that the unit regularly reviews work processes to determine if changes are needed to improve patient safety. Seven point eight per cent (n=9) of nurses did not know, or the question did not apply to them. Only 2.6% (n=3) of nurses strongly disagreed regarding evaluating changes to improve patient safety. The nurses were from Hospital B, while fewer (16.5%) disagreed. Most of the nurses who disagreed were from Hospital A (30.2%; n=16), followed by 7.3% (n=3) from Hospital C and 4.8% (n=1) from Hospital B. About 14.8% (n=17) of nurses neither agreed nor disagreed that changes to improve patient safety are evaluated to see how well they worked. In contrast, a higher proportion (47.0%; n=54) of nurses across the hospital agreed. Of the nurses who agreed, 39.6% (n=21) were from Hospital A, 47.6% (n=10) from Hospital B and 56.1% (n=23) from Hospital C. In addition, 17.0 (n=9), 14.3% (n=3) and 17.1 (n=7) of nurses in Hospitals in A, B and C, respectively, strongly agreed that changes to improve patient safety were evaluated to see how well they worked. Only 1.7% (n=2) of nurses did not know, or the question did not apply to them.

On the composite 'unit lets the same patient safety problems keep happening,' 22.6% (n=12), 28.6% (n=6) and 19.5% (n=8) nurses from Hospital A, B and C, respectively, strongly disagreed that the units let the same patient safety problems keep happening. Overall, 22.6% (n=26) strongly disagreed, while 45.2% (n=52) disagreed. Of the nurses who disagreed, 41.4% (n=22) were from Hospital A, 57.1% (n=12) from Hospital B and 43.9% (n=18) from Hospital C. Of the nurses, 13.9% (n=16) neither agreed nor disagreed that the units let the same patient safety problems keep happening. In contrast, only a few nurses (9.6%; n=11) across the hospital agreed. Of the nurses, 11.3% (n=6) were from Hospital A, 4.8% (n=1) from Hospital B and 9.8% (n=4) from Hospital C. Only 3.5% (n=4) strongly disagreed, which were from Hospital A (5.7%; n=3) and Hospital C (2.4%; n=1). About 5.2% (n=6) indicated that the question was not applicable or did not know how to respond.

4.3.2.3.1. Discussion

Forty-four per cent (44%) of the participants agree that their unit regularly reviews work processes to see if changes are needed to improve patient safety. This finding shows that there is an effort in this unit to improve patient safety as it is imperative to improve quality and safety in healthcare. According to (Garcia et al. 2019:1), factors such as failed organisational work processes, ineffective teamwork, and physical overload on nurses can compromise patient safety. Most nurses (73%) agree that in their units, changes to improve patient safety are evaluated to see how well they worked, and (74.6%) disagree that their units let the same patient safety problems keep happening. This is in line with a study that was conducted by (Mayeng & Wolvaardt 2018:4); organisational learning following a patient safety incident was scored substantially positively by the nurses (62.9%; n = 56).

4.3.2.4. Response to Error

The composite 'response to error' assesses the extent of nurses' agreement with the view that their errors and event reports are not held against them and are not added to their personal records. A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied.

Table 4.8: Response to Error

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
A6. In this unit, staff feel like their mistakes are held against them	Strongly Disagree	3 (5.7%)	2 (9.5%)	2 (4.9%)	7 (6.1%)
	Disagree	7 (13.2%)	8 (38.1%)	8 (19.5%)	23 (20.0%)
	Neither Agree nor Disagree	12 (22.6%)	3 (14.3%)	9 (22.0%)	24 (20.9%)
	Agree	18 (34.0%)	5 (23.8%)	11 (26.8%)	34 (29.6%)
	Strongly Agree	12 (22.6%)	2 (9.5%)	9 (22.0%)	23 (20.0%)
	Does not apply or do not know	1 (1.9%)	1 (4.8%)	2 (4.9%)	4 (3.5%)
A7. When an event is reported in this unit, it feels like the person is being written up, not the problem	Strongly Disagree	8 (15.1%)	2 (9.5%)	2 (4.9%)	12 (10.4%)
	Disagree	15 (28.3%)	8 (38.1%)	8 (19.5%)	31 (27.0%)
	Neither Agree nor Disagree	7 (13.2%)	3 (14.3%)	6 (14.6%)	16 (13.9%)
	Agree	16 (30.2%)	4 (19.0%)	13 (31.7%)	33 (28.7%)
	Strongly Agree	7 (13.2%)	3 (14.3%)	11 (26.8%)	21 (18.3%)
	Does not apply or do not know	0 (0.0%)	1 (4.8%)	1 (2.4%)	2 (1.7%)
A10. When staff make errors, this unit focuses on learning rather than	Strongly Disagree	4 (7.5%)	1 (4.8%)	1 (2.4%)	6 (5.2%)
	Disagree	10 (18.9%)	5 (23.8%)	11 (26.8%)	26 (22.6%)
	Neither Agree nor Disagree	12 (22.6%)	5 (23.8%)	10 (24.4%)	27 (23.5%)
	Agree	15 (28.3%)	8 (38.1%)	13 (31.7%)	36 (31.3%)
	Strongly Agree	12 (22.6%)	2 (9.5%)	6 (14.6%)	20 (17.4%)

blaming individuals	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
A13. In this unit, there is a - lack of support for staff involved in patient safety errors	Strongly Disagree	3 (5.7%)	3 (14.3%)	5 (12.2%)	11 (9.6%)
	Disagree	14 (26.4%)	7 (33.3%)	13 (31.7%)	34 (29.6%)
	Neither Agree nor Disagree	10 (18.9%)	8 (38.1%)	11 (26.8%)	29 (25.2%)
	Agree	15 (28.3%)	2 (9.5%)	10 (24.4%)	27 (23.5%)
	Strongly Agree	10 (18.9%)	1 (4.8%)	1 (2.4%)	12 (10%)
	Does not apply or do not know	1 (1.9%)	0 (0.0%)	1 (2.4%)	2 (1.7%)

On the composite of responding to error, (6.1%; n=7) of nurses strongly disagreed that the staff feel like their mistakes are held against them. Of the nurses, 5.7% (n=3) are from Hospital A, 9.5% (n=2) from B, and 4.9% (n=2) from C. Twenty per cent (n=23) of nurses disagreed that staff feel their mistakes are held against them. Among the nurses who disagreed, 13.2% (n=7) were from Hospital A, 38.1% (n=8) were from Hospital B, and 19.5% (n=8) were from Hospital C. Some nurses (20.9%; n=24) across the hospital neither agreed nor disagreed that Staff feel like their mistakes are held against them. About 29.6% (n=34) of nurses agreed that staff feel like their mistakes are held against them. Most of the nurses were from Hospital A (34.0%; n=18), followed by Hospital C (26.8%; n=11) and Hospital B (23.8%; n=5). In addition, 22.6% (n=12), 9.5% (n=2) and 22.0% (n=9) nurses from Hospitals A, B and C strongly agreed. Overall, 20.0% (n=23) strongly agreed that staff feel like their mistakes are held against them. Some nurses (3.5%; n=4) did not know or found the question not applicable.

Of the 115 nurses, 10.4% (n=12) strongly disagreed with the statement that after reporting the event, nurses feel like they are the ones who are being recorded, not the event. Of the nurses, 15.1% (n=8), 9.5% (n=2) and 4.9% (n=2) are from Hospitals A, B and C, respectively. Among 27.0% (n=31) nurses who disagreed with the statement that after reporting the event, nurses feel like they are the ones who are being recorded, not the event, 28.3%(n=15) are from Hospital A, 38.1% (n=8) from B and 19.5%(n=8) from C. About 13.9% (n=16) of nurses neither agreed nor disagreed with the statement, while 28.7% (n=33) agreed. Of the nurses that agreed, most of them (30.2%; n=16) were from Hospital

A, followed by 31.7% (n=13) from Hospital C and 19.0% (n=4) from Hospital C. Furthermore, 18.3% (n=21) strongly agreed that nurses feel like they are being recorded, not the event, after reporting it. Among the nurses, 13.2% (n=7) nurses are from Hospital A, 14.3% (n=3) from Hospital B and 26.8% (n=11) from Hospital C. Two nurses (1.7%) did not know or found the question not applicable.

Few nurses (5.2%; n=6) strongly disagreed that when staff make errors, the unit focuses on learning rather than blaming individuals. Of the nurses, 7.5% (n=4) are from Hospital A, 4.8% (n=1) from B and 2.4% (n=1) from C. About 22.6% (n=26) of nurses across the hospitals disagreed; 18.9% (n=10) are from Hospital A, 23.8% (n=5) from B and 26.8% (n=1) from C disagreed. Some nurses (23.5%; n=27) from the hospital neither agreed nor disagreed that when staff make errors, the unit focuses on learning rather than blaming individuals. In contrast, 31.3% (n=36) of nurses agreed that when staff make errors, the unit focuses on learning rather than blaming individuals. Of the nurses who agreed, 28.3% (n=15), 38.1% (n=8), and 31.7% (n=13) were from Hospitals A, B and C, respectively. Lastly, 17.4% (n=20) of nurses strongly agreed that when staff make errors, the unit focuses on learning rather than blaming individuals. Hospital A has the most nurses who strongly agreed (22.6%; n=12), followed by Hospital C (14.6%; n=6) and Hospital B (9.5%; n=2).

