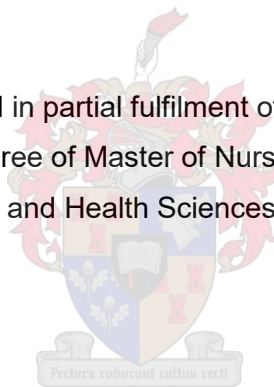


Factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape

by

Ruth Carol Daniels

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for the degree of Master of Nursing Science
in the Faculty of Medicine and Health Sciences at Stellenbosch University



Supervisor: Mrs Anneleen Damons
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DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third-party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

Background: As the evolution of nursing takes place, professional nurses (PNs) are confronted with factors in the clinical field of healthcare organisations such as inadequate leadership, punitive cultures, insufficient learning and challenging demographic information which are influencing their provision of safe, patient care. The aim of the study was to determine the factors, which influence the safe patient care provided by PNs in a private healthcare organisation of the Western Cape, South Africa. The objectives of the study were to determine whether leadership, just culture, and organisational learning influence the PNs providing safe patient care and whether the personal background information of the PNs related to the PNs providing safe patient care in a private healthcare organisation of the Western Cape, South Africa.

Methods: A quantitative descriptive design was applied to the study. The target population were all the PNs working in one private healthcare organisation of the Western Cape, South Africa. The researcher conducted a pilot test to refine the research methodology. The researcher collected the data with the assistance of a trained field worker. A reliable and validated questionnaire, designed by the Agency for Healthcare Quality and Research, the Hospital Survey on Patient Safety (United States of America), Version 1.0 was applied. Permission to conduct the study was obtained from the Health Research Ethics Committee (HREC) at Stellenbosch University [S19/02/046], the healthcare organisation and the participants by way of informed consent.

Results: The results showed that leadership, just culture, and organisational learning influenced safe patient care provided by the PNs. Furthermore, the study found that the personal background information of the PN related to the safe patient care, which was provided by the PNs. The study found that the participants who held a Two Year General Diploma qualification were more inclined to agree with the items in the questionnaire even when items were negatively phrased. Most participants found that the management support for patient safety was inadequate (mean=59) and that management only became interested in patient safety after an adverse event happened (mean=41.8). Further results showed that the hospitals and units had a mean score of only $m=46.50$ for the non-punitive response to errors.

Recommendations: Leadership of the organisation should be alluded to the factors influencing the safe patient care provided by the PNs. The development and implementation of a non-punitive culture is strongly suggested.

Conclusion: The study identified that leadership, just culture and organisational learning were factors, which influenced the safe, patient care provided by the PNs, and in addition, that the personal background information related to safe patient care provided by the PNs in a private healthcare organisation of the Western Cape.

Key words: professional nurses, factors, influencing, patient safety

OPSOMMING

Agtergrond: Soos wat daar ontwikkeling in verpleging plaasvind, word professionele verpleegsters (PVs) gekonfronteer met faktore op kliniese gebied van gesondheidsorg organisasies soos gebrekkige leierskap, bestraffende kulture, onvoldoende leer en uitdagende demografiese inligting wat die voorsiening van veilige pasiëntsorg beïnvloed. Die doelstellings van die studie is om die faktore te bepaal of leierskap, 'n geregtelike kultuur en organisatoriese leer beïnvloed word deur die PVs met hulle persoonlike agtergrond-inligting om veilige pasiëntsorg te verskaf in 'n private gesondheidsorg organisasie in die Wes-Kaap, Suid-Afrika.

Metodes: 'n Kwantitatiewe, beskrywende ontwerp is in die studie toegepas. Die teikenbevolking is waar al die PVs in een private gesondheidsorg organisasie in die Wes-Kaap, Suid-Afrika werk. Die navorser het 'n loodsprojek uitgevoer om die navorsingsmetodologie te verfyn. Die navorser het die data ingesamel met die hulp van 'n opgeleide veldwerker. 'n Betroubare en gevalideerde vraelys wat ontwerp is deur die Agentskap vir Gesondheidsorg Kwaliteit en Navorsing is gebruik, die Hospitaalopname oor Pasiëntveiligheid, Weergawe 1.0, is toegepas. Toestemming om die navorsingstudie te doen, is verleen deur die Gesondheidsnavorsing Etykkomitee (GNEK) aan die Universiteit van Stellenbosch [S19/02/046] en die gesondheidsorg organisasie, en die deelnemers se ingeligte toestemming is verkry.

Resultate: Die resultate toon dat leierskap, geregtelike kultuur en organisatoriese leer veilige pasiëntsorg beïnvloed wat deur PVs verskaf word. Voorts het die studie bevind dat die persoonlike agtergrond-inligting van die PVs verband hou met veilige pasiëntsorg wat deur die PVs verskaf is. Die studie het ook bevind dat deelnemers wat 'n twee-jaar Algemene Diploma kwalifikasie besit, meer geneig is om met die items in die vraelys saam te stem, selfs al is die items negatief gestel. Die meeste deelnemers het gevind dat die bestuursondersteuning vir pasiëntsorg onvoldoende is (gemiddelde=59) en dat bestuur slegs begin belang gestel het in pasiëntsorg na 'n ongunstige insident plaasgevind het (gemiddelde=41.8). Verdere resultate het bewys dat die hospitaal en eenhede 'n gemiddelde telling het van slegs $m=46.50$ vir die nie-straftbare respons op foute.

Aanbevelings: Leierskap van die organisasie behoort te verwys na die faktore wat pasiëntsorg beïnvloed wat deur die PVs verskaf word. Die ontwikkeling en implementering van 'n nie-straftbare kultuur word ten sterkste aanbeveel.

Gevolgtrekking: Hierdie studie het leierskap, 'n geregtelike kultuur en organisatoriese leer as faktore geïdentifiseer wat veilige pasiëntsorg beïnvloed wat deur die PVs verskaf is en daarmee saam ook die persoonlike agtergrond-inligting van die PVs wat pasiëntsorg verskaf in 'n private gesondheidsorg organisasie in die Wes-Kaap.

Sleutelwoorde: professionele verpleegsters, faktore, beïnvloeding, pasiëntsorg

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ABBREVIATIONS

PN	Professional Nurse
EN	Enrolled Nurse
WHO	World Health Organization
SANC	South African Nursing Council
AHRQ	Agency for Healthcare Research and Quality
HREC	Health Research Ethics Committee
BMJ	British Medical Journal
CINAHL	Cumulative Index to Nursing and Allied Health Literature
PPS	Probability Proportional to Size
SPSS	Statistical Package for the Social Sciences
ANOVA	Analysis of Variance
OHSC	Office of Health Standards Compliance
ICN	International Council of Nurses
RCN	Royal College of Nursing
COHSASA	Council for Health Service Accreditation of Southern Africa
IOM	Institute of Medicine
RN	Registered Nurse
NQF	National Qualifications Framework
SAQA	South African Qualifications Authority

CHAPTER 1: FOUNDATION OF THE STUDY

1.1 INTRODUCTION

The World Health Organisation (WHO) described safety as a fundamental principle of patient care. Furthermore, the WHO proclaimed that it was imperative that adverse events should be prevented, should be made visible and that the effects of the occurrence of adverse events should be mitigated. In so doing, patient safety would be enhanced (World Health Organisation, 2005:4). Corroborating the WHO, according to Mitchell in Hughes (2008: Chapter 1), the Institute of Medicine (IOM) defined patient safety as “the prevention of harm to patients”. Mitchell went on to explain that to achieve safe patient care, a system of care had to be emphasised which (1) prevented errors, (2) learned from errors and (3) a culture of safety was built which included patients, organisations and all healthcare professionals (Mitchell in Hughes:2008).

According to the South African National Health Act 61 of 2003 (Republic of South Africa, 2003) all patients have the right to be cared for, in a healthy, safe and clean environment. The National Health Act stipulates that patients need to be safeguarded against clinical risks associated with inappropriate and unsafe care. Furthermore, adverse events must be prevented or reduced by healthcare establishments (Republic of South Africa, 2003). In addition, the National Core Standards in the National Health Act of South Africa has promulgated that patient harm and suffering should be minimised and in so doing, adverse events should be identified promptly, be analysed routinely, recurrence should be prevented and learning from mistakes should be encouraged (Republic of South Africa, 2003).

According to the Nurse’s Pledge, when a nurse makes an oath, she commits to making the health of her patients her first consideration (South African Nursing Council, 2012 - 2018). In a study done in two South African provinces on the nurse’s perceptions about the International Code of Ethics for Nurses and the South African Nurse’s Pledge of Service, White, Phakoe and Rispel (2015:1) concluded in their study that ninety-six percent (96%) of the nurses agreed that it was their duty to meet the social and the health needs of the public. In a similar study done on nurse’s perspective of the Pledge of Service, ninety-three percent (93%) of the nurses said that they believed in committing to safe patient care (Dorse & Stellenberg, 2014:6).

However, in a retrospective study done in Gauteng, in which forty-one (41) files were audited, Williams and Stellenberg (2018:73), identified that 41.5% (n=17) of the adverse events resulting in malpractice litigation, were as a result of nursing issues. When categorized, 70.7%

(n=29) of the nurses were professional nurses (PN) and 19.5% (n=8) were midwives. Corroborating this study, in a study done on private healthcare in the Western Cape, eighty-one (81) medical malpractice case files were audited to determine the factors, which influenced nursing malpractice litigation. Samlal and Stellenberg (2018:61 - 63) identified that nursing staff alone, contributed to 43.2% (n=35) of adverse events.

1.2 SIGNIFICANCE OF THE PROBLEM

According to the Nursing Act 33 of 2005 (Republic of South Africa, 2005), professional nurses are qualified, competent and independent practitioners who accept responsibility and accountability for the comprehensive nursing care which they deliver (Republic of South Africa, 2005). However, as the evolution of nursing takes place, professional nurses have been faced with increasing healthcare challenges in which safe, quality care has been potentially compromised by factors in the clinical field; for example, staff shortages, advanced technology, demanding patients and inadequate leadership (Singh & Mathuray, 2018:122-139). Dorse and Stellenberg (2014:1-9) concluded in their study, that there were factors which adversely influenced the profession, such as ethical issues which related to patient care and the workplace environment. Furthermore, they advised that in order to maintain a noble and a caring profession, these factors had to be addressed (Dorse & Stellenberg, 2014:1-9).

However, the delivery of quality nursing care and safe patient care is challenged by factors within healthcare systems. In a literature study done on the challenges facing healthcare in South Africa, the findings revealed that despite various quality improvement programmes, the desired level of quality service has still not been achieved (Maphumulo & Bhengu, 2019:1-9). Some of the healthcare issues that are being incurred on patient care are rising litigation costs as a result of avoidable error, adverse events, poor record keeping, prolonged waiting times as a result of inadequate human resources and poor hygiene and infection control measures (Maphumulo & Bhengu, 2019:1-9). Furthermore, according to Maphumulo and Bhengu (2019:1-9), these issues are occurring as the result of healthcare challenges such as leadership and management, unequal distribution of resources, increasing consumer demand and the increased burden of disease.

In this study, the researcher aimed to identify and create an awareness of factors in the clinical field of the healthcare organisation, which might have influenced the professional nurses (PNs) provision of safe patient care. Furthermore, the researcher aimed to assist and to create an awareness for healthcare organisations and nursing at large about the healthcare challenges surrounding professional nurses in the clinical field. In addition, the researcher aims to assist healthcare organisations to enhance their safety cultures and to go back to the basics in which

leadership, a just culture, and organisational learning are revisited and becomes the focus, amidst the challenges of an evolving nursing society.

It will therefore be of value for healthcare organisations to take cognisance of the study and its recommendations, in order to create a clinical field, which highlights and controls the factors influencing the PNs providing safe patient care. In so doing, the PN becomes equipped as an accountable and responsible leader in a clinical field, where patients receive safe quality care and can contribute to a reduction in adverse events and possible malpractice litigation.

1.3 RATIONALE

Nurses form the largest part of the healthcare environment, and patient care is chiefly centred on them. For this reason, as well as the complexities of the healthcare environment, nurses have found themselves at the “sharp-end” of patient care (Hughes, 2008:1). Hughes (2008) established that organizations that were committed to quality care would not place their nurses at the “sharp end” of patient care, but would rather focus on system improvements, to enhance quality care.

According to Hughes and Clancy (2005:289-292), the conditions under which nurses work may lead to adverse events and the likelihood of error. Hughes and Clancy (2005:289-292) identified the key elements in the workplace which influenced safe quality care and patient outcomes; specifically, the physical environment, organisation culture, workflow design, staffing levels and working hours. According to Hughes and Clancy (2005:289-292), research done by the Agency for Healthcare Research and Quality (AHRQ), established a statistical association between working conditions in which care was provided, the quality of care provided and patient outcomes.

Furthermore, in his model of accident causation, Reason (2000:768-770) hypothesised that adverse events occurred as a result of active failures and latent conditions in the system. He likened factors in the system to holes in Swiss cheese which caused accidents and adverse events. When the holes aligned, defences were broken down thus permitting a trajectory of accident opportunity (Reason, 2000:769). Reason’s model of accident causation guided the conceptual framework of the study and it is explained in more detail in Paragraph 1.8 below.

In addition to Reason’s hypothesis on patient safety, in 2005 the World Health Organisation (WHO) identified the need for a universal patient classification and formed an Alliance on Patient Safety, with the premise to assist decision makers to address patient safety issues and to develop best practices. The alliance was aimed at answering crucial questions

regarding policies, regulations, leadership, learning from adverse events and an improvement on raising standards and expectations (World Health Organisation, 2005:5).

The WHO classification of patient safety identifies influencing factors as organisational, environmental, human, being subject to incidents and drugs, equipment and documentation factors. In 2009, the WHO released a report on organisational and human factors which influenced patient safety. The aim of the report was to assist healthcare workers to identify these factors and to realise the impact that they have on patient outcomes (World Health Organisation, 2009:7-13).

According to the National Guideline for Patient Safety Incident Reporting and Learning in South Africa (National Department of Health, 2017:16-17), all healthcare organisations should have a system in place for the management of patient incidents which is built on the following principles: a just culture, an emphasis on learning, the confidentiality of patients, the timely reporting of incidents, the response to incidents and an openness about failures. The study therefore aimed to investigate factors, viz. leadership, just culture and organisational learning and their influence, particularly on the professional nurse providing safe patient care.

1.4 PROBLEM STATEMENT

The literature review has established that there are multiple factors which can influence patient safety provided by nurses which thus impacts the conducive therapeutic environment in which patients are cared for.

According to the background and the rationale, specific factors have been identified, viz, leadership, a just culture and organisational learning, as having an influence on patient safety in a private healthcare organisation in the Western Cape. The literature could, however, not show that there had been previous studies done to support this rationale. Hence, this led the researcher to believe that there is a gap in the knowledge about the factors which influence patient safety provided by professional nurses, in a private healthcare organisation in the Western Cape.

1.5 RESEARCH QUESTION

What are the factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape?

1.6 RESEARCH AIM

The study aimed to investigate the factors influencing safe patient care provided by professional nurses, in a private health care organisation in the Western Cape.

1.7 RESEARCH OBJECTIVES

The objectives of the study aimed:

1. To determine whether leadership influenced the PNs in providing safe patient care within the private healthcare organisation.
2. To determine if a just culture influenced the PNs in providing safe patient care within the private healthcare organisation.
3. To determine whether organisational learning influenced the PNs in providing safe patient care within the private healthcare organisation.
4. To establish whether the personal background information related to safe patient care provided by the PNs within the private healthcare organisation.

1.8 CONCEPTUAL FRAMEWORK

According to Gray, Grove and Sutherland (2017:139), a conceptual framework is a grand theory which is abstract and explains a phenomenon and reflects a philosophical stance. This study was guided by James Reason's Swiss Cheese Model of Accident Causation (Reason, 2000:768–770) wherein human error was seen in two ways, a person approach and a system approach. Reason hypothesised that adverse events and errors occurred as a result of active failures and latent conditions.

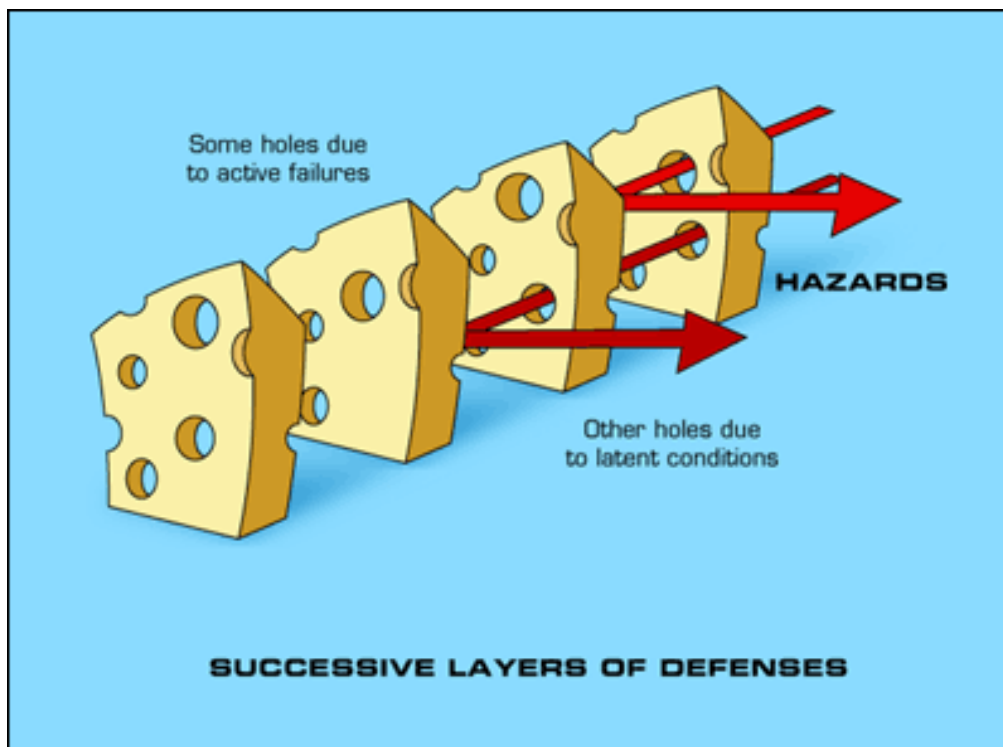


Figure 1.1: James Reason's Model of Accident Causation

(Reason, 2000:768–770)

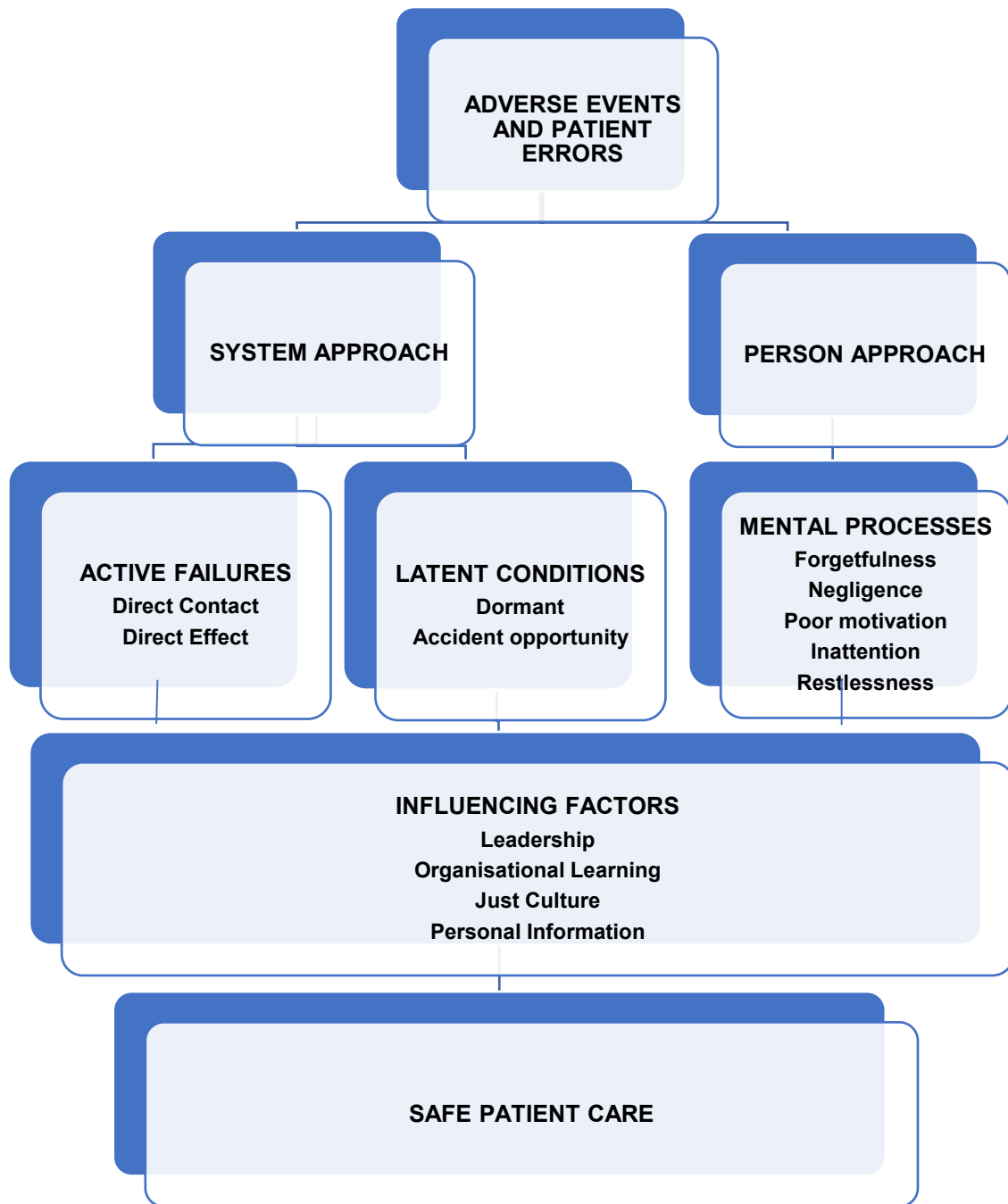


Figure1.2: Researcher's conceptual framework of the factors influencing safe patient care

1.8.1 Person approach

The person approach focuses on the reasons of committing unsafe acts and the violation of procedures, viz. the mental processes of individuals who find themselves at the 'sharp end' of patient care, for example professional nurses. The person approach views mental processes such as forgetfulness, the lack of attention and motivation, recklessness and negligence as primary causes of unsafe acts (Reason, 2000:768–770). According to Reason (2000:768–770), blaming individuals is more satisfying than targeting the healthcare institutions and therefore guards against the overuse of the person approach whilst developing safety cultures.