Regarding support for staff involved in patient safety errors, 9.6% (n=11) of nurses strongly disagreed that there is a lack of support for staff involved in patient safety errors in the units. Of the nurses, 5.7% (n=3) nurses are from Hospital A, 14.3% (n=3) from Hospital B and 12.2% (n=5) from Hospital C. Additionally, 26.4% (n=14), 33.3% (n=7) and 31.7% (n=13) nurses from Hospitals A, B and C, respectively, disagreed with this statement. Bringing the total of those who disagreed to 29.6% (n=34). Some (25.8%; n=14) nurses from the three hospitals neither agreed nor disagreed that there is a lack of support for staff involved in patient safety errors, while 23.5% (n=27) agreed. Of the 27 nurses that agreed, 28.3% (n=15) are from Hospital A, 9.5% (n=2) from Hospital B and 24.4% (n=10) from Hospital C. Furthermore, 10% (n=12) of nurses across three hospitals strongly agreed that there is a lack of support for staff involved in patient safety errors. Among these nurses, 18.9% (n=10) were from Hospital A, 4.8% (n=1) were from Hospital B, and 2.4% (n=1) were from Hospital C. Only 1.7% (n=2) nurses did not know, or question did not apply to them.

4.3.2.4.1. Discussion

Forty-nine per cent (49%) of the nurses feel that their mistakes are held against them, and this is not in line with other studies where participants perceived non-punitive response to error to be the least

practised in their organisation. This composite is defined as the extent to which staff feel that their mistakes and event reports are not held against them, and mistakes are not mentioned in their files (Elmonstri et al. 2017:3).

Forty-seven per cent (47%) of the participants feel that the person is written up when an event is reported, and this will lead to a low rate of reporting errors. Therefore, managers have the responsibility to shape a working environment in terms of removing barriers to error reporting and providing a supportive environment so that nurses feel they can report errors without fearing reprisals (Chegini et al. 2020:7).

Forty-eight-point-seven per cent (48.7%) of the participants believe that when staff make errors, the unit focuses on learning rather than blaming people. This is in line with a study where error reporting is encouraged, staff are free from the fear of blame, and use errors as a source of learning. A supportive, blame-free environment stimulates higher levels of reporting and contributes to preventing incidents (Mjadu & Jarvis 2018:82).

Thirty-nine-point-two per cent (39.2%) of the participants disagree that they lack support, which means the staff in these units get support from their managers. This encourages staff not to be afraid to report errors. This is not in line with a study conducted by Yesilyaprak and Korkmaz (2021:5) in Turkey, where management support for staff was rated low. It is necessary to provide management support for error reporting, as error reporting is important in establishing a hospital's patient safety.

4.3.2.5. Supervisor, Manager, or Clinical Leader Support for Patient Safety

A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied to assess the extent to which the nurses agreed that management of the hospital promotes a work environment that encourages patient safety and demonstrates that patient safety is a top priority.

Table 4.9: Supervisor, Manager, or Clinical Leader Support for Patient Safety

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
B1. My supervisor or manager seriously considers staff suggestions for improving patient safety	Strongly Disagree	2 (3.8%)	1 (4.8%)	2 (4.9%)	5 (4.3%)
	Disagree	5 (9.4%)	2 (9.5%)	3 (7.3%)	10 (8.7%)
	Neither Agree nor Disagree	9 (17.0%)	4 (19.0%)	7 (17.1%)	20 (17.4%)
	Agree	14 (26.4%)	9 (42.9%)	18 (43.9%)	41 (35.7%)
	Strongly Agree	23 (43.4%)	5 (23.8%)	10 (24.4%)	38 (33.0%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)
B2. My supervisor or manager wants us to work faster during busy times, even if it means taking shortcuts	Strongly Disagree	16 (30.2%)	8 (38.1%)	8 (19.5%)	32 (27.8%)
	Disagree	27 (50.9%)	10 (47.6%)	22 (53.7%)	59 (51.3%)
	Neither Agree nor Disagree	4 (7.5%)	3 (14.3%)	5 (12.2%)	12 (10.4%)
	Agree	1 (1.9%)	0 (0.0%)	5 (12.2%)	6 (5.2%)
	Strongly Agree	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)
	Does not apply or do not know	5 (9.4%)	0 (0.0%)	0 (0.0%)	5 (4.3%)
B3. My supervisor or manager takes action to address patient safety concerns that are	Strongly Disagree	1 (1.9%)	1 (4.8%)	1 (2.4%)	3 (2.6%)
	Disagree	4 (7.5%)	2 (9.5%)	1 (2.4%)	7 (6.1%)
	Neither Agree nor Disagree	0 (0.0%)	1 (4.8%)	4 (9.8%)	5 (4.3%)
	Agree	26 (49.1%)	11 (52.4%)	27 (65.9%)	54 (47.0%)
	Strongly Agree	22 (41.5%)	6 (28.6%)	8 (19.5%)	36 (31.3%)

brought to their attention	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 4.9 shows nurses' ratings on the supervisor or manager's support for patient safety. Of the115 nurses, only 4.3% (n=5) strongly disagree that the supervisor or -manager seriously considers staff suggestions for improving patient safety. Of the nurses who strongly disagreed, 3.8% (n=2), 4.8% (n=1) and 4.9% (n=2) are from Hospitals A, B and C, respectively. Additionally, 8.7%% (n=10) of nurses disagreed. Among the nurses who disagreed, 9.4% (n=5), 9.5% (n=2) and 7.3% (n=3) are from Hospitals A., B and C, respectively. About 17.4% (n=20) of nurses across the hospital neither agreed nor agreed that the supervisor or manager seriously considers staff suggestions for improving patient safety. On the other hand, 35.7% (n=41) of nurses agreed. Hospital C has the higher proportion of nurses who agree (43.9%, n=18), followed by Hospital B (42.9%; n=9) and Hospital A (26.4%; n=14). Lastly, 33.0% (n=38) of nurses strongly agreed that the supervisor or manager seriously considers staff suggestions for improving patient safety.
Among the nurses that strongly agreed, most of them were from Hospital A (43.4%; n=23), followed by 24.4% (n=10) from Hospital C and 23.8% (n=5) from Hospital C. Only 0.9% (n=1) did not know, or the question did not apply to them.

Of 115 nurses, 27.8% (n=32) strongly disagreed that the supervisor or manager wants us to work faster during busy times, even if it means taking shortcuts. Among the nurses who strongly disagreed, 30.2% (n=16), 38.1% (n=8) and 19.5% (n=8) are from Hospitals A, B and C, respectively. Additionally, 51.3% (n=3) disagreed that the supervisor or manager wants us to work faster during busy times, even if it means taking shortcuts. Of the nurses who disagreed, 50.9 (n=27), 47.6% (n=10) and 53.7% (n=22) are Hospital A, B and C, respectively. Furthermore, 10.4% (n=12) of nurses neither agreed nor disagreed, while only 5.2% (n=6) agreed that the supervisor or manager wants them to work faster during busy times, even if it means taking shortcuts. The nurses that agreed are from Hospital A (1.9%; n=1) and Hospital C (12.2%; n=5). A small proportion of nurses (0.9%; n=1) strongly disagreed that supervisor or manager wants them to work faster during busy times, even if it means taking shortcuts. Only one nurse (0.9%) did not know or found the question not applicable.

Regarding the supervisor or manager taking action to address patient safety concerns, only 2.6% (n=3) of 115 nurses strongly disagreed that the supervisor or manager takes action to address patient safety concerns that are brought to their attention. Of the three nurses, 1.9% (n=1) were nurses from Hospital

A, 4.8% (n=1) from Hospital B and 2.4% (n=1) from Hospital C. Additionally, 7.5% (n=4), 9.5% (n=2) and 2.4% (n=1) nurses from Hospitals A, B and C, respectively, disagreed with this statement. Bringing the total of those who disagreed to 6.1% (n=7). About 4.3% (n=5) of nurses from the three hospitals neither agreed nor disagreed that the supervisor or manager takes action to address patient safety concerns that are brought to their attention. Some 47.0% (n=54) of nurses from the three hospitals agreed that a supervisor or manager takes action to address patient safety concerns that are brought to their attention. Of the 57 nurses that agreed, 49.1% (n=26) are from Hospital A, 52.4% (n=11) from Hospital B and 65.9% (n=27) from Hospital C. Furthermore, 31.3% (n=36) of nurses across three hospitals strongly agreed that the supervisor or manager takes action to address patient safety concerns that are brought to their attention. Among these nurses, 49.1 %(n=26) nurses were from Hospital A, 28.6% (n=6) from Hospital B and 19.5 % (n=8) from Hospital C.

4.3.2.5.1. Discussion

The majority (68.7%) of the participants agree that the managers seriously listen to staff and consider their suggestions to improve patient safety in their units. This result is in contradiction with the results of another study where nurses reported that management does not listen and answer employees' concerns. Overall, in this study, it seems necessary for hospital management to become more visible, especially to nurses and for communication between hospital management and nursing staff to be improved to improve patient safety culture (Wagner, Rieger, Manser, Sturm, Hardt and Martus et al. 2019:11).

The majority (61.7%) of the participants disagree that in these units' managers do not expect the staff to work faster during busy times. even if it means taking shortcuts, and (78.3%) feel that their manager takes action to address patient safety concerns that are brought to their attention, and this means there is support for patient safety by the managers.