1.8.2 System approach

The system approach focuses on the conditions under which individuals work and the development of defences to prevent and to alleviate errors and their effects (Reason:768–770). According to Reason (2000:768–770), humans fail, and errors are expected, and it is therefore important, that when an adverse event occurs, not to blame the person but to investigate why the defences failed.

1.8.3 Active failures

Active failures were caused by people who were in direct contact with the system or with the patients (Reason, 2000:768–770).

1.8.4 Latent conditions

Latent conditions lie dormant until they are activated by active failures, to create an opportunity for accidents, such as when nurses fail to ensure safe, quality care, due to the omission of tasks (Reason, 2000:768–770).

1.8.5 Influencing factors

Reason (2000:768-770) hypothesised that there were factors in the system which he likened to the holes in Swiss cheese that were the cause of adverse events and accidents. He related the factors to organisational influences, unsafe supervision, unsafe acts and the pre-conditions for unsafe acts.

For the purpose of the study, the researcher has identified leadership, just culture, organisational learning and the personal information of employees as factors which influence safe patient care.

1.9 RESEARCH METHODOLOGY

A brief overview of the research methodology will be described, which will then be followed by a more detailed discussion in Chapter 3.

1.9.1 Research design

The purpose of the study was to investigate the factors which influenced a patient's safety provided by professional nurses in a private healthcare organisation and therefore it followed a quantitative approach with a descriptive design.

1.9.2 Study setting

The study was conducted in a private healthcare organisation in the Western Cape.

1.9.3 Population and sampling

The target population comprised all professional nurses within 18 hospitals in a private healthcare organization in the Western Cape, (N=656).

A probability proportional to size (PPS) sample was taken using stratified random sampling within each hospital stratum so that overall nine of the 18 hospitals were randomly sampled and were representative of the three sizes of hospitals in the population.

A convenient sample of PNs within each sampled hospital was drawn, (N=147) (22%). The population and the sampling are discussed in more detail in Chapter 3.

1.9.4 Instrumentation

A validated questionnaire, Hospital Survey on Patient safety, Version 1.0, designed by the Agency for Healthcare Quality and Research [Appendix 4] was used. The questionnaire will be discussed in more detail in Chapter 3.

1.9.5 Pilot test

A pilot test was done to measure the precision of the instrument for the purpose of the main study, to identify any deficiencies in the instrument. A full discussion on the pilot test will be discussed in the methodology in Chapter 3.

1.9.6 Validity and reliability

The reliability and the validity of this study was supported by a literature study, the researcher's supervisor, a statistician and an expert in quality assurance. Furthermore, the pilot test supported the validity of the instrument in a South African context. The validity and the reliability are discussed in more detail in Chapter 3.

1.9.7 Data collection

Once ethical approval [S19/02/046; see Appendix 2] and consent from the healthcare organisation [Appendix 1] had been obtained in April and May 2019, data collection took place in June 2019. The data was collected at nine hospitals of the healthcare organisation within the Western Cape. The data collection was done by the researcher at seven hospitals and by

a trained field worker at two hospitals, where the researcher was known, using convenient sampling. An in-depth discussion of the data collection process will follow in Chapter 3.

1.9.8 Data analysis

The data was analysed with the support of a biostatistician employed by Stellenbosch University using the Statistical Package for the Social Sciences Version 26 (SPSS26). The use of descriptive and inferential statistics was applied.

1.10 ETHICAL CONSIDERATIONS

The study obtained ethical approval from the Health Research Ethics Committee (HREC) of Stellenbosch University [S19/02/046; see Appendix 2] and permission to conduct the study in the healthcare organisation was obtained from The Nursing Directorate of the healthcare organisation [see Appendix 1]. Ethical principles of autonomy, privacy and confidentiality, beneficence and non-maleficence were applied.

1.10.1 The right to self-determination

The ethical principle of the right to self-determination or the ability to make one's own decisions is based on the principle of respect for individuals and therefore it implies that individuals should be treated as autonomous beings, free of coercion, deception and covert data collection (Gray, Grove & Sutherland, 2017:162–63).

The autonomy of the participants was respected, and participants were informed of the purpose and the benefits of the study. The study was voluntary for all the participants and the participants could choose to withdraw at any stage of the study.

Furthermore, informed consent was obtained from the participants prior to completing the survey. To avoid bias, the researcher enlisted the assistance of a trained field worker to conduct the data collection at two of the hospitals that the researcher was familiar with.

1.10.2 The right to confidentiality and anonymity

The participant's right to confidentiality and anonymity was respected and the participants were assured that all the data would be treated as private and confidential. The identity of the participants was kept anonymous and no participant's names appeared on the questionnaires.

Pseudonyms were used to protect the identity of participants. All the information collected was treated as private and confidential and it was stored on a database which was password protected. The information collected was only accessible to the researcher, the biostatistician and to the supervisor.

1.10.3 The right to protection from discomfort and harm

According to Gray *et al.* (2017:173) researchers should protect their participants from discomfort and harm while conducting their research. The right to be protected from discomfort and harm during study research supports the ethical principle of beneficence and non-maleficence and it implies that one should do good and prevent harm (Gray *et al.*, 2017:173).

Participants who became emotional during and after the survey were given the opportunity to visit the resident Occupational Health Sister, viz. INCON Health, at their institutions. However, no risks or unforeseen psychological events were identified or reported during the study.

1.11 OPERATIONAL DEFINITIONS

Patient safety is defined as the avoidance and the prevention of patient injuries or adverse events, resulting from the processes of health care delivery (Rockville, Sorra, Gray, Streagle, Famolaro, Yount, & Behm, 2018:35).

Safety culture is described as the product of an organisation's values, competencies, behavioural patterns, attitudes and perceptions, which contribute to the organisation's style and proficiency of health and safety management (Rockville, Sorra, Gray, Streagle, Famolaro, Yount, & Behm, 2018:1).

A professional nurse refers to any person who is registered in terms of Section 31 of the Nursing Act 33 of 2005, and practices according to the scope of practice R2598 (Republic of South Africa, 2005).

An adverse event is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether it results in patient harm or not (Rockville, Sorra, Gray, Streagle, Famolaro, Yount, & Behm, 2018:35).

A near miss is an incident which did not cause harm to the patient (World health Organisation, 2007:7).

Error is the failure to carry out intended action plans through omissions or through commissions.

Nursing leadership is a direct participation in clinical care and having the ability to influence others to improve the quality of care (Al-Dossary, 2017:253).

A just culture is an environment of trust where people are encouraged and they are rewarded for providing safety related information and who can distinguish between acceptable and unacceptable behavior (Global Aviation Information Network. Working Group E, 2004:4).

Organisational learning is a process which involves the application of knowledge for a purpose and learning from the process and the outcomes (Agency for Healthcare Research and Quality, 2017:3).

Human error is the result of system design and behavioral choices and it requires consolidation (National Department of Health, 2017:26).

At-risk behaviour is a behaviour of choice that involves risks that can be justified or are insignificant. This behaviour requires coaching (National Department of Health, 2017:26).

Reckless behaviour is the conscious disregard of risks and requires discipline (National Department of Health, 2017:26).

Patient outcome is the whole or the partial impact which an incident has on a patient (World Health Organisation, 2009:17).

Active failures are unsafe acts which are committed directly on patients and cause harm (Reason, 2000:767).

Latent conditions are conditions which are dormant, developed from decision-making by leadership and which can translate into error and long-term weaknesses in the system (Reason, 2000:767).

1.12 DURATION OF THE STUDY

Literature Review	Ongoing
Submission of Proposal	March 2019
Ethical Approval	April 2019
Pilot Study	May 2019
Data Collection, Capturing and Analysis	June - September 2019
Writing of Research Report	October 2019
Submission of Thesis	December 2019

1.13 CHAPTER OUTLINE

Chapter 1: Foundation of the study

The researcher provided a brief overview of the study, which included an introduction to the research topic, the significance of the study and a brief explanation of the research methodology.

Chapter 2: Literature review

Chapter 2 described the literature review of the research topic, which supported the significance of the research topic.

Chapter 3: Research methodology

Chapter 3 provided a detailed explanation of the research methodology, which was used in the study

Chapter 4: Results

Chapter 4 discussed the results of the study.

Chapter 5: Discussion, conclusions and recommendations

1.14 SUMMARY

In this chapter, the researcher has provided a brief overview of the study. This included an introduction into the study, the significance of the study and the research methodology that was used. The researcher also provided a description of the conceptual framework upon which the study is based. The next chapter will provide a discussion of the literature review which supported the aim of the study and the significance of the research topic, to investigate the factors influencing safe patient care provided by professional nurses in a private healthcare organisation.

1.15 CONCLUSION

As the leaders of clinical care at the bedsides of our patients, professional nurses are expected to deliver safe quality care to their patients, amidst an evolving nursing profession. A multitude of factors surrounds the professional nurse in the healthcare environment, which influences the safe provision of quality patient care. It is therefore vital for healthcare organisations to identify these factors and shortcomings within their organisations, in order to avoid these from becoming barriers to delivering safe, and quality patient care.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

LoBiondo-Wood and Haber (2014:50) describe a literature review as a systematic and critical appraisal of the literature which is known as a topic. In addition, Gray *et al.* (2017:48) explained that the purpose of a literature review is to identifying any knowledge gaps that exist regarding the topic. In this chapter, the researcher provides information derived from investigating and gaining insight into the factors that influence the safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape.

The literature review was done in context to the conceptual framework of the study based on James Reason's Swiss Cheese Model of Accident Causation (Reason, 2000:768–770). Reason saw human error in two ways, a person approach and a system approach into errors through active failures and latent conditions (Reason, 2000:768-770). It is from this departure point that the researcher will discuss the literature review which pertains to the factors influencing the safe patient care provided by professional nurses in a private healthcare organisation.

2.2 ELECTING AND REVIEWING THE LITERATURE

The literature review was conducted over a period of approximately 12 months via various electronic database (e-database) sites such as healthcare journals, textbooks and reports. E-database sites included PubMed, ScienceDirect, Google, Google Scholar, ResearchGate, Ovid, Wiley Online Library and CINAHL (Cumulative Index of Nursing and Allied Health Literature). Journals included the Nursing Journal, the New England Journal of Medicine and BMJ Quality and Safety. To define the relationship between words and groups used in the literature search, Boolean operators, AND, OR and NOT, were used to expand the search (LoBiondo-Wood & Haber, 2014:68).

The review of the literature was cited from empirical and theoretical sources found in articles, theses and dissertations of previous studies not more than ten years old. Literature older than ten years was used to add relevance and suitability to the study. Grey literature from government legislation and statistical reports was also used to strengthen the study.

The literature search was conducted to support and to gain insight into the research aim, to investigate the factors that influence patient safety, by assessing professional nurses in a private healthcare organization in the Western Cape. Keywords utilized were patient safety,

private healthcare organization, professional nurses, leadership, organisational learning, just culture, nurse staffing, teamwork.

2.3 OVERVIEW OF PATIENT SAFETY CULTURES

The World Health Organization (WHO) formed an Alliance on Patient Safety, which assisted decision makers to develop best practices to address patient safety issues (WHO, 2005:5). The World Health Organisation Alliance on Patient Safety (2005:5) was aimed at answering crucial questions relating to policies and regulations which govern healthcare systems to improve patient safety and to guide leadership in the research and the development of knowledge, learning from adverse events and identifying best mechanisms to improve standards and expectations of patient safety and addressing issues related to acceptable levels of risks and costs.

Furthermore, the WHO International Classification of Patient Safety identified contributing factors as key elements that influence and form part of the development of incidents; thus, giving context to their occurrence (World Health Organisation, 2009:10-11). According to the WHO, contributing factors are related to human factors, for example communication, behaviour, performance, system factors relating to the work environment and external factors such as legislation, policy and the natural environment, which are beyond the control of the organization (World Health Organisation, 2009:10-11).

The WHO suggests that 2.6 million deaths occur as a result of the occurrence of 134 million adverse events, due to unsafe care in low and middle-income countries annually. Furthermore, “the occurrence of adverse events, resulting from unsafe care, is likely to be one of the 10 leading causes of death and disability worldwide” (World Health Organisation, 2019:3).

The National Health Amendment Act 2013 (National Health Act 12 of 2013) made provision for the establishment of the Office of Health Standards Compliance (OHSC). The function of the OHSC is to advise the Minister of Health about various types of regulations which will allow the OHSC to inspect health establishments for compliance with specific promulgated regulations. The norms and standards regulation applicable for different categories of health establishments, Regulation 67, as promulgated through the National Health Act 61 of 2003, was implemented in February 2019.

Included in Regulation 67 are the following domains:

- user rights;
- clinical governance and clinical care;
- clinical support services;

- clinical governance and clinical care;
- facilities and infrastructure; and
- governance and human resources.

These regulations are intended to protect and promote the health and safety of the health users of South Africa (Amendment Act 12 of 2013).

The National Guidelines for Patient Safety Incident Reporting and Learning in the Health Sector of South Africa (2017:11–12), guides health establishments to manage patient safety, according to the following patient safety principles:

- a just culture which prevents the blaming of individuals and the fear of victimisation for the occurrence of incidents;
- confidentiality regarding the persons and the health establishments involved in incidents;
- timeous reporting and the investigation of incidents;
- responsiveness to recommendations;
- openness about failures which includes apologies to the persons involved; and
- an emphasis on learning from incidents and prevention of recurrence of incidents.

According to Ridberg, Roback and Nilsen (2017:1-7), successful patient safety cultures in Sweden's county councils were attributed to an organizational culture that is conducive to patient safety, leadership support for patient safety, a long-term commitment to patient safety and well-organized patient safety work. Furthermore, Ridberg *et al.* (2017:1-7) identified six (6) factors that were considered important in achieving safe patient cultures in more than 60% of participants (N=155). These factors are (a) improved communication between healthcare professionals (78%), (b) improved communication between patients and healthcare professionals (85%) (c) improved organizational culture that avoids blame and encourages reporting (79%), (d) a knowledge of patient safety to be included in basic education (73%), (e) an increase in the number of nurse practitioners (29%) and lastly (f) an increase in physicians (19%).

Contrary to Ridberg *et al.* (2017:1–7), a multitude of challenges in healthcare in England were identified which prevented the delivery of safe, effective and high quality care (Higginnett, Lang, Pickup, Ives, Fray, McKeown, Tapley, Woodward & Bowie, 2018:5-14).

In their study where N=330, they identified the following challenges:

- organisational culture challenges (26,4%), which included leadership and systems factors such as the lack of support and a lack of policies and processes;

- pressure at work (19.4%) included challenges such as an increasing number of patients, time constraints resulting in not meeting patient demands, a lack of teamwork and team continuity and negative impacts on staffs' cognitive and physical wellbeing;
- risk management challenges (10.8%) such as a pervading culture of blame;
- communication challenges (10.5%) included fragmented communication between multi-disciplinary teams and a lack of consideration for the environmental factors which were seen as distractions and as interrupting processes; and
- a lack of resources such as insufficient equipment and facilities.

A cross-sectional study done in the United States to determine the impact of patient safety cultures concerning missed nursing care that included N=311 nurses and N=29 units showed that missed nursing care occurred occasionally, $M=3.44$, $SD=0.24$ with reference to the dimensions of a patient safety culture such as teamwork, organizational learning, management support and event reporting (30%), missed nursing care (26%), quality care concerns and fifteen percent (15%) of vascular access device events (Hessels, Paliwal, Weaver, Siddiqui, & Wurmser, 2019:287–294). Furthermore, missed care was seen as a statistically significant predictor of patient falls, $p<0.05$ (Hesser *et al.*, 2019:287–294).

2.4 CHALLENGES FOR NURSING

As the evolution of nursing takes place, professional nurses are challenged to deliver safe care to patients, despite healthcare challenges such as high acuity patients, increased disease profiles, a lack of resources and advanced technology (Singh & Manthuray, 2018:122–139).

In a qualitative study done in Sweden to understand the challenges faced with achieving good clinical care in a surgical ward, it was concluded that there was a gap between what written documents prescribed and what could be performed to achieve good, safe care.

This study identified four themes which impacted nursing care:

- A demand for increased efficiency and production by placing patients with higher acuities that still require advanced care in the surgical area.
- Nursing turnover and loss of competence, resulting in new graduates with less experience taking responsibility for nursing care, thus impacting quality care and patient safety.
- Vague goals and responsibilities in the development of nursing care, resulting from lack of resources and lack of responsibility regarding who should be developing nursing care plans.

- Traditional hierarchical culture which is led by physicians and not nursing was seen as a barrier to achieving good nursing care, due to the difference in leadership style and the impact on teamwork (Jangland, Nyberg & Yngman-Uhlin, 2017:323–331).

2.4.1 Ethical obligations

The International Council of Nurses (ICN) Code of Ethics for Nurses stipulates that the responsibility of a nurse is to promote health, prevent illness, restore health and alleviate suffering. Furthermore, inherent in nursing is respect for human rights, regardless of colour, creed, race, social status, gender, sexual orientation, nationality, politics, disability or illness and culture (International Council of Nurses, 2012:1).

The Code of Ethics for nurses in South Africa holds nurses responsible and accountable for their acts and omissions and they are required to be able to justify their decision making, while carrying out their responsibilities in their profession (South African Nursing Council, 2013:4).

According to R786, the regulations setting out the Acts or omissions in respect of which the Council may take disciplinary steps, are promulgated through the Nursing Act 2005 (Act No. 33 of 2005), whereby, professional nurses assume responsibility and accountability for ensuring the safe implementation of nursing care. Furthermore, a professional nurse assumes responsibility and accountability for his or her own actions and omissions within the legal and the ethical parameters of a dynamic healthcare environment (Nursing Act No. 33 of 2005).

The National Department of Health (2007) introduced the Patient Right's Charter, based on the Constitution of South Africa, Act 108 of 1996 (Republic of South Africa, 1996) which indicated that all South Africans have a right to a healthy and safe environment that ensures their physical and their mental health and wellbeing (The Constitution of the Republic of South Africa, Act 108 of 1996). This charter must be displayed in every clinical environment of a health establishment.

2.4.2 Malpractice litigation

A retrospective study done in eight developing countries in the Middle East and in Africa wherein 15 548 patient files were audited, showed that 83% of adverse events which occurred were preventable, while 34% were the result of therapeutic errors caused by inadequate training and supervision and non-adherence to policies and protocols which contributed to most of the events. (Wilson, Michel, Olsen, Gibberd, Vincent, El-Assady, Rasslan, Qsous, Macharia, Sahel, Whittaker, Abdo-Ali, Letaief, Ahmed, Abdellatif & Larizgoitia, 2012:1-14).

A study done in Gauteng to investigate the factors that contributed to malpractice litigation in private healthcare in Gauteng, South Africa, in which 41 (forty-one) case files were audited,

showed that n=17 (41.5%) of the nursing profession contributed to N=17, (41.5%), of the adverse events resulting in malpractice litigation (Williams & Stellenberg, 2018:77–86). Furthermore, when categorized, professional nurses constituted n=29 (70.7%) and n=8 (19.5%) were midwives or nurses, who were involved in adverse events. In a similar study done on private healthcare in the Western Cape, South Africa, Samlal and Stellenberg audited 81 case files, which resulted in malpractice litigation (2018:61-63). The study identified that nursing staff contributed to n=35 (43.2%) of the adverse events and when categorised, n=77 (95.1%) were registered professional nurses (Samlal & Stellenberg, 2018:61–63).

According to the Agency for Healthcare Research and Quality (Six Domains of Health Care Quality, 2018), there are six (6) domains of healthcare quality which serves as a framework to guide the assessment of quality:

- **Safety** – avoid harm to patients.
- **Effectiveness** – services should be beneficial and should be based on scientific knowledge.
- **Patient-centred care** – patient values should guide decision making.
- **Timely** – Reduction of waiting times and avoidance of harmful delays.
- **Efficiency** – Avoiding wastage of ideas, energy, equipment and supplies.
- **Equitable** – consistent quality care that does not vary because of economic status, gender, ethnicity or geographic location.

2.5 OBJECTIVE 1: LEADERSHIP

Al-Dossary (2017:251–255) defined leadership as an interactive process and described leadership as a quality whereby followers are motivated and empowered to achieve a goal. In addition, Al-Dossary, defined nursing leadership as not only being an influence towards achieving goals, but to influence others to improve their quality care through direct participation in clinical care. In defining the concept of nursing clinical leadership, Al-Dossary (2017:251-255) related this concept to direct bedside clinical care where the nurse utilises his or her clinical skills and professional nursing practices to enhance a therapeutic relationship between patient and healthcare practitioner. Thus, Al-Dossary viewed nurses as leaders in the clinical field who are pivotal in providing safe, quality care, with positive patient outcomes.

Nurse leaders should provide a framework to guide their staff that ensures safe patient care (Sammer & James, 2011:1–10). According to Sammer and James (2011:1-10), nurses lead from where they find themselves; be it in the boardroom or at the bedsides of patients. For this reason, Sammer and James advised nurse leaders to improve patient safety at unit level;

a safety culture should be developed, that is built on leadership, communication, teamwork, learning, a patient-centred culture, a just culture and evidence-based practice.

In an alert report issued by the Joint Commission (Joint Commission Sentinel Alert 57, 2017:1), leadership was seen as an essential role in the development of patient safety cultures. The report stated further that adverse events occurred as a result of inadequate leadership, which included the intimidation of staff reporting events, the inconsistent implementation of safety recommendations, a lack of support to staff reporting events and a lack of feedback and response to staff who are reporting events.

2.5.1 Supervisor or management expectations and actions promoting patient safety

According to Bjarsan and LaSala (2011:18–24), regardless of his or her nursing role, all nurses should embrace their obligations and duties towards moral leadership. Moral leadership promotes ethical nursing environments and creates a nursing culture wherein safe, quality care is enhanced.

According to Murphy and Bishop (2016:109) nursing leaders have a moral and ethical obligation toward the provision of safe patient care. Nursing leadership has an influence on the professional practices of nurses, their psychological state and their ability to practise safely. Furthermore, leadership inevitably determines how adverse events and near misses are reported and the impact of these on nursing staff.

In a study which explored how factors at the systems level affected patient care in a surgical ward in a Swedish hospital, it was established that unclear leadership, limited resources and challenges in nursing led to missed nursing care. The researchers advised that leaders in nursing and nurses need to highlight the importance of fundamental care, in order to improve clinical care, regardless of the clinical condition of the patient (Jangland, Teodorsson, Molander & Muntlin, 2017:1-11).