4.3.2.6. Communication about Errors in the Unit

Table 4.10: Communication about Errors in the Unit

Variables	Category	Hospital A N=53 N (%)	Hospital B -N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
C1. We are informed about errors that happen in this unit	Never	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)
	Rarely	2 (3.8%)	0 (0.0%)	1 (2.4%)	3 (2.6%)
	Sometimes	6 (11.3%)	2 (9.5%)	7 (17.1%)	15 (13.0%)
	Most of the time	12 (22.6%)	8 (38.1%)	17 (41.5%)	37 (32.2%)
	Always	33 (62.3%)	11 (52.4%)	15 (36.6%)	59 (51.3%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
C2. When errors happen in this unit, we discuss ways to prevent them from happening again	Never	0 (0.0%)	0 (0.0%)	2 (4.9%)	2 (1.7%)
	Rarely	0 (0.0%)	0 (0.0%)	2 (4.9%)	2 (1.7%)
	Sometimes	6 (11.3%)	4 (19.0%)	12 (29.3%)	22 (19.1%)
	Most of the time	17 (32.1%)	8 (38.1%)	10 (24.4%)	35 (30.4%)
	Always	30 (56.6%)	9 (42.9%)	15 (36.6%)	54 (47.0%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
C3. We are informed about changes that are made based on event reports.	Never	2 (3.8%)	0 (0.0%)	1 (2.4%)	3 (2.6%)
	Rarely	0 (0.0%)	1 (4.8%)	2 (4.9%)	3 (2.6%)
	Sometimes	11 (20.8%)	5 (23.8%)	13 (31.7%)	29 (25.2%)
	Most of the time	16 (30.2%)	6 (28.6%)	15 (36.6%)	37 (32.2%)
	Always	23 (43.4%)	8 (38.1%)	10 (24.4%)	41 (35.7%)
	Does not apply or do not know	1 (1.9%)	1 (4.8%)	0 (0.0%)	2 (1.7%)

Of the 115 nurses, 0.9% (n=1) indicated that they are never informed about errors that happen in the units, 2.6% (n=3) are rarely informed, 13.0% (n=15) are sometimes informed, 32.2% (n=37) are informed most of the time. In contrast, 51.3% (n=59) are always informed about the errors that happen in the units. A lower proportion (1.7%; n=2) of nurses indicated that they never discuss ways to prevent errors from happening again in the unit, and a similar proportion (1.7%; n=2) indicated that they rarely discuss ways to prevent errors from happening again. All these nurses are from Hospital C (4.9%; n=e of the nurses (19.1%; n=22) indicated that they sometimes discuss ways to prevent errors from happening again. Of the nurses, 11.3% (n=6), 19.0% (n=4) and 29.3% (n=12) are from Hospitals A, B and C, respectively. In addition, 30.4% (n=35) indicated that they sometimes discuss ways to prevent errors from happening again. Among the nurses, 32.1% (n=17) are from Hospital A, 38.1% (n=8) from B, and 24.4% (n=10) from C. Lastly, 47.0% (n=54) indicated that they always discuss ways to prevent errors from happening again. Of the nurses, 56.6% (n=30), 42.9% (n=9) and 36.6% (n=15) are from Hospitals A, B and C, respectively.

About being informed about changes made based on event reports, a similar proportion of nurses indicated that they are never informed (2.6%; n=3), while others are rarely (2.6%; n=3) informed. Those who indicated that they are sometimes, most of the time, and always informed about changes that are based on the event reports were 25.2% (n=29), 32.2% (n=37) and 35.7% (n=41), respectively. About 1.7% (n=2) indicated that the question was not applicable or did not know how to respond.

4.3.2.6.1. Discussion

A large number (51.3%) of the nurses said that they are always informed about errors that happen in the unit, and when errors happen, they always discuss ways to prevent them from happening again. However, it was in contradiction with the results of the study that was conducted by Supriadi, Wahyuni, Hilda, Setiadi and Palutturi, (2020:2), in which communication scored low. There were many cases in the healthcare sector due to miscommunication.

The Institute of Medicine (IOM) estimated that 100000 patient safety incidents due to medical errors occurred every year. For 15 consecutive years, miscommunications contributed to 70% of patient safety incidents.

Less than half (47.0%) said they are always informed about the changes that are made based on event reports. This finding is in contradiction with the finding of a cross-sectional study carried out at three public hospital units in the state of Paraná which revealed feedback as a failure issue at the units surveyed. The low perception of the participants regarding the safety actions adopted from the report

events pointed out the need for actions that the managers must perform, such as the sharing of decisions with the purpose of correction and prevention of factors associated with them (Batista, Cruz, Alpendre, Paixão, Gaspari et al. 2019:5).

4.3.2.7. Communication Openness

Communication openness assessed the extent to which nurses are free to speak up if they observe something that could negatively affect a patient and feel free to question those with more authority. A five-point Likert scale consisting of never, rarely, sometimes, most of the time and always was used with an additional option for a situation where a question was not applicable.

Table 4.11: Communication Openness

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
C4. In this unit, staff speak up if they see something that may negatively affect patient care	Never	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Rarely	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Sometimes	11 (20.8%)	4 (20.0%)	5 (12.2%)	20 (17.4%)
	Most of the time	12 (22.6%)	7 (35.0%)	21 (51.2%)	40 (34.8%)
	Always	30 (56.6%)	8 (40.0%)	15 (36.6%)	53 (46.1%)
	Does not apply or do not know	0 (0.0%)	1 (5.0%)	0 (0.0%)	1 (0.9%)
C5. When staff in this unit see someone with more authority doing something unsafe for patients, they speak up	Never	3 (5.7%)	0 (0.0%)	1 (2.4%)	4(3.5%)
	Rarely	5 (9.4%)	1 (4.8%)	4 (9.8%)	10 (8.7%)
	Sometimes	13 (24.5%)	6 (28.6%)	10 (24.4%)	29 (25.2%)
	Most of the time	9 (17.0%)	4 (19.0%)	13 (31.7%)	26 (22.6%)
	Always	22 (41.5%)	9 (42.9%)	11 (26.8%)	42 (36.5%)
	Does not apply or do not know	1 (1.9%)	1 (4.8%)	2 (4.9%)	4 (3.5%)

C6. When staff in this unit speak up, those with more authority are open to their patient safety concerns	Never	0 (0.0%)	1 (4.8%)	3 (7.3%)	4 (3.5%)
	Rarely	3 (5.7%)	0 (0.0%)	5 (12.2%)	8 (7.0%)
	Sometimes	18 (34.0%)	9 (42.9%)	10 (24.4%)	37 (32.2%)
	Most of the time	19 (35.8%)-	3 (14.3%)	14 (34.1%)	36 (31.3%)
	Always	12 (22.6%)	8 (38.1%)	9 (22.0%)	29 (25.2%)
	Does not apply or do not know	1 (1.9%)	0 (0.0%)	0 (0.0%)	1 (0.9%)
C7. In this unit, staff are afraid to ask questions when something does not seem right	Never	20 (37.7%)	7 (33.3%)	12 (29.3%)	39 (33.9%)
	Rarely	15 (28.3%)	6 (28.6%)	13 (31.7%)	34 (29.6%)
	Sometimes	11 (20.8%)	3 (14.3%)	7 (17.1%)	21 (18.3%)
	Most of the time	6 (11.3%)	5 (23.8%)	4 (9.8%)	15 (13.0%)
	Always	1 (1.9%)	0 (0.0%)	4 (9.8%)	5 (4.3%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)

Regarding communication openness, 0% (n=0) indicated that they never or rarely speak up if they see something that may negatively affect patient care. About 17.4% (n=20) sometimes speak up if they see something that may negatively affect patient care, 34.8% (n=40) speak most of the time, and 46.1% (n=53) speak always. Only one nurse (0.9%) did not know how to respond, or the question did not apply to him or her. Regarding staff speaking up when they see someone with more authority doing something unsafe for patients, 3.5%(n=4) never speak up, 8.7% (n=10) rarely speak up, 25.2% (n=29) sometimes speak up, while 26 22.6%(n=26) speaks up most of the time and 36.5% (n=42) always speaks up. The question did not apply to 3.5% (n=4) of nurses.

Of the 115 nurses, 3.5% (n=4), 7.0% (n=8) and 32.2% (n=37) indicated that those with more authority are never, rarely, and sometimes open to their patient safety concerns when staff in this unit speak up, respectively. About one-third (31.3%; n=36) indicated that those with more authority are most of the time open to their patient safety concerns when staff in this unit speak up, while 25.2% (n=29) indicated that those with authority are always open to their patient safety concerns when staff in this unit speak up. The question did not apply to one (0.9%) nurse. Regarding openness to ask questions,

33.9% (n=39) and 29.6% (n=34) of nurses indicated that the staff are never and rarely afraid to ask questions when something does not seem right, respectively. Of some nurses, 18.3% (n=21) indicated that staff are sometimes afraid to ask questions when something does not seem right, 13.0% (n=15) are afraid most of the time, and 4.3% (n=5) are always afraid. About 0.9% (n=1) indicated that the question was not applicable or did not know how to respond.

4.3.2.7.1. Discussion

A large number (46.1%) of the nurses agree that the staff in this unit always speak up if they see something that may negatively affect the patient. This finding was in line with the findings by Amiri et al. (2018:5) where this dimension showed that communication openness in critical care unit improved after education empowerment program on patient safety culture.

The result of this study showed that there is communication openness because (36.5%) of the nurses agree that staff in this unit always speak up if they see someone with more authority doing something unsafe. This domain indicates staff's ability to question actions of individuals with more authority (Amiri et al. 2018:5).