2.5.2 Management support for patient safety

The objective of a systematic literature review done in the United States by Parand, Dopson, Renz and Vincent (2014:1–15) was to identify the time and activities spent and engagement spent on quality care. The study found that activities included those such as quality promotion, providing feedback and driving an improvement culture. Despite the positive associations with quality such as a quality board and compensation for quality, there was an inconsistency of the activities among the sampled hospitals. Some hospital boards spent less than half of their total time on quality and safety, whilst most boards spent 25% or less time on quality. The

study concluded that there was some evidence that the activities and time spent by managers could influence processes, performance and clinical outcomes (Parand *et al.*, 2014:1–5).

A cross-sectional study on the perspectives of nurses in patient safety management in Brazil concluded that healthcare establishments should develop policies that focused on the stimulation of event reporting and the implementation of measures which promoted a non-punitive organisational culture (Francolin, Gabriel, Bernardes, de Camargo Silva, Paiva Brito & Machado, 2015: 275–281). The study was a cross-sectional descriptive study, which aimed to evaluate patient safety management systems in seven Brazilian hospitals. The researchers found that 100% of the hospitals had an event reporting system, 71.4% had a risk management committee and 80% had discussions about events that had occurred (Francolin *et al.*, 2015:275–281).

Armstrong, Rispel and Penn-Kekana (2015:1–9) completed a cross-sectional study in private and public hospitals in two South African provinces. The activities of the nursing unit managers were examined, to determine how these activities facilitated quality patient care. The results of the study showed that the unit managers spent only 25.8% of their time on direct patient care and only 13.4% on support and communication. Other activities such as patient administration, hospital administration and staff management comprised 60.8% of their time. The study proposed that unit managers be enabled to lead the provision of high quality care, through continuous professional development, executive management support and the creation of an enabling practice environment (Armstrong *et al.*, 2015:1–9).

2.5.3 Communication openness

According to Henderson (2015:693–694) leadership has a critical role in influencing the conditions for staff to deliver quality nursing care. Due to the complexities of the healthcare environment, the communication processes in healthcare organisations need to be open, thus extending upwards and laterally.

The results of a study conducted in the United States on the relationship between leadership and communication skills of nurse managers and the organisational behaviour of medical-surgical nurses (N=126), showed a moderately positive statistically significant relationship between leadership and communication skills, $r=0.35$, $p=0.00$. The study concluded that nurse managers who had effective communication and leadership skills had positive influences on the behaviour of the nursing team (Cullen & Gordon, 2014:23–29).

2.6 OBJECTIVE 2: JUST CULTURE

In his Model of Accident causation, when evaluating the person approach to error, Reason (2000:768–770) stated that while it is more satisfying to blame individuals for the occurrence of errors, effective risk management is dependent on an effective reporting culture, wherein trust is a key element. However, trust requires the existence of a just culture in which a distinction is made between blameless and blameworthy actions.

The reporting of adverse events by staff should not be accompanied by a feeling of blame or fear of victimisation, but should be treated in a just manner, for learning to take place (National Guideline for Patient Safety Incident Reporting and Learning in the Health Sector of South Africa, 2017:11–12).

The National Guidelines for Patient Safety Incident Reporting and Learning in the Health Sector of South Africa (National Department of Health, 2017:25-27), recognizes that in a just culture, error can be caused by faulty systems and through human error. Furthermore, a just culture promotes communication, fairness, transparency and learning, by consoling human behaviour, coaching at-risk behaviour and disciplining reckless behaviour.

According to Boysen (2013:400–406) a punitive culture and blaming individuals is not the most appropriate outcome when managing risks. System failures in an organization must also be considered, and some errors warrant disciplinary action. Thus, a just culture should be developed in which a balance is found between extreme punishment and blamelessness. Organizations and their employees are therefore held accountable for their actions and choices, while the monitoring of risks, human behaviour, system design and patient safety remains a focus.

2.6.1 Non-punitive response to errors

The fear of reporting near misses and adverse events among nursing staff exists, and it is nursing leadership's responsibility to foster a patient safety culture that is comfortable for patient advocacy and a willingness to report unsafe patient care (Cole, Bersick, Skarbek, Cummins, Dugan & Grantoza, 2019:1176–1181). In this quantitative study, Cole *et al.* (2019:1176–1181) aimed to explore the factors that influenced patient advocacy among registered nurses and their willingness to report unsafe practices. The results suggested that the experience of nurses and their working environment were key factors in their willingness to report unsafe patient care matters and that although most participants did not fear retaliation, 45.8% of participants feared retaliation for reporting unsafe care.

According to Rodziewicz and Hipskind (2019:1), medical errors are the leading cause of death in the United States. Although most medical errors are out of the control of the healthcare practitioner, the practitioner remains accountable for their decision making. For this reason, healthcare establishments should maintain a patient safety culture that is able to recognize safety challenges and implement quality improvement that will foster viable solutions, instead of advocating a culture of blame, shame and punishment.

Cooper, Edwards, Williams, Sheikh, Parry, Hibbert, Butlin, Donaldson and Carson-Steven (2017:455 – 461) reported a mixed-methods analysis of an England and Wales incident reporting database, to describe the blame attribution of incidents, N =975). It was found that 45%) of incidents were attributed to blame and 36%) attributed to faults of another person. The researchers expressed a concern for the high percentage of blame attributed to incidents as it reflected a healthcare culture of blame and retribution instead of learning and improvement.

In a cross-sectional study done in two public hospitals in Ethiopia on medication administration errors and contributing factors, the aim was not only to determine the prevalence of medication errors and associated factors but also to measure the reporting of the errors. The study showed that 71% perpetrated were medication administration errors and of these only 24.7% of the nurses had reported the errors. The under-reporting was due to fear (62.3%) and the lack of a reporting system (40%) which encouraged reporting (Alemu, Belachew & Yimam, 2017:68 – 74).

Yung, Yu, Chu, Hou and Tang (2016:580–588) conducted a cross-sectional study in a medical centre hospital in Taiwan on the nurse's attitude and perception regarding the reporting of medication administration errors, N=306). The study showed that despite 89.9% of nurses reporting events orally to a superior and 19% of nurses reporting the errors via an online reporting system, the common feeling after committing an error was a fear of the consequences, (M=3.18), such as blame, distrust or being labelled as incompetent and self-recrimination (83%). Further statistical tests identified an association ($p=0.001$) between the negative attitude of nurses towards reporting and the perceived barriers.

In a quantitative study done by Hill and Damons (2016:139) in the Western Cape, South Africa, the results showed that by creating a just culture and empowering and improving clinical performance, adverse events were reduced, and patient safety and care improved.

2.6.2 Teamwork across/within units

The accumulation of small avoidable errors in a healthcare organisation are uncertain and can result in adverse events, thus impacting the quality of care. To manage these uncertainties and to improve the goal of quality improvement, avoidable errors should be managed through a systems approach, which includes key strategies such as effective teamwork and communication (Hughes, 2008).

According to Taplin, Foster and Shortell (2013:279–281), creating an effective team requires leaders to support, coach, influence and reward team performances and thus they need to be cognizant of their role in shaping teams.

In a literature review study done in Portugal, of twelve articles on various e-databases, wherein the aim was to determine the strategies for effective safety cultures and the prevention of nursing errors. Vinagre and Marques (2018:25-32) established that teamwork and communication were identified as the most significant strategies for an effective patient safety culture in all the articles (75%).

In Australia, a cross-sectional study was done to examine the relationship between handover and patient safety in a rural context (Piper, Lea, Woods & Parker, 2018:1–13) The study aimed to investigate the effect of handover on patient safety and the effect of other aspects of patient safety on handover, such as teamwork. The study found that a culture built on strong teamwork and management support enhanced the handover of patient information and personal responsibility, ($r=47$). Furthermore, strong teamwork, management support and open communication enhanced the handover of departmental accountability ($r=41$).

In a study done in Korea to examine the levels of teamwork and its relationship to the reporting of errors, Hwang and Ahn (2014:14–20) identified that teamwork was significantly associated with the reporting of errors. The nursing teams scoring higher for team communication were more likely to report error to the patient safety department and their managers, odds ratio = 1.82. Hwang and Ahn (2014:14–20) recommended that managers make a concerted effort to improve teamwork which will contribute to the improvement of error reporting and patient safety.

2.6.3 Staffing

According to the International Council of Nurses' (2018:1–7) position statement on evidence-based safe nurse staffing, safe nurse staffing is critical in delivering safe, quality care in hospitals Furthermore, the ICN advises healthcare employers to create positive work cultures

which means having an adequate number of staff, manageable workloads, quality leadership and managerial support.

2.6.3.1 The impact of safe nurse-patient ratios

Ball, Murrels, Rafferty, Morrow and Griffiths (2014:116–125) conducted a qualitative study in England, to examine the nature and prevalence of missed nursing care and to determine whether there was an association between nurse staffing levels and nurse ratings of safe quality care. They hypothesized that lower staffing levels were associated with poor patient outcomes and that time constraints resulted in missed nursing care, which, in turn, resulted in poor patient outcomes.

The results obtained showed that 86% of nurses reported that missed nursing care was due to insufficient time. In addition, an association was established between the number of patients per registered nurse and the incidence of missed nursing care ($p < 0,001$). It was identified that in wards where patient safety was rated as excellent, an average of 2.4 activities were left undone on a shift whilst in wards where patient safety was rated as failing, an average of 7.4 activities were left undone on a shift (Ball *et al.*, 2013:116-125)

Needleman, Buerhaus, Pankratz, Leibson, Stevens and Harris (2011:1037–1045) reinforced the need for staffing to match patient needs. In a retrospective study, the aim was to establish an association between patient mortality and patient exposure to eight or less nursing hours. The study showed a significant association between increased mortality and increased exposure to reduced staffing of eight hours or less ($p < 0.001$).

According to Eygelaar and Stellenberg (2012:1–8), staffing was seen as a barrier to quality nursing care. The study described the factors which influenced quality nursing care in rural district hospitals in the West Coast Winelands Region of South Africa and showed that inadequate staffing was a barrier to delivering quality nursing care, $N = 272$ (97%). A significant difference was established between staff provision and age, with staff older than 40 years are more likely to disagree that there was enough staff for the workload.

The Royal College of Nursing (Royal College of Nursing, 2017:7) released a report of a survey completed by 30 000 professionals in the United Kingdom on safe, effective staffing levels (Borneo, Helm & Russell 2017:1–44). Fifty-three percent (53%) of respondents confirmed the incidence of care, which was compromised and left undone, due to staff shortages.

A retrospective longitudinal cohort study done in an English National Health Service hospital aimed to determine an association between daily registered nurse (RN) staffing and nursing assistant staffing and hospital mortality levels (Griffiths, Maroutti, Recio Saucedo, Redfern,

Ball, Briggs, Dall'Ora, Schmidt & Smith, 2019:609–617). The study showed that lower registered nurse staffing levels and an increase in admissions per RN was associated with an increased risk of death in hospital. The hazard of patient deaths increased by 3%) each time the RN staffing decreased below the required mean for that ward. Furthermore, when the nursing assistant staffing requirement decreased, the incidence of death increased by 4%). In addition, when admissions per RN increased exceeding 125%) of the mean for the ward, the hazard for death increased by 5%).