Approximately a third (32.2%) of them said sometimes those with more authority are open to the staff when they speak up about patient safety concerns and this means that is not always the case where managers are open to patient safety concerns when the staff speaks up.

A third (33.9%) of them are not afraid to ask questions when something does not seem right in their unit.

4.3.2.8. Reporting Patient Safety Events

The composite 'reporting patient safety events,' a five-point Likert scale consisting of never, rarely, sometimes, most of the time and always, with an additional option for a situation where a question did not apply, was used to assess the frequency at which different mistakes that have potential to harm patients are reported.

Table 4.12: reporting Patient Safety Events

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
D1. When a mistake is caught and corrected before reaching the patient, how often is this reported	Never	0 (0.0%)	1 (4.8%)	3 (7.3%)	4 (3.5%)
	Rarely	6 (11.3%)	5 (23.8%)	5 (12.2%)	16 (13.9%)
	Sometimes	15 (28.3%)	7 (33.3%)	13 (31.7%)	35 (30.4%)
	Most of the time	13 (24.5%)	5 (23.8%)	13 (31.7%)	31 (27.0%)
	Always	18 (34.0%)	3 (14.3%)	4 (9.8%)	25 (21.7%)
	Does not apply or do not know	1 (1.9%)	0 (0.0%)	3 (7.3%)	4 (3.5%)
D2. When a mistake reaches the patient and could have harmed the patient but did not, how often is this reported	Never	0 (0.0%)	1 (4.8%)	2 (5.0%)	3 (2.6%)
	Rarely	3 (5.7%)	4 (19.0%)	9 (22.5%)	16 (13.9%)
	Sometimes	12 (22.6%)	7 (33.3%)	9 (22.5%)	28 (24.3%)
	Most of the time	18 (34.0%)	5 (23.8%)	12 (30.0%)	35 (30.4%)
	Always	20 (37.7%)	4 (19.0%)	7 (17.5%)	32 (27.0%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	1 (2.5%)	1(0.9%)

Regarding the frequency of reporting mistakes caught and corrected before reaching the patient, 3.5%(n=4) of nurses indicated never, (13.9%(n=16) rarely, 30.4%(n=35) sometimes, 27.0%(n=31) most of the time, and 21.7%(n=25), while 3.5%(n=4) indicated that the question was not applicable or did not know the response. Concerning the frequency of reporting mistakes reached the patient and could have harmed the patient but did not, 3 (2.6%) indicated that never, 13.9% (n=16) rarely, 28

24.3% (n=28) sometimes, 30.4 %(n=35) most of the time and 27.0 %(n=32) always report, while 0.9% (n=1) did not know the response to the question.

4.3.2.8.1. Discussion

Less than a third (30.4%) of these nurses believe that mistakes are sometimes reported if they were caught and corrected before reaching the patient. This means that not all the mistakes are reported if they did not reach the patient. They also believe that when a mistake reaches the patient and could have harmed the patient, but did not, it was reported most of the time, and (27.0%) said mistakes were always reported. This implies that most of these mistakes were reported. This is not in line with the study that was conducted by (Tlili, Aouicha, Dhiab & Mallouli 2020:1351) in which the dimension that had the lowest score was the frequency of events reported (27.7%). This under-reporting can be explained by the fact that the commission of error is always considered to indicate a lack of skill and is rarely seen as a learning opportunity. Several barriers exist to reporting safety events, including insufficient time to report, lack of feedback, fear of blame and damage to reputation in a competitive environment, and loss of patient confidence.

4.3.2.9. Hospital Management Support for Patient Safety

A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied to assess the nurses' level of agreement with the extent to which hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.

Table 4.13: Hospital Management Support for Patient Safety

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
F1. The actions of	Strongly Disagree	7 (13.2%)	1 (4.8%)	4 (9.8%)	12 (10.4%)
hospital	Disagree	9 (17.0%)	2 (9.5%)	5 (12.2%)	16 (13.9%)

management show that patient safety is a top priority	Neither Agree nor Disagree	5 (9.4%)	2 (9.5%)	5 (12.2%)	12 (10.4%)
	Agree	21 (39.6%)	6 (28.6%)	12 (29.3%)	39 (33.9%)
	Strongly Agree	11 (20.8%)	9 (42.9%)	13 (31.7%)	33 (28.7%)
	Does not apply or do not know	0 (0.0%)	1 (4.8%)	2 (4.9%)	3 (2.6%)
F2. Hospital management provides adequate resources to improve patient safety	Strongly Disagree	10 (18.9%)	1 (4.8%)	6 (14.6%)	17 (14.8%)
	Disagree	24 (45.3%)	9 (42.9%)	11 (26.8%)	44 (38.3%)
	Neither Agree nor Disagree	8 (15.1%)	6 (28.6%)	10 (24.4%)	24 (20.9%)
	Agree	9 (17.0%)	4 (19.0%)	5 (12.2%)	18 (15.7%)
	Strongly Agree	2 (3.8%)	1 (4.8%)	8 (19.5%)	11 (9.6%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)
F3. Hospital management seems interested in patient safety only after an adverse event happens	Strongly Disagree	5 (9.4%)	5 (23.8%)	4 (9.8%)	14 (12.2%)
	Disagree	11 (20.8%)	7 (33.3%)	7 (17.1%)	25 (21.7%)
	Neither Agree nor Disagree	6 (11.3%)	1 (4.8%)	5 (12.2%)	12 (10.4%)
	Agree	24 (45.3%)	6 (28.6%)	17 (41.5%)	37 (32.2%)
	Strongly Agree	7 (13.2%)	1 (4.8%)	8 (19.5%)	16 (13.9%)
	Does not apply or do not know	0 (0.0%)	1 (4.8%)	0 (0.0%)	1 (0.9%)

Table 4.13 shows nurses' ratings on hospital management support for patient safety. Out of 115 nurses, 10.4% (n=12) strongly disagree that patient safety is a top priority for hospital management. Hospital A has the most nurses who strongly disagree (13.2%; n=7), followed by Hospital C (9.8%; n=4) and Hospital B (4.8%; n=1). Additionally, 13.9% (n=16) of nurses disagree with hospital management's

actions regarding patient safety. Hospital A also has the most nurses who disagree (17.0%; n=9), followed by Hospital C (12.2%; n=5) and Hospital B (9.5%; n=2). A total of ten point four per cent (n=12) of nurses, five (9.4%) from Hospital A, two (9.5%) from Hospital B, and five (12.2%) from Hospital C neither agreed nor agreed that the actions of Hospital management show that patient safety is a top priority. On the other hand, 33.9% (n=39) of nurses agree that patient safety is a top priority. Hospital A has the most nurses who agree (39.6%, n=21), followed by Hospital C (29.3%; n=12) and Hospital B (28.6%; n=6). Lastly, 28.7% (n=33) of nurses strongly agree that patient safety is a top priority for hospital management. Hospital B has the most nurses who strongly agree (42.9%; n=9), followed by Hospital C (31.7%; n=13) and Hospital A (20.8%; n=11). Only 2.6% (n=3) did not know, or the question did not apply to them.

Of 115 nurses, 14.8% (n=17) strongly disagreed that their hospital management provides enough resources to ensure patient safety. Hospital A had the highest number of nurses who disagreed (18.9%, n=10), followed by Hospital C with 14.6% (n=6), and Hospital B with 4.8% (n=1). Additionally, 45.3% (n=25), 42.9% (n=9), and 26.8% (n=11) of nurses from Hospitals A, B, and C, respectively, disagreed that their hospital management provides adequate resources to improve patient safety. Furthermore, 20.9% (n=24) of nurses neither agreed nor disagreed, while only 15.7% (n=18) agreed that their hospital management provides adequate resources to improve patient safety. Hospital A had the highest proportion of nurses who agreed (17.0%; n=9), followed by Hospital B with 19.0% (n=4), and Hospital C with 12.2% (n=5). A small percentage of nurses (9.6%; n=11) strongly disagreed that their hospital management provides adequate resources to improve patient safety. Only one nurse (0.9%) did not know or found the question not applicable.

Regarding hospital management's interest in patient safety, 12.2% (n=14) of 115 nurses strongly disagreed that hospital management seems interested in patient safety only after an adverse event. Of the 14 nurses, 9.4% (n=5) were from Hospital A, 23.8% (n=5) were from Hospital B, and 9.8% (n=4) were from Hospital C. Additionally, 20.8% (n=11), 33.3% (n=7) and 17.1% (n=7) nurses from Hospitals A, B and C, respectively, disagreed with this statement. A total of 10.4% (n=12) nurses from the three hospitals neither agreed nor disagreed that hospital management seems interested in patient safety only after an adverse event happens. Some 32.2% (n=37) of nurses from the three hospitals agreed that hospital management seems interested in patient safety only after an adverse event. Of the 37 nurses that agreed, 45.3% (n=24) are from Hospital A, 28.6% (n=6) from Hospital B and 41.5(n=17) from Hospital C. Furthemore13.9% (n=16) of nurses across the three hospitals strongly agreed that disagreed that hospital management seems interested in patient safety only after an adverse event

happens. Among these nurses, 13.2% (n=7) nurses were from Hospital A, 4.8% (n=1) were from Hospital B, and 19.5% (n=8) were from Hospital C. Only one (0.9%) nurse did not know the answer or found the question not applicable.

4.3.2.9.1. Discussion

The majority (62.6%) of these nurses agree that the actions of hospital management show that patient safety is a top priority. Management support for patient safety: hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority (Tlili et al. 2020:1351). This finding differs from the results of another study where nurses indicated that patient safety is not a management priority. Nurses assessed management support for patient safety much worse (Wagner et al.2019:11).

The majority (53.1%) of nurses disagree that hospital management provides adequate resources to improve patient safety. This finding suggests that participants believe top-level managers could do more to support patient safety. Some patient safety challenges cannot be solved at the floor level but need to be addressed at higher levels of the organisations (Danielsson et al.2019:330). Less than half (46.1%) of them agree that hospital management seems interested in patient safety only after an adverse event happens. Similar results were found in a study conducted by Ramya (2017:513), where management did not play enough role in promoting patient safety.

4.3.2.10. Handoffs and Information Exchange

A five-point Likert scale with an additional option for a situation where a question did not apply, or the nurses did not know how to respond was applied to assess the nurses' level of agreement with the extent to which important patient care information is shared during shift changes and transfers across hospital units.

Table 4.14: Handoffs and Information Exchange

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)

F4. When transferring patients from one unit to another, important information is often left out	Strongly Disagree	17 (32.1%)	8 (38.1%)	12 (29.3%)	38 (33.0%)
	Disagree	23 (43.4%)	9 (42.9%)	17 (41.5%)	49 (42.6%)
	Neither Agree nor Disagree	1 (1.9%)	3 (14.3%)	5 (12.2%)	9 (7.8%)
	Agree	8 (15.1%)	1 (4.8%)	6 (14.6%)	15 (13.0%)
	Strongly Agree	4 (7.5%)	0 (0.0%)	0 (0.0%)	4 (3.5%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	1 (2.4%)	1 (0.9%)
F5. During shift changes, important patient care information is often left out	Strongly Disagree	15 (28.3%)	9 (42.9%)	11 (26.8%)	25 (21.7%)
	Disagree	27 (50.9%)	8 (38.1%)	17 (41.5%)	52 (45.2%)
	Neither Agree nor Disagree	7 (13.2%)	0 (0.0%)	7 (17.1%)	14 (12.2%)
	Agree	3 (5.7%)	4 (19.0%)	6 (14.6%)	13 (11.3%)
	Strongly Agree	1 (1.9%)	0 (0.0%)	0 (0.0%)	1 (0.9%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
F6. During shift changes, there is adequate time to exchange all key patient care information	Strongly Disagree	5 (9.4%)	1 (4.8%)	2 (4.9%)	8 (7.0%)
	Disagree	8 (15.1%)	3 (14.3%)	7 (17.1%)	18 (15.7%)
	Neither Agree nor Disagree	14 (26.4%)	3 (14.3%)	1 (2.4%)	18 (15.7%)
	Agree	13 (24.5%)	9 (42.9%)	19 (46.3%)	41 (35.7%)
	Strongly Agree	13 (24.5%)	5 (23.8%)	12 (29.3%)	25 (21.7%)
	Does not apply or do not know	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Table 4.14 show nurses' rating on ‘handoffs and information exchange.’ Of 115 nurses, 33.0% (n=38) strongly disagree that important information is often left out when transferring patients from one unit

to another. Of the 38 nurses, 32.1% (n=17) were nurses from Hospital A, 38.1% (n=8) from Hospital B and 29.3% (n=12) from Hospital C. Additionally, 42.6% (n=49) of nurses disagreed that important information is often left out when transferring patients from one unit to another. Hospital A had the higher proportion of nurses who disagreed (43.4%; n=23), followed by Hospital B (42.9%; n=9) and Hospital C (41.5%; n=17). About 7.8% (n=9) of hospital nurses neither agreed nor disagreed. In contrast, 13.0% (n=15) of nurses agreed that important information is often left out when transferring patients from one unit to another. Hospital A had the most nurses who agreed (15.1%, n=8), followed by 14.6% (n=6) in Hospital C and 4.8% (n=1) in Hospital B. Lastly, a small percentage of nurses (3.5%; n=4) strongly agreed that important information is often left out when transferring patients from one unit to another. All those who agreed were from Hospital A (7.5%; n=4). Only one (0.9%) nurse did not know the answer or found the question not applicable.

Regarding leaving out or not sharing important patient care information during shift changes, 27.7% (n=25) of nurses from the three hospitals strongly disagreed that important patient care information is left out during shift changes. Of those who strongly disagreed, 28.3% (n=15) were from Hospital A, 42.9% (n=9) from B and 26.8% (n=11) from Hospital C. A higher proportion (45.2%; n=52) disagreed that important patient care information is left out during shift changes. Most of the nurses were from Hospital A (50.9%; n=27), followed by Hospital C (41.5%; n=17) and Hospital B (38.1%; n=80). Furthermore, 12.2% (n=14) of nurses across the hospital neither agreed nor disagreed, while 11.3% (n=13) agreed that important patient care information is left out during shift changes. Among the nurses who agreed, 5.7% (n=3) were from Hospital A, 19.0% (n=4) from Hospital B and 14.6% (n=6) from Hospital C. Only 0.9% (n=1) nurse strongly agreed that important patient care information is left out during shift changes. The nurse is from Hospital A (1.9%; n=1).

Few (7.0%; n=8) nurses across the hospitals strongly disagreed that there is adequate time to exchange all key patients care information during shift changes. Among the nurses, 9.4% (n=5) are from Hospital A, 4.8% (n=1) from Hospital B and 4.9% (n=2) from Hospital C. Additionally, 15.1% (n=8), 14.3% (n=3) and 17.1% (n=7) nurses from Hospitals A, B and C, respectively, disagreed with this statement. Some (15.7%;18) of the nurses from the three hospitals neither agreed nor disagreed that there is adequate time to exchange all key patients care information during shift changes. Just below one-third (35.7%; n=41) of the nurses from the three hospitals agreed that there is adequate time to exchange all key patients care information during shift changes. Of the nurses, 24.5% (n=13) are from Hospital A, 42.9% (n=9) from Hospital B and 46.3% (n=9) from Hospital C. Furthermore, 21.7% (n=25) of nurses across three hospitals strongly agreed that there is adequate time to exchange all key patients care

information during shift changes. Among these nurses, 24.5% (n=13) nurses were from Hospital A, 23.8% (n=5) from Hospital B and 29.3% (n=12) from Hospital C.

4.3.2.10.1. Discussion

Most (75.6%) of these nurses strongly disagree that when they transfer patients from one unit to another, important information is often left out. This is not in line with the study conducted by Reis et al. (2018:675) where handoffs and transitions proved weak in 36% in a study conducted in Brazil. Handoffs and transitions entail a high risk of safety incidents and can lead to the loss of important information and fragmentation of patient care.

A majority (66.9%) of them disagree that during shift changes, important patient care information is often left out. Similar results were reported at A. W. Sjahranie Hospital Samarinda, where 73.9% of nurses always practice effective communication during a handover between the shifts (Supriadi et al. 2020:2). The majority (57.4%) of them agree that during shift changes, there is adequate time to exchange all key patient care information.

4.3.2.11. Amount of Safety Events Reported

This composite assessed the number of patient safety events reported by the nurses in the past 12 months.

Table 4.15: Amount of Safety Events Reported

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
D3. In the past 12 months, how many patient safety events have you reported?	None	8 (15.1%)	8 (38.1%)	16 (39.0%)	32 (27.8%)
	1 to 2	15 (28.3%)	4 (19.0%)	16 (39.0%)	35 (30.4%)
	3 to 5	15 (28.3%)	6 (28.6%)	7 (17.1%)	28 (24.3%)
	6 to 10	9 (17.0%)	1 (4.8%)	2 (4.9%)	12 (10.4%)
	11 or more	6 (11.3%)	2 (9.5%)	0 (0.0%)	8 (7.0%)

The number of safety events reported in the 12 months varied among the hospitals. About 15.1% (n=8) nurses in Hospital A, 38.1% (n=8) in Hospital B and 39.0% (n=16) in Hospital C, with a total of 27.8% (32) of 115 nurses indicated that they had not reported any patient safety events in the past 12 months. Among those who did report, 15 nurses in Hospital A (28.3%), four nurses in Hospital B (19%), and 16 nurses in Hospital C (39%) reported one to two events in the past 12 months, totalling 35 nurses (30.4%). Furthermore, 28 nurses in total (24.3%), with 15 in Hospital A (28.3%), six in Hospital B (28.6%), and 7 in Hospital C (17.1%), reported three to five patient safety events. Nine nurses in Hospital A (17%), one nurse in Hospital B (4.8%), and two nurses in Hospital C (4.9%), totalling 12 nurses (10.4%), indicated that they reported six to ten patient safety events. Only eight nurses (7%) from the three hospitals, with six in Hospital A (11.3%), two in Hospital B (9.5%), and none in Hospital C (0%), reported 11 or more patient safety events in the past year.

4.3.2.11.1. Discussion

In the current study, 27.8% of the nurses indicated that they had not reported any patient safety events in the past 12 months, and 30.4% of the nurses reported only one to two patient safety events. This correlates with a study that was conducted by Yesilyaprak and Korkmaz (2021:4), where 62.7% of ICU nurses in four hospitals in Izmir Province in Turkey did not report any adverse events in the previous year. According to Mjadu and Jarvis (2018:83), nurses were not comfortable reporting events due to fear of blame, breach of anonymity and that confidentiality was not being preserved.