No association was determined between the level of admissions for nursing assistants and death. The study concluded that a shortage of RNs has a negative outcome on patient safety. Furthermore, RN and nursing assistant hours should not be treated as equal, and therefore, the RN shortage should not be remedied by increasing the lower skilled nursing staff in the workforce.

2.6.3.2 *The effect of agency or temporary nurse utilisation*

In a case study done in two provincial hospitals in Gauteng, South Africa, part of the indirect agency costs was attributed to the supervision and management of agency staff. Agency staff were perceived as being sub-optimal in comparison with permanent staff, who provided sub-optimal quality care and included perceptions such as a lack of commitment and loyalty, reluctance to perform extra nursing tasks or to take on extra nursing duties (Rispel & Moorman, 2015:1–9).

2.6.3.3 *The impact of nurse working hours on patient safety*

According to the Basic conditions of Employment Act 75 of 1997, an employee is required to work no longer than 45 hours per week (Republic of South Africa, 1997).

A cross-sectional study done across twelve European countries aimed to investigate whether the length of time of nurses' shifts was associated with the level of quality care left undone reported by nurses (Griffiths, Dall'Ora, Simon, Ball, Lindqvist, Rafferty, Schoonhoven, Tishelman & Aiken, 2014:975–981). The study showed that nurses working ≥ 12 hours and overtime, were more likely to report poor or failing patient safety and care left undone, compared to nurses who worked ≤ 8 hours, ($p < 0.005$). The study, therefore suggested, that longer hours and overtime inhibits the workforce from being efficient and effective in delivering safe quality care.

In a quantitative study done in 90 hospitals across Thailand, Kunaviktikul, Wichaikhum, Nantsupawat, Nantsupawat, Chontawan, Klunklin, Roongruangsri, Nantachaipan, Supamanee, Chitpakdee, Akkadechanunt and Sirakamon (2015:386–393) examined the

effect of extended hours or overtime (>40 hours per week) of Thai nurses on nurse, patient and organisational outcomes. The study found that there was a statistically significant positive relationship between the extended hours worked and patient related outcomes such as pressure ulcers, communication errors, patient complaints and identification errors, $r=0.068-0.083$ nurses working >16 hours overtime per week were more likely to perceive all four patient outcomes than nurses working only >8hours overtime per week. Furthermore, a statistically significant negative relationship was found between the nurses working overtime and job satisfaction, ($r=-0.084$).

2.7 OBJECTIVE 3: ORGANISATIONAL LEARNING

Organisational learning is a process whereby knowledge is applied for the purpose of learning from processes and outcomes, is aimed at continuous improvement through inquiry and dialogue and creates a culture in which people feel safe, can share openly and take risks (Agency for Healthcare Research and Quality, 2017).

According to the World Health Organisation (2005:22), learning from results and analysis of adverse events, near-misses and errors and having the capacity and the capability of capturing information from these, contributes to the improvement of patient safety. It forms a basis for preventive action and encourages learning through the generalisation of the problem, thus producing applicable solutions. Learning is a fundamental requirement to enhance patient safety through alert generation, feedback and the analysis of events (National Guidelines for Patient Safety Incident Reporting and Learning, in the Health Sector of South Africa, 2017:27–30).

2.7.1 Frequency of events reported

Peyrovi, Nasrabadi, and Valiee (2016:215–221) conducted a qualitative, descriptive study in four general intensive care units in Kurdistan, Iran which explored the barriers blocking reporting of nursing errors by interviewing 16 registered nurses.

The study identified four major barriers:

- not investigating the root cause of error, i.e. not paying attention to the cause or origin of the error;
- feelings of insecurity due to the lack of manager support and fear of finger-pointing;
- fear of consequences such as fear of punishment, for example payroll deduction, legal implications and organisational misconduct towards nurses, for example improper behaviour towards the nurses; and
- saving their professional reputations and preventing stigma, which could result in tarnishing professional careers and being blamed for patient problems.

A cross-sectional study done by Ammouri, Tailakh, Muliira, Geethakrishnan and Al-Kindi (2015:102–110) in Oman, to investigate the perceptions of nurses regarding patient safety culture and influencing factors. The study found that nurses who professed having more teamwork and communication about errors, were more inclined towards more frequent event reporting ($p < 0.001$); thus, teamwork was found to be a significant predictor of the frequency of event reporting by nurses.

2.7.2 Feedback and communication about error

According to World Health Organisation (2008:12-13), communication is crucial once an incident has occurred and it has been identified as the causal factor in 60% of errors, for example illegible handwriting, incomplete handovers and unclear instructions.

Communication after an adverse event has occurred is vital to ensure that the lessons learnt are communicated more widely amongst the healthcare team (World Health Organisation, 2008:12–13).

Feedback of adverse events, the outcome and the root cause analysis of the adverse events should be communicated timeously to staff, to prevent recurrence and to ensure that learning takes place (National Department of Health, 2017:28).

In a cross-sectional study done in Canada on empirical data, Zaheer, Ginsburg, Chuang and Grace (2015:13–23) analysed how participative leadership, unit norms of openness and ease of reporting influenced frontline staff's perceptions of a patient safety climate. The study found a positive relationship between participative leadership, unit norms of openness and ease of reporting and the staff's perceptions of the patient safety climate. The study concluded that management teams must ensure that frontline staff are comfortable enough to communicate safety concerns openly. Therefore, there is a need to improve participative leadership and to involve staff more efficiently in the management of errors.

2.7.3 Handoffs and transitions

According to a sentinel alert by the Joint Commission (Joint Commission Sentinel Alert 58, 2017), handoff is a real time communication process in which specific patient information is transferred and accepted from one caregiver to another, ensuring the safety and continuity of patient care. Successful handoff communication can improve patient safety; however, inadequate handoff communication can contribute to the occurrence of adverse events such as medication errors, falls and wrong-site surgery (Joint Commission Sentinel Alert 58, 2017).

Lee, Phan, Dorman, Weaver and Pronovost (2016:1–8) conducted a literature review in the United States to determine how the various elements of a patient safety culture are associated

with the perceptions of patient safety and clinical handoffs. The researchers analysed data using hierarchical multiple linear regression to establish the association and found that effective handoff of information, responsibility, and accountability were necessary to assure positive perceptions of patient safety.

In a quantitative cross-sectional survey done in South Africa, Mamalelala, Schmollgruber and Botes (2017:84–92) aimed to describe the perceptions of intensive care and emergency unit nurses, regarding the effectiveness of handover practices, using a handover rating tool. The results showed that there were significant factors in the system which influenced the efficacy of the handover, namely, the level of education of nurses, number of years of experience of nurses in the specialty and the working atmosphere.

2.7.4 Overall perceptions of patient safety cultures

In a critical review of the quality improvement challenges in South African healthcare system, Maphumulo and Bhengu (2019:1-9) identified that the quality improvement programs which were in place in the South African healthcare system were not producing the desired level of quality care. South Africa was faced with healthcare challenges such as adverse events, increasing litigation due to avoidable errors, prolonged waiting times, shortage of resources, poor record-keeping, poor hygiene and poor infection control measures.

A cross-sectional study done on the perceptions of healthcare professionals of the patient safety culture at a university hospital in Brazil, using the Hospital Survey on Patient Safety, showed a weakness in the patient safety culture. The study showed positive hospital mean scores for the patient safety composites on the questionnaire, <50% and lowest score =16% for non-punitive response to errors, N=314. Furthermore, the study showed that 65% of participants had not reported any adverse events in the previous year, prior to the study. The study concluded that a better policy for improvement and cyclical assessments was needed to ensure safe care. (Okuyama, Galvao, Crozatti & Silva, 2019:216–222).

Furthermore, Farokhzadian, Dehghan-Nayeri and Borhani (2018:1-13) explored the perceptions of nurses in a South East Iranian hospital concerning the challenges influencing the implementation and integration of a safety culture in healthcare. The study showed multiple factors that were seen as healthcare challenges influencing safe patient care, such as a shortage of resources, a lack of staff knowledge and competence, a non-supportive management, a culture of blame and punishment, a lack of reporting of events, weakened organisational learning and a lack of feedback regarding errors.

In a qualitative study in Israel which explored the perceptions of nurses and nurse managers' understanding of accountability, Leonenko, and Drach-Zahavy (2016:2718–2727) showed that the bedside nurses agreed that responsibility, more than accountability, was crucial to the nursing profession. Accountability was not seen as an integral part of an organisational norm and transparency and answerability was seen as unjustified, which was better suited for nurse managers. Furthermore, accountability behaviour was perceived as isolating, bullying and resistant and the benefits were seen as empowering, professional and proud.

2.8 OBJECTIVE 4: PERSONAL INFORMATION

2.8.1 Educational background

A cross-sectional study was done in the United States to investigate whether there was an association between the registered nurse's level of education and patient mortality and a failure to rescue patients (Aiken, Clarke, Cheung, Sloane & Silber, 2003:1617–1623). Aiken *et al.* (2003: 1617-1623) found on a 95% confidence interval I (0.91–0.99) that a 10% increase in the percentage of nurses holding a bachelor's degree resulted in a five percent (5%) reduction in patient mortality, within 30 days of admission and the odds of failure to rescue.

Blignaut, Coetzee and Klopper (2014:224–231) aimed to investigate the perceptions of the PNs regarding patient safety and quality care in South Africa and to establish whether there was a relationship between these perceptions and the qualifications of the PN (N=1117), in a cross-sectional study. The study identified significant problems from the perceptions of the PNs, relating to patient safety and quality care; such as loss of information during handoff and management support for patient safety. However, the study did not show a significant relationship between the PNs qualifications and the PNs perception of patient safety and quality care.

Furthermore Swart, Pretorius and Klopper (2015:1–8) aimed to determine if there was an association between the educational background of nurses and their perceptions of patient safety and quality care in private surgical units in South Africa. The study used a descriptive correlational study design and found that the Enrolled nurses (ENs) and Registered nurses (RNs) were satisfied with the patient safety and quality of care in the units. However, the ENs were satisfied with current preventative measures for errors, whilst the PNs attained higher scores for the reporting of errors. The study concluded that there was a significant statistical difference between the RNs perception and the ENs perception of the prevention of errors such as pressure ulcers, medication errors and falls with injury.

Rahman, Jarrar and Sobri Don (2015:331–337) found in a cross-sectional study done in medical and surgical wards (n=355) in Malaysia, that there was no association between the nurses holding higher education and patient safety and quality of care. Rahman *et al.*, (2015:331–337) found that training programs offered by the teaching hospital for nurses made it difficult to establish a difference between diploma and degree nurses associated with patient outcomes. The study concluded that the educational level of nurses was not associated with patient outcomes in Malaysian private hospitals; however training and better education was needed to sustain patient outcomes and satisfy client expectations.

2.8.2 Transition from student to PN

A qualitative study done in Iran aimed to investigate the experiences of novice nurses' unpreparedness at the beginning of work (Hezaveh, Rafii & Seyedfatemi, 2013:215–222). The study identified three main themes that novice nurses experienced as challenges, functional disability (functional defects), communicative problems (difficulty in communicating) and managerial challenges (inability to lead a shift). Furthermore, the study found that the unpreparedness to work in the clinical field was stressful for the novice nurses and the care teams. The study findings gave insight into the unpreparedness of novice nurses for the work environment and concluded that effective application of transition programs would assist new graduates in reducing stress and increasing retention and job satisfaction.