4.3.2.12. Patient Safety Rating

Patient safety rating assessed the extent to which nurses perceive the effectiveness of procedures and systems in preventing patient safety errors, using a five-point Likert scale of poor, fair, good, very good and excellent.

Table 4.16: Patient Safety Rating

Variables	Category	Hospital A N=53 N (%)	Hospital B N=21 N (%)	Hospital C N=41 N (%)	Total N=115 N (%)
	Poor	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Fair	22 (41.5%)	3 (14.3%)	3 (7.3%)	28 (24.3%)

E1. How would you rate your unit on patient safety?	Good	21 (39.6%)	10 (47.6%)	15 (36.6%)	56 (48.7%)
	Very good	4 (7.5%)	6 (28.6%)	16 (39.0%)	26 (22.6%)
	Excellent	6 (11.3%)	6 (28.6%)	7 (17.1%)	19 (16.5%)

None of the nurses from the three hospitals regarded patients' safety in the units as poor. Among the nurses, 24.3% (n=28) rated patient safety as fair, with most of them (41.5%, n=22) from Hospital A, 4.3% (n=3) from Hospital B and 7.3% (n=3) from Hospital C. On the other hand, 56 nurses (48.7%) rated patient safety as good, with 39.6 % (n=21) nurses from Hospital A, 47.6 % (n=10) from Hospital B and 36.6 % (n=15) from Hospital C. A total of 22.6% (n=26) considered patient safety as very good, with 7.5% (n=4) from Hospital A, 28.6% (n=6) from Hospital B, and 39.0% (n=16) from Hospital C. Only 16.5% (n=19) of the nurses rated patient safety as excellent, with the 11.3% (n=6) from Hospital A, 28.6% (n=6) from Hospital B and 17.1% (n=7) from hospital C.

4.3.2.12.1. Discussion

Almost half (48.7%) of participants rated the patient safety of their units as good and none rated poor patient safety. This is not in line with the study conducted by Ramya (2017:512), where the overall rating of patient safety was poor. The average score showed that the perception of the safety culture among nurses was below international recommendations, which is 75 for a good perception of safety culture. A low total score of below 75 was also found by (Maia et al. 2020:2).

4.4. Conclusion

In this chapter, the researcher provided a detailed description of the research findings and the discussions of the results. The next chapter will describe the conclusion, limitations, and recommendations of this study.

5. CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

5.1. Introduction

Chapter 4 presented and discussed the results of the study. This chapter discusses the conclusions on the status of patient safety culture in critical care units in the three selected public hospitals in the Tshwane region of Gauteng province. This is followed by a discussion of the limitations and implications of this study. Lastly, are the recommendations based on the results from the data analysis.

5.2. Aim of the Study

The study aimed to determine patient safety culture in the critical care units of public hospitals in the Tshwane Region of Gauteng Province.

Data was collected using the English version of the 'Hospital Survey on Patient Safety Culture' (HSOPSC) questionnaire adapted from the Agency for Healthcare Research and Quality (AHRQ). The items in the questionnaire are grouped to measure teamwork, staffing and work pace, organisational learning, response to error, manager support for patient safety, communication about error, communication openness, reporting patient safety events, handoffs and information exchange, number of events reported and patient safety rating according to the safety culture composites they are intended to assess.

5.3. Conclusions

The conclusions are discussed according to the results per safety culture composite.

5.3.1. Teamwork

Teamwork was rated as a strength in the current study in all three hospitals. The majority (52.2%), n = 60 (n = 28 for Hospital A, n = 21 for Hospital C and n = 11 for Hospital B) of the participants feel that there is teamwork amongst the staff in their unit. The staff respect each other and help each other during busy times. Teamwork is essential for patient safety as it improves patient outcomes, prevent medical errors, and improves efficiency and patient satisfaction. Teamwork can also reduce a patient's length of stay in a hospital.

5.3.2. Staffing and Work Pace

Seventy-eight-point three per cent (78.3%), n = 90 (n = 41 for Hospital A, n = 33 for Hospital C and n = 16 for Hospital B) of staff said there were not enough personnel and that, sometimes, patients' care suffered because of the lack of staff. There are also staffing issues, such as long working hours. In the selected units, participants do not rely too much on temporary staff even though they are short-staffed, and the work pace in their unit is not rushed. Staff shortage and rushed working pace affect patient safety negatively as they lead to increased workload and stress and the risk of burnout for nurses. Burnout results in inattention and lack of concentration, putting the nurses at risk of committing errors while providing nursing care.

5.3.3. Organisation Learning and Continuous Improvement

Work processes are regularly reviewed in these units to see if changes are needed to improve patient safety, and 63, 5% n = 73 (n = 30 for Hospital A, n = 30 for Hospital C and n = 13 for Hospital B) of staff agree that changes to improve patient safety are evaluated to see how well they worked. They also do not let the same patient safety problems perpetuate. Organisational learning may foster more rapid progress in patient safety by increasing organisational capabilities, strengthening a culture of safety, and fixing more process problems that contribute to patient harm.

5.3.4. Response to Error

Forty-nine per cent, n = 57 (n = 20 for Hospital A, n = 20 for Hospital C and n = 17 for Hospital B) of the nurses feel that their mistakes are held against them and that the person is written up when an event is reported in their units, and this led to a low rate of reporting errors. Blaming individual nurses for errors detracts from the patient safety goal of identifying systems in need of improvement. Implementing a culture without inappropriate punishment for individual errors promotes valuable comprehensive incident reporting and avoids nurse hostility and resentment. Approaching nursing errors from a nonpunitive perspective also influences nurses to be motivated to engage in safe behaviours in their daily practice.

5.3.5. Supervisor, Manager, or Clinical Leader Support for Patient Safety

The Majority (68.7%), n = 79 (n = 37 for Hospital A, n = 28 for Hospital C and n = 14 for Hospital B) of nurses agree that managers listen to the staff and consider their suggestions to improve patient safety in their units. Managers also do not expect the staff to work faster during busy times, and they take action to address patient safety concerns that are brought to their attention. It is essential for supervisors, managers, or clinical leaders to monitor the workplace and seriously consider staff suggestions to improve patient safety.

5.3.6. Communication about Errors in the Unit

The Majority (51.3%), n = 59 (n = 33 for Hospital A, n = 15 for Hospital C and n = 11 for Hospital B) of the participants are informed about errors that happen in the unit, and when errors happen, they discuss ways to prevent them from happening again. They are also informed about the changes made based on event reports. Communication failures among healthcare personnel are significant contributors to medical errors and patient harm. Effective communication is essential for improving patient safety.

5.3.7. Communication Openness

A large number of the nurses agree that the staff in these units speak up if they see something that may negatively affect the patients, even if it is someone with more authority doing something unsafe. Forty-six-point one per cent (46.1%) n = 53 (n = 30 for Hospital A, n = 15 for Hospital C, and n = 8 for Hospital B) always speak up and 34.8% n = 40 (n = 21 for Hospital C, n = 12 for Hospital A and n = 7 for Hospital B) speak up most of the time. They are also not afraid to ask questions when something is questionable in their units. Lack of openness in communication can lead to poor patient safety and adverse events. Providing staff with the opportunity to communicate through regular meetings and building a workplace around trust will reduce the frequency of mistakes from happening, thus improving patient safety.

5.3.8. Reporting Patient Safety Event

Thirty-point four per cent, n = 35 (n = 15 for Hospital A, n = 13 for Hospital C and n = 7 for Hospital B) of the nurses believe that mistakes are sometimes reported if they were caught and corrected before reaching the patient. This means that not all the mistakes are reported if did not reach the patient. And when a mistake reaches the patient and could have harmed the patient, but did not, it was reported most of the time. Reporting patient safety events is important because it helps identify vulnerabilities and safety gaps within systems that allow errors to occur that can impact patients. It also identifies safety hazards and guides the development of interventions to mitigate risks, thereby reducing harm.

5.3.9. Hospital Management Support for Patient Safety

The majority (62.6%) n = 72 (n = 32 for hospital A, n = 25 for Hospital C and n = 15 for Hospital B) of the participants agree that the actions of hospital management show that patient safety is a top priority, but disagree that hospital management provides adequate resources to improve patient safety, as hospital management seems interested in patient safety only after an adverse event happens. This finding suggests that participants believe top-level managers could do more to support patient safety.

5.3.10. Handoffs and Information Exchange

The majority (75.6%) n = 86 (n = 40 for Hospital A, n = 29 for Hospital C and n = 17 for Hospital B) of the participants strongly disagree that when they transfer a patient from one unit to another, and during shift changes important patient care information is often left out. This implies that participants in the study believe that they practice effective communication during a handover between shifts and during transfers to other units. Handoffs and transitions entail a high risk of safety incidents and can lead to the loss of important information and fragmentation of patient care.

5.3.11. Number of Events Reported

Out of 115 nurses, 32 nurses had not reported any patient safety events in the past 12 months and 35 nurses reported only one to two patient safety events, 28 nurses reported three to five patient safety events, 12 nurses reported six to ten patient safety events, 8 nurses reported eleven or more patient safety events. The majority of participants reported different amounts of patient safety events and only 27.8% of the participants did not report any patient safety events in the past 12 months. This finding

implies that nurses are not afraid to report patient safety events when they occur. Patient safety events reporting helps to understand why errors occur, prioritise opportunities for error prevention, and generate long-term improvements in patient safety.