In a literature review Gardiner and Sheen (2016:7–12) explored new graduate nurses' experience of support. The review found that new graduates in their first year of being a registered nurse, experienced being stressed and overwhelmed by bearing the nurses' responsibility. This shows the need for adequate feedback, which can assist the transition and the need for support or help.

Ingvarsson, Verho and Rosengren (2019:1–8) conducted a qualitative study to describe the experiences of new graduate nurses' introduction into the medical ward in a Swedish hospital. The study found one main theme; the uncertainty of the nursing profession, which was subdivided into three subthemes, humility as a new graduate, adaptability of the new graduate and being a staff member instead of a student. The study concluded that limited experience related to the requirements of the job resulted in anxiety, which made the transition from student to registered nurse difficult. Thus, the transition of novice to expert should be accompanied by support through using standardized guidelines and routines that facilitate patient safety.

2.9 SUMMARY

This chapter has provided a review of the literature pertaining to factors influencing safe patient care provided by the PN in a private healthcare organization in the Western Cape. Aspects based on the objectives of the study were discussed according to the patient safety composites of the questionnaire.

The next chapter will provide a discussion of the methodology used in the study.

2.10. CONCLUSION

The literature review has established that there are factors in the clinical field which impact the patient safety cultures of healthcare organisations and thus influence the safe patient care provided by PNs. However, the researcher has identified a gap in the knowledge pertaining to the factors which influences the PNs providing safe, patient care in a healthcare organisation in the Western Cape.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

In Chapter 2 an in-depth review of the literature supporting the significance of the topic was provided as evidence that there were factors within healthcare organisations that influenced the safe patient care provided by professional nurses.

Chapter 3 will provide a detailed explanation of the research methodology which the researcher applied during the study, in order to investigate the factors influencing the safe patient care provided by professional nurses in private healthcare, as discussed in Chapter 1.

3.2 RESEARCH AIM AND OBJECTIVES

The aim and the objective of the study describes the intention of the researcher and what is set out to be accomplished (Gray *et al*, 2017:99). This study aimed to investigate the factors, which influence the safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape.

The objectives of the study aimed to determine whether:

- Leadership influenced the PNs in providing safe patient care within the private healthcare organisation;
- Just Culture influenced the PNs in providing safe patient care within the private healthcare organisation;
- Organisational Learning influenced the PNs in providing safe patient care within the private healthcare organisation; and
- The personal background information related to safe patient care was provided by the PNs within the private healthcare organization.

3.3 STUDY SETTING

Grove, Burns and Gray (2013:373) described a study setting, as the location where the study was conducted. The study was conducted in nine private hospitals of a private healthcare organisation in the Western Cape, South Africa. The hospitals were chosen from rural and urban areas of the Western Cape and varied between small, medium and large. The hospitals were categorised into small, medium and large, depending on the total number of beds in operation, that is small < 120 beds, medium 120 - 200 beds, large >200+ beds. Consent was

obtained in the departments where the participants worked, whereupon surveys were issued for completion in their private time and setting.

3.4 RESEARCH DESIGN

The primary focus of the study was to describe the factors, that influenced the safe patient care provided by professional nurses of a private healthcare organisation. For this reason, the study followed a quantitative approach with a descriptive design. According to Gray *et al* (2017:676) a descriptive design is a design used in quantitative research to provide information about the characteristics or the prevalence of a variable. A quantitative approach with a descriptive design was chosen for the researcher to utilise numerical data and statistical analyses, to describe the factors influencing safe patient care provided by professional nurses and to ensure that research findings could be generalised to the target population.

3.5 POPULATION AND SAMPLING

According to Grove *et al* (2013:351), a population is the entire group of people or elements who meet the sampling criteria of a study, whilst a sample is a portion of the population selected for the study (Burns & Grove 2011:51). This selection takes place through a process of sampling when a subset or a portion of the population is selected that is representative of the entire population (Burns & Grove 2011:224). The population of the study comprised professional nurses from 18 hospitals in a private healthcare organisation in the Western Cape, (N=656). With the support of a biostatistician employed by Stellenbosch University, multilevel cluster sampling was applied whereby the sampling frame of 18 hospitals was stratified into small, medium and large hospitals.

A probability proportional to size (PPS) sample was taken, using stratified random sampling within each hospital stratum, so that overall, nine of the 18 hospitals were randomly sampled and were representative of the three sizes of hospitals in the population. A PPS sample of professional nurses was taken at each hospital using convenience sampling. The professional nurses were chosen from a list of names, which was provided by the nursing managers of each hospital at the time of the data collection. A total of 147 surveys were distributed. In total, 101 surveys, (68.7%) were completed and returned for analysis. Table 3.1 depicts a summary of the population and the sample.

Table 3.1: Population and sample

Hospital	Hospitals according to size (Largest to smallest)	Hospital Total of PNs n =	PN sample per hospital n =
A	1	200	40
B	2	93	17
C	2	59	15
D	2	82	16
E	2	74	15
F	2	60	12
G	2	59	12
H	3	17	10
I	3	12	10
Total (N)	9	N=656	n=147(22%)

3.5.1 Inclusion criteria

All permanently employed professional nurses of the nine selected hospitals, registered with the SANC were given an opportunity to participate in the study.

3.5.2 Exclusion criteria

All nurse leaders and nurse managers of the organisation, which includes nursing managers, unit managers and senior professional nurses (second in charge in units), were excluded from the study, due to their affiliation with the factors influencing safe patient care, as discussed in the study. Due to the continuity and the consistency of their services, all professional nurses employed via the nursing agencies were excluded from the study.

3.6 DATA COLLECTION TOOL

For the purpose of the study, the researcher utilised a questionnaire with mainly or predominantly closed ended questions to address the study aim. Questionnaires are written self-reports designed to obtain information and to determine facts regarding for example the opinions, beliefs and the intentions of study participants within this study and instrument (Gray *et al*, 2017:407). The Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture Version 1.0 was utilised (Rockville, W., Sorra, J., Gray, L., Streagle, S., Famolaro, T., Yount, N. & Behm, J. 2018).

The instrument was developed by the Agency for Healthcare Research and Quality (AHRQ) and the Medical Errors Workgroup of the Quality Interagency Coordination Task Force and it was designed specifically for hospital staff, in order to obtain their opinions on the patient

safety cultures, that exist in their hospitals. The document is in the public domain and could be used without permission as a data collection tool.

According to the AHRQ Hospital Survey on Patient Safety Cultures: User's Guide (Rockville *et al*, 2018:4), modifications done to the survey would influence the results of the survey and it would not be able to measure a patient's safety culture. For this reason, all sections of the questionnaire were applied with modifications done to the demographic data, in order to suit a South African healthcare context. In addition, the font size and the line spacing of the questionnaire was modified to enhance clarity.

The instrument was in English and comprised 42 questions, which were merged into 12 composites relating to patient safety. The questions on the instrument were answered according to a Likert scale from negative to positive and in the form of 'disagree' to 'strongly agree' in Sections A, B and F and 'never' to 'always' in Sections C and D. A Likert scale therefore measures the degree of intensity between two extremes (Lo-Biondo-Wood & Haber, 2014:302). With the assistance of the statistician and according to the AHRQ Hospital Survey on Patient Safety Culture: User's Guide (Rockville *et al*, 2018:27 – 31) the Likert scale and the questions were recoded and scored according to the composites of the questionnaire, which, in turn, were linked to the objectives of the study. The instrumentation was aimed at answering the research question and to address the specific objectives, for the purpose of the study; namely, the factors influencing safe patient care provided by the professional nurses, in a private healthcare organization. It took participants 15 to 20 minutes to complete the questionnaire. Table 3.2 depicts how the objectives relate to the safety composites of the questionnaire.

Table 3.2: Instrument composites in relation to study objectives

Patient safety composite	Questions	Objectives
1. Teamwork within the units	A1, A3, A4, A11	Just Culture
2. Supervisors/managers expectations and actions promoting patient safety	B1, B2, B3, B4	Leadership
3. Organisational learning, continuous improvement	A6, A9, A13	Organisational Learning
4. Management support for patient safety	F1, F8, F9	Leadership
5. Overall perceptions of patient safety	A10, A15, A17, A18	Organisational Learning
6. Feedback and communication about error	C1, C3, C5	Organisational Learning
7. Communication openness	C2, C4, C6	Leadership
8. Frequency of events reported	D1, D2, D3	Organisational Learning
9. Teamwork across units	F2, F4, F6, F10	Just Culture
10. Staffing	A2, A5, A7, A14	Just Culture
11. Handoffs and transitions	F3, F5, F7, F11	Organisational Learning
12. Non-punitive response to errors	A8, A12, A16	Just Culture
Patient safety grade	E1	Demographic Data
Number of events reported	G1	Demographic Data
Demographic data and background information	A, G, H	Demographic Data

3.7 PILOT TEST

Grove, Burns and Gray (2013:46) explained that a pilot study is a smaller version of a proposed study and it is conducted to refine the methodology of the proposed study. The reason for conducting a pilot test was to test the reliability and the validity of the instrument, refine the instrument, and to measure how long it took to complete the instrument, as well as establishing the suitability of the instrument within a South African context.

The pilot test was led by the main researcher and it had to be done at one of the nine sampling hospitals for which permission for sampling was obtained. Thus, convenient sampling was utilised and not systematic sampling as proposed. Fifteen (n=15) participants were randomly selected who were available at the time. Verbal consent was obtained from participants. The participants were allowed to complete the questionnaire in their own time and provide feedback within 24 hours.

On completion of the pilot test, the instrument was found to be fit for the purpose of the study. The questionnaire was well suited to a South African context and the language was easily understood by all. The questionnaire took 15 to 20 minutes on average to complete. Since the pilot study was completed at one of the hospitals, which formed part of the sampling frame for the main study, the data collected from the pilot test was excluded from the main study.

3.8 RELIABILITY AND VALIDITY

The reliability and the validity of the instrument used in the study was tested by the AHRQ. A literature study, the researcher's supervisor, a statistician and an expert in quality assurance supported the reliability and the validity of the instrument. Furthermore, a pilot test that was conducted for the main study was done to determine the reliability and the validity of the instrument and it found the instrument fit for the purpose of the study.

3.8.1 Reliability

The reliability of an instrument is the consistency with which the instrument can measure the attribute or concept of a study (Gray *et al*, 2017:370). In addition, Bartlett and Frost (in Gray *et al*, 2017:370) explained further that reliability is associated with precision, comparability and reproducibility of the measurement. During a pilot test, the reliability of the instrument was tested, and the instrument was found to be fit for the purpose of the study.

Eiras, Escoval, Grillo and Silva-Fortes (2014:111–122), statistically analysed the instrument and concluded that the instrument had a satisfactory reliability level, with a Cronbach's Alpha co-efficient = 0.9 for the overall instrument and that it was fit for use in Portuguese hospitals.

Alsalem, Bowie and Morrisson (2019:1-10), in a cross-sectional study, conducted a psychometric evaluation of the instrument in hospitals in Kuwait. The return rate of the survey was 87% (N=1317). The instrument was found to have satisfactory results and reliability analysis showed ($\alpha > 0.60$).

3.8.2 Validity

3.8.2.1 Content validity

Gray *et al*. (2017:376) described content validity as the extent to which the instrument includes all elements to measure the construct. According to Naghavi, Shabestari, Roudsari and Harrison (2012: 89–101), content validity targets the aim of the study. The instrument used in the study was a validated instrument, which was designed to measure the patient safety cultures of healthcare organisations and it was found to include all the elements required to meet the objectives of this study.