5.3.12. Patient Safety Rating

Out of 115 participants, 56 participants rated the patient safety of their units as good, 26 as very good, 19 as excellent, 28 as fair, and none of the participants rated poor patient safety. This finding implies that there is a strong patient safety culture in the selected hospitals. A strong patient safety culture is essential for providing high-quality healthcare and protecting patients from harm. Hospitals with a strong patient safety culture are more likely to have better patient outcomes and fewer errors.

5.4. Implications

- Lack of resources in healthcare settings has serious consequences for the quality of patient care and the professional work environment for nurses, therapists, and other healthcare providers.
- Staff who work longer hours will become exhausted and burnout. Burnout among healthcare professionals has harmful consequences for patient care and safety such as increased medical errors and high absenteeism.

5.5. Limitations

The researcher identified the following limitations in this study:

- Firstly, the sampling method and population restricted the study to one province, which limits generalisability.
- Secondly, the questionnaire was very long which led to most participants being unable to complete it because their units are busy. It is recommended that further studies be conducted using shorter questionnaires where some questions can be grouped so that it is not time-consuming, and participants can complete it quicker and easily.

5.6. Recommendations

Recommendations for further research.

Based on the findings, the researcher makes the following recommendations for further research.

- Study should be conducted on strategies to retain staff and prevent staff from working long hours.
- Study should also be conducted on how to improve the provision of adequate resources to promote patient safety. Hospital resources include but are not limited to staff, medical equipment, and medications.

Recommendations for nursing management.

- Managers should create a platform where nurses can be able speak up and report anything that can affect patient safety.
- Managers should provide nurses with adequate resources to promote patient safety.

Recommendations for nursing education.

- It is recommended that nurse educators should instil the importance of patient safety in student nurses during training. Patient safety should be emphasized at all levels of health education system to elevate patient safety standards.

Recommendations for critical care nurses.

- Nurses need to take care of themselves and try not to work too much overtime because they might end up with fatigue and burnout. Fatigue and burn out of nurses lead to adverse events and affect patient safety.
- Nurses should be involved in patient safety committees and teams to assist in creating safer environments because they are on the floor and it is easy for them to identify what might go wrong during patient care.

5.7. Summary

In this study, the overall rating of the patient safety culture is good. However, there are a few aspects of the safety culture of patients that deserve attention for improvement. The weakest dimensions were those related to the units, such as lack of staff, staff working long hours due to staff shortage, staff's mistakes that were held against them, and the person was written up not the problem when a mistake happened. The majority of participants also felt that hospital management is not providing adequate resources to improve patient safety. Whereas the dimensions related to communication and the supervisor who considered staff's suggestions to improve patient safety scored the highest.

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ANNEXURES

ANNEXURE A1 - PERMISSION LETTER FROM HOSPITAL

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Dr. [redacted] Academic Hospital

Office of the Director Clinical Services
Enquiries : Dr. C Holm
Tel : (012) 529 3691
Fax : (012) 560 0099
Email:Christene.Holm @gauteng.go.za
keitumetse.mongale@gauteng.gov.za

To Ms MU Seshoka
Faculty of Health Science
University of Pretoria

Date : 26 July 2022

PERMISSION TO CONDUCT RESEARCH

The [redacted] Academic Hospital hereby grants you permission to conduct research on "Patient Safety culture in critical care units in public hospitals of Tshwane region in Gauteng" at [redacted] Academic Hospital

This permission is granted subject to the following conditions:

- ✓ That you obtain Ethical Clearance from the Human Research Ethics Committee of the relevant University
- ✓ That the Hospital incurs no cost in the course of your research
- ✓ That access to the staff and patients at the [redacted] Hospital will not interrupt the daily provision of services.
- ✓ That prior to conducting the research you will liaise with the supervisors of the relevant sections to introduce yourself (with this letter) and to make arrangements with them in a manner that is convenient to the sections.
- ✓ Formal written feedback on research outcomes must be given to the Director: Clinical Services
- ✓ Permission for publication of research must be obtained from the Chief Executive Officer

Yours sincerely

DR. C. HOLM
DIRECTOR CLINICAL SERVICES
DATE: 27/7/22

ANNEXURE A2 – PERMISSION LETTER FROM HOSPITAL 2

GAUTENG PROVINCE

[redacted]
PRIVATE BAG X396
PRETORIA
0001

ENQUIRIES : MS PM MONYEPAO
TEL : 012 318 6995
EMAIL : Patricia.Monyepao@gauteng.gov.za
REF : KPTH /July/2022

TO: Ms M J Seshoka

RE: PERMISSION TO CONDUCT RESEARCH

TITLE: Patient Safety culture in critical care units in public hospitals of Tshwane Region and Gauteng Province.

Permission is hereby granted for the research to be conducted at [redacted] Tertiary Hospital. Please note that full approval will be granted on receipt of Ethics approval as well as the registration number from the NHRD.

This approval is given in accordance to the "Promotion of Access to Information Act, No 2 of 2000" and it is expected of each investigator to ensure that all patient personal information will be managed and kept safe in agreement to the act.

Please note that in addition to receiving approval from the hospital research committee, you are still required to arrange the logistics with the relevant departments. You are obliged to inform this committee in writing of any amendments made to the protocol. Importantly, you require full approval (not conditional approval) before data collection can commence.

Informed consent for participation of research subjects and collection of data remains the responsibility of the researcher.

The hospital reserves the right to revoke this consent to do research in the facility if any misconduct with regards to patient participation or inappropriate behavior on behalf of the researcher comes to light.

You are also required to submit your final report or summary of your findings and recommendations to the office of the Chief Executive Officer.

Kind regards

PROF VAN ZYL
CHAIRPERSON: RESEARCH COMMITTEE
DATE: 5/10/2022

Ethics approval submitted: YES NO

Approved

PROF VAN ZYL
CHAIRPERSON: RESEARCH COMMITTEE
DATE: 5/10/2022

GAUTENG PROVINCIAL GOVERNMENT
Provincial Tertiary Hospital
2022 -08- 05
Private Bag X396 Pretoria 0001
SUPERINTENDENT OFFICE

ANNEXURE A3 – PERMISSION LETTER FROM HOSPITAL 3

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Enquiries: Dr LMB Majake-Mogobu
Tel: No: +2712 354 2336/1141
Email-lehlohonolo.majake@gauteng.gov.za

[redacted] ACADEMIC HOSPITAL

For attention: Mrs Mamogale Jurry Seshoka

NHRD Ref Number: GP_202204-063

Re: REQUEST FOR PERMISION TO CONDUCT RESEARCH AT [redacted] ACADEMIC HOSPITAL

TITLE: PATIENT SAFETY CULTURE IN CRITICAL CARE UNITS IN PUBLIC HOSPITALS OF TSHWANE REGION IN GAUTENG PROVINCE

Permission is hereby grated for the above-mentioned research to be conducted at [redacted] Academic Hospital. This is done in accordance to the "Promotion o access to information act No 2 of 2000". Please note that in addition to receiving approval from Hospital Research Committee, the researcher is expected to seek permission from all relevant department. Furthermore, collection of data and consent for participation remain the responsibility of the researcher. The hospital will not incur extra cost as a result of the research being conducted within the hospital.

You are also required to submit your final report or summary of your findings and recommendations to the office of the CEO.

Approved

Dr. LMB Majake-Mogobu
Clinical Director

Date: 21. 07. 22

[redacted]
PRIVATE BAG X 169
2022 -07- 21
PRETORIA 0001
ACADEMIC HOSPITAL

ANNEXURE B – DATA COLLECTION INSTRUMENT

PARTICIPANT IDENTIFICATION NUMBER	**K01**

TITLE: PATIENT SAFETY CULTURE IN CRITICAL CARE UNITS IN PUBLIC HOSPITALS OF TSHWANE REGION IN GAUTENG PROVINCE

INSTRUCTIONS

This questionnaire requires your opinions about the patient safety culture in your units.

This will take about 15 to 20 minutes to complete.

If you are not comfortable answering a question you may leave it blank.

Indicate your answer with an X.

1. What is your staff position?

O 4 Professional Nurse

O 24 Other, please specify: _____

2. What is your primary unit or work area in this hospital?

O 8 ICU (all adult types)

O 34 Other, please specify: _____

SECTION A: Your Unit

How much do you agree or disagree with the following statements about your unit?

	1	**2**	**3**	**4**	**5**	**9**
Think about your work unit	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**	**Does not apply or do not know**
1.In this unit, we work together as an effective team						

	1	2	3	4	5	9
Think about your work unit	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**	**Does not apply or do not know**
2. In this unit, we have enough staff to handle the workload						
3. Staff in this unit work longer hours than is best for patient care						
4. This unit regularly reviews work processes to determine if changes are needed to improve patient safety						
5.This unit relies too much on temporary, float or PRN staff						
6. Staff feel like their mistakes are held against them						
7. When an event is reported in this unit, it feels like the person is being written up not the problem						
8. During busy times, staff in this unit help each other						
9. There is a problem with disrespectful behaviour by those working in this unit						
10. When staff make errors, this unit focuses on learning rather than blaming individuals						
11. The work pace in this unit is so rushed that it negatively affects patient safety						

	1	2	3	4	5	9
Think about your work unit	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**	**Does not apply or do not know**
12. In this unit, changes to improve patient safety are evaluated to see how well they worked						
13. In this unit, there is a lack of support for staff involved in patient safety errors						
14. This unit lets the same patient safety problems keep happening						

SECTION B: Your Supervisor or Manager

	1	2	3	4	5	9
How much do you agree or disagree with the following statements about your immediate supervisor or manager	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**	**Does not apply or do not know**
1. My supervisor or manager seriously consider staff suggestions for improving patient safety						
2. My supervisor or manager wants us to work faster during busy times, even if it means taking short cuts						
3. My supervisor or manager takes action to address patient safety concerns that are brought to their attention						

SECTION C: COMMUNICATION

	1	2	3	4	5	9
How often do the following happen in your unit?	**Never**	**Rarely**	**Sometimes**	**Most of the time**	**Always**	**Does not apply or don't know**
1. We are informed about errors that happen in this unit						
2. When errors happen in this unit we discuss ways to prevent them from happening again						
3. In this unit, we are informed about changes that are made based on event reports						
4. In this unit, staff speak up if they see something that may negatively affect patient care						
5. When staff in this unit see someone with more authority doing something unsafe for patients, they speak up						
6. When staff in this unit speak up, those with more authority are open to their patient safety concerns						
7. In this unit, staff are afraid to ask questions when something does not seem right						

SECTION D: Reporting Patient Safety Events

	1	2	3	4	5	9
Think about your unit	**Never**	**Rarely**	**Sometimes**	**Most of the time**	**Always**	**Does not apply or don't know**
1. When a mistake is caught and corrected before reaching the						

patient, how often is this reported?						
2. When a mistake reaches the patient and could have harmed the patient, but did not, how often is this reported						

3. In the past 12 months, how many patient safety events have you reported?

O a. None

O b. 1 to 2

O c. 3 to 5

O d. 6 to 10

O e. 11 or more

SECTION E: Patient Safety Rating

1. How would you rate your unit on patient safety?

O 1 Poor

O 2 Fair

O 3 Good

O 4 Very Good

O 5 Excellent

SECTION F: Your Hospital

How much do you agree or disagree with the following statements about your hospital?

	1	**2**	**3**	**4**	**5**	**9**
Think about your hospital	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**	**Does not apply or do not know**
1. The actions of hospital management show that patient safety is a top priority						

	1	2	3	4	5	9
Think about your hospital	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**	**Does not apply or do not know**
2. Hospital management provides adequate resources to improve patient safety						
3. Hospital management seems interested in patient safety only after an adverse event happens						
4. When transferring patients from one unit to another, important information is often left out						
5.During shift changes, important patient care information is often left out						
6. During shift changes, there is adequate time to exchange all key patient care information						

SECTION G: Background Questions

1. How long have you worked in this hospital?

O a. Less than 1 year

O b. 1 to 5 years

O c. 6 to 10 years

O d. 11 or more years

2. How long have you worked in your current unit?

O a. Less than 1 year

O b. 1 to 5 years

O c. 6 to 10 years

O d. 11 or more years

3. How many hours per week do you work in this hospital?

O a. Less than 30 hours per week

O b.30 to 40 hours per week

O c. More than 40 hours per week

4. In your staff position do you have direct interaction or contact with patients?

O a. Yes, I have direct interaction or contact with patients.

O b. No, I don't have direct interaction or contact with patients.

SECTION H: Your Comments

Please feel free to write any comments about how things are done or could be done in your unit that might affect patient safety.

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

ANNEXURE C – STATISTICAL SUPPORT LETTER

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

DEPARTMENT OF STATISTICS

LETTER OF STATISTICAL SUPPORT

Date: 21st June 2021

This letter is to confirm that ***Mamogale Jurry Seshoka*** studying at the University of Pretoria, discussed the project with the title **"Determine patient safety culture in critical care units in public hospitals."** with me.

I hereby confirm that I am aware of the project and also undertake to assist with the statistical analysis of the data generated from the project. The aim of the study is to determine patient safety cultures in three critical care units in the Tshwane region.

The sample will consist of at least 150 professionals (at least 66 from hospital 1, at least 24 from hospital 2 and at least 60 from hospital 3) and enrolled nurses working in critical care units in three public hospitals in Tshwane in 2021 and 2022 and have worked there for at least 6 months.

The data analysis will consist of descriptive statistics such and mean, median, standard deviations, frequencies, proportions etc. to describe the results and graphical representations can be made were applicable to assist in visualizing aspects of the data.

Tanita Botha
Department of Statistics
Internal Statistical Consultation Service
tanita.botha@up.ac.za

ANNEXURE D – ETHICS APPROVAL

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023

Faculty of Health Sciences **Research Ethics Committee**

1 June 2022

Approval Certificate
New Application

Dear Mrs MJ Seshoka

Ethics Reference No.: 224/2022
Title: Patient safety culture in critical care units in public hospitals of Tshwane region in Gauteng

The **New Application** as supported by documents received between 2022-04-29 and 2022-06-01 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2022-06-01 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Ethics Approval is valid for 1 year and needs to be renewed annually by 2023-06-01.
- Please remember to use your protocol number (224/2022) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

On behalf of the FHS REC, Dr R Sommers
MBChB, MMed (Int), MPharmMed, PhD
***Deputy Chairperson** of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria*

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 46 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2016 (Department of Health).

Research Ethics Committee
Room 1 69, Level 1, Terblanche Building
University of Pretoria, Private Bag x323
Gezina 0031, South Africa
Tel: 27 (0)12 356 3084
Email: deepika.behari@up.ac.za
www.up.ac.za

Fakulteit Gesondheidswetenskappe
Lefapha la Litsebenzi tse Maphelo

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 18 March 2022 and Expires 18 March 2027.
- IORG #: IORG0001762 OMB No. 0990-0278 Approved for use through August 31, 2023.

Faculty of Health Sciences **Research Ethics Committee**

17 May 2023

Approval Certificate
Annual Renewal

Dear Mrs MJ Seshoka,

Ethics Reference No.: 224/2022 – Line 1
Title: Patient safety culture in critical care units in public hospitals of Tshwane region in Gauteng

The **Annual Renewal** as supported by documents received between 2023-04-18 and 2023-05-17 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on 2023-05-17 as resolved by its quorate meeting.

Please note the following about your ethics approval:

- Renewal of ethics approval is valid for 1 year, subsequent annual renewal will become due on 2024-05-17.
- Please remember to use your protocol number (224/2022) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

On behalf of the FHS REC, Dr R Sommers
MBChB, MMed (Int), MPharmMed, PhD
Deputy Chairperson *of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria*

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

Research Ethics Committee
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Fakulteit Gesondheidswetenskappe
Lefapha la Disaense tša Maphelo

ANNEXURE E – INFORMED CONSENT FORM

PARTICIPANT'S INFORMATION LEAFLET & INFORMED
CONSENT FOR ANONYMOUS QUESTIONNAIRES

Researchers' names: Mamogale Jurry Seshoka

Student Numbers: 10655192

Title: Patient safety culture in critical care units in public hospitals of Tshwane region in Gauteng province

I am a postgraduate student in the Clinical field in the Department of Nursing Science University of Pretoria. You are invited to volunteer to participate in my research project on patient safety culture.

This letter gives information to help you to decide if you want to take part in this study. Before you agree you should fully understand what is involved. If you do not understand the information or have any other questions, do not hesitate to ask me. You should not agree to take part unless you are completely happy about what we expect of you.

The purpose of the study is to determine patient safety culture in critical care units in public hospitals of Tshwane region and help to develop educational empowerment program about patient safety culture.
I would like you to complete a questionnaire. This may take about 15 to 20 minutes. After completing questionnaire throw it in locked drop-box provided.
Questionnaires will be collected from the drop-box after a week. It will be kept in a safe place to ensure confidentiality. Please do not write your name on the questionnaire.

I will be available on this number 073 2588 455 to help you with the questionnaire.

The Faculty of Health Sciences Research Ethics Committee of the University of Pretoria has granted written approval for this study. Their contact number is 012 420 4244.

Your participation in this study is voluntary. You can decline to participate or stop at any time without giving any reason. As you do not write your name on the questionnaire, you give us the information anonymously. Once you have given the questionnaire back to us, you cannot recall your consent as we will not be able to trace your specific questionnaire. Therefore, you will also not be identified as a participant in any publication that comes from this study.

Note: The implication of submitting the questionnaire is that informed consent has been given by you. Thus, any information derived from your form (which will be totally anonymous) may be used for e.g., publication, by the researchers.

We sincerely appreciate your help.

Yours truly,

STUDY IDENTIFICATION NUMBER	
PARTICIPANT IDENTIFICATION NUMBER	

ANNEXURE F – EDITOR'S LETTER

21 Aero Rd
Valhalla
0185

27th August 2023

I, Nicolette Sutherland (ID 740711 0250 081), hereby confirm that I have edited the proposal to engage in the presentation of the Master's dissertation noted below. The utmost care will be taken to ensure that the Final Document is free of spelling and grammatical errors, however, the accuracy of the final work remains the responsibility of the author.

Author: Mamogale Jurry Seshoka

Title: Patient safety culture in critical care units in public hospitals of the Tshwane Region in Gauteng Province

The edit includes the following:

- Spelling
- Vocabulary
- Punctuation
- Grammar
- Consistency in terminology, numbering, font style.
- Sentence construction
- Suggestions for text with unclear meaning
- Logic: Relevance, clarity, and consistency
- Checking the list of references against in-text citations.

Nicolette Sutherland
082 453 1469
Nikkisuth40@gmail.com