3.8.2.2 Face validity

According to LoBiondo-Wood and Haber (2014:293), face validity is an intuitive type of validity whereby subjects can give their opinions on the instrument and evaluate the content, in order to determine whether the content matches the intended concept. The instrument used in the study was pilot tested on more than one 1400 hospital employees from 21 hospitals, in the United States of America.

The analysis of the data determined that the instrument had sound psychometric properties. In a study done in Brazil, the instrument was found to have adequate psychometric properties to measure the patient safety cultures in Brazil ($\alpha=0.92$) (Andrade, Mendes de Melo, da Silva, de Souza, de Lima, de Freitas, Batista & da Silva Gama (2017:1-13). Furthermore, the pilot test done on the main study found that the content of the instrument appeared to measure the intended objectives.

3.9 DATA COLLECTION OF THE MAIN STUDY

Data collection took place in the second quarter of 2019 over one month (June 2019) once ethics approval and consent from the hospital organisation and nursing managers of the representative hospitals was obtained. In order to ensure consistency of the data collection process, a data collection plan (see table 3.3) was implemented by the researcher as described by Gray *et al.* (2017:505).

To ensure anonymity, coding of the hospitals was done in numerical format. The questionnaires did not include any names of the participants who were identified numerically. Once written consent was obtained from the participants, questionnaires were issued by hand. The participants had a choice of returning the completed questionnaires either in a sealed envelope, via the sealed boxes provided in the hospitals or via electronic mailing for those hospitals, which returned questionnaires post collection due date.

Data collection was done by the researcher for all hospitals except for two hospitals where the researcher is too well known. To reduce bias, the researcher enlisted the assistance of a trained field worker to do the data collection at these hospitals.

The data collection took place via convenience sampling from a list of names, which was provided by the nursing managers of each hospital. Throughout the data collection process, it was imperative for the researcher and for the field worker to minimise disturbances to patient care, and thus they could only interact with the participants at their convenience. Participants were given explanations as to the purpose, the benefits and the risks of the study, on how to complete the questionnaire, on the data collection process, and the process of informed consent.

The participants were compensated with refreshments for their participation. The participants were encouraged to complete the questionnaire within 24 hours. However, this took longer than required at certain times. The data collection ended after week 4. Table 3.3 depicts the data collection plan of the researcher, which was implemented as far as possible within the nine hospitals.

Table 3.3: Data collection plan

DAY	WEEK 1 Deliver and issue the questionnaires	WEEK 2 – 4 Collect the questionnaires
Monday	A, B, C 08h00 – 12h00 – day staff 19h00 – 22h00 – night staff	F, G 12h00 – day staff 22h00 – night staff
Tuesday	D, E 08h00 – 12h00 – day staff 19h00 – 22h00 – night staff	D, E 12h00 – day staff 22h00 – night staff
Wednesday	F, G 08h00 – 12h00 – day staff 19h00 – 22h00 – night staff	B, C 12h00 – day staff 22h00 – night staff
Thursday	H, I – deliver, (assist & collect)	A 12h00 – day staff 22h00 – night staff
Friday	Collect H, I 16h00 – 20h00 – day and night staff Follow – up A, B, C, D, E, F, G telephonically 10h00 – 12h00	

3.10 DATA ANALYSIS

Gray *et al.* (2017:56) describes data analysis in quantitative research as the process whereby the data collected is organised and reduced and statistical testing is done to give meaning to the data. With the assistance of a biostatistician employed at Stellenbosch University, the data was captured, stored and analysed using SPSS26. All the data was password protected.

The data was analysed using descriptive statistics. According to Gray *et al.* (2017:523), descriptive statistics are used to describe study variables and the characteristics of a sample. The sample was described using frequency distribution tables and measures of central tendency, viz. the mean, mode and median. In order to make inferences of the greater population concerning the gap that exists about the factors influencing the provision of safe patient care by professional nurses in a private healthcare organisation, inferential statistics were applied. LoBiondo-Wood and Haber (2014:311) refer to inferential statistics as statistical data procedures, which are used to make predictions and generalisations of the findings of a sample.

According to Pallant (2010:128) bivariate statistical analyses are correlational analyses which measure the linear relationship between two variables of a single sample. Bivariate statistical analyses were applied to determine the associations between the dependent variables and the independent variables, that is between the personal information of participants and the

factors that influenced the safe patient care provided by professional nurses. Bivariate statistical analysis was based on a 95% confidence interval with a p value ≤ 0.05 .

The qualitative data obtained, was analysed by the researcher, based on the responses to the open question in Section I of the questionnaire. The data was analysed according to Colaizzi's proposed steps for qualitative data, coding, themes and subthemes, as described in LoBiondo-Wood and Haber (2014:114-115) and is reported as such.

An in-depth discussion of the data analysed will be done in Chapter 4.

3.11 SUMMARY

This chapter has provided a detailed description of the research methodology applied to the study, which included a description of the aim and the objectives of the study, the research question, the study setting and the sample. Furthermore, a description of the instrument utilised for the study, the data collection and the analysis were discussed. The next chapter (Chapter4) will provide the findings and the results of the data analysis.

CHAPTER 4: RESULTS

4.1 INTRODUCTION

Chapter 4 contains the results of the data collected, as discussed in Chapter 3. The results of the questions within the questionnaire will be described as stated within the questionnaire. This chapter outlines the data analysis and the interpretation of the data collected during the study.

The questionnaire has nine sections namely:

- **Sections A to D and Section F** comprises 42 mixed questions that are merged into 12 composites relating to patient safety, error and event reporting.
- **Section E** asks the participants to grade the patient safety within their units and work areas.
- **Section G** requests an indication of how many event reports were submitted by the participants in the past 12 months.
- **Section H** requests the participants to provide background information about themselves, for example qualifications, number of years worked in their professions, hospitals and specific units.
- **Section I** is an open question and it gives the participants the opportunity for comments.

According to Gray *et al.* (2017:56), data analysis in quantitative research is the process whereby the data collected is organised and reduced and where statistical testing is done.

The aim of the study was to investigate the factors influencing safe patient care provided by professional nurses at a private healthcare organisation in the Western Cape.

A quantitative approach was applied with a descriptive design, for the purpose of utilising numerical and statistical analyses to generalise research findings to the target population.

4.2 DATA ANALYSIS

The data was analysed with the assistance of a biostatistician employed by the University of Stellenbosch. All the quantitative data was captured, stored and analysed using the Statistical Package for the Social Sciences Version 26 (SPSS26).

Utilizing descriptive statistics, the data was described through frequent distribution Tables and mean scores. Statistical tests that were applied included the Analysis of Variance (ANOVA), the Pearson Chi Square, the Spearman rho and the Bonferroni post hoc statistical tests.

Gray *et al.* (2017:572) described ANOVA as a statistical test that compares data between groups to establish differences between the groups. In this study, ANOVA tests were applied to establish whether there are significant differences between the hospital clusters and the collection of composites of the survey, for example communication and whether there are significant differences between the background information of the participants and the composites of the survey with $p \leq 0.05$.

Bonferroni statistical tests were applied as a Post Hoc test to make multiple comparisons and to establish significant differences between the hospitals with reference to the composites of the survey, for example communication, with $p \leq 0.05$.

The Spearman rho tests were done to determine any statistical relationship between the participants' years in specialty and the dependent variables, including the strength of the relationship. The Pearson Chi Square test was done to determine any statistical relationship between the qualifications of the participants' and the dependent variables.

The qualitative data obtained, based on the responses to the open question in Section I, were analysed according to Coliazzi's proposed steps for qualitative data, coding, subthemes and themes, as described in LoBiondo-Wood and Haber (2014:115 – 116), and it is reported as such.

Hospitals were recoded to ensure anonymity. Table 4.1 shows the hospitals and the number of participants at each hospital.

Table 4.1: Hospital Code (N=101)

Hospital	Frequency (f)	Percentage (%)
1	31	30.7%
2	8	7.9%
3	12	11.9%
4	9	8.9%
5	11	10.9%
6	6	5.9%
7	7	6.9%
8	7	6.9%
9	10	9.9%
TOTAL	N=101	100%

The researcher aimed to establish an association between the dependent variable, that is the composites of the survey such as teamwork, manager support, communication, event reporting and the personal information of the professional nurses such as years of professional experience, qualifications and years of service at the institution. Associations were determined through the application of the bivariate statistical analysis, based on a 95% confidence interval with a p value ≤ 0.05 . According to Pallant (2010:128), bivariate correlational studies measures the extent of a linear relationship between two variables.

4.2.1 Biographical data

Section H of the questionnaire represents the background information of the participants and this is found in the last section of the questionnaire. For the benefit of the study and the ease of reading, this information will be discussed first, under Section 4.2. The participants were asked to provide their background information in terms of their experience in their present hospital, experience in their current work area or unit, the number of hours worked per week, qualifications, the direct or indirect patient contact and years of professional experience. Table 4.5. shows the number of participants who were asked to describe their qualifications. The choice of qualifications provided on the questionnaire was adapted to the South African undergraduate programmes.

However, participants who obtained any other basic qualification or post graduate qualification provided their answer under "other". Descriptive statistics was applied to describe the data. The n sizes varied according to the responses of the participants to the questions in Section H. The missing data was excluded from the statistics.

4.2.1.1 Question H1: Number of years worked in current hospital (N=100)

Table 4.2 shows the number of years the participants have worked in the current hospital. An equal number of the participants worked for 1-5 years, n=31 (31%) and 6-10 years n=31 (31%) in the current hospital.

Table 4.2: Years worked in current hospital (N=100)

Year	Frequency (f)	Percentage (%)
Less than 1 year	9	9%
1 - 5 years	31	31%
6 - 10 years	31	31%
11 - 15 years	13	13%
16 - 20 years	10	10%
21 years and more	6	6%
TOTAL	N=100	100%

4.2.1.2 Question H2: Years worked in current hospital within the specific work area or unit? (N=100)

Responses to this question are captured in Table 4.3 which shows the number of years that the participants have worked in the current work area or unit.

Most of the participants have worked in their current unit or work area for 1 to 5 years, n=42 (42%).

Table 4.3: Years worked in current work area or unit (N=100)

Year	Frequency (f)	Percentage (%)
Less than 1 year	17	17%
1 - 5 years	42	42%
6 - 10 years	22	22%
11 - 15 years	9	9%
16 - 20 years	6	6%
21 years and more	4	4%
TOTAL	N=100	100%

4.2.1.3 Question H3: Hours participants worked per week (N=99)

In Table 4.4, the total number of hours are shown which participants worked per week in their work areas or units. It was found that most participants worked 40-59 hours per week, n=86(86.9%). However, n=4 (4%) worked 60-79 hours and n=1(1%) worked 80-99 hours per week.

Table 4.4: Hours worked per week (N=99)

Hours	Frequency (f)	Percentage (%)
20 – 39 hours	8	8.1%
40 – 59 hours	86	86.9%
60 – 79 hours	4	4.0%
80 – 99 hours	1	1.0%
TOTAL	N=99	100%

4.2.1.4 Question H4: Qualifications (N=114)

Results show that the participants indicated n=114 qualifications. The number of participants who responded to a specific qualification varied between n=100 and n=101. Thus, some participants have more than one qualification. The qualifications of the participants as shown in Table 4.5 show that there are participants who have more than one qualification. These qualifications show that the Two-Year General Diploma in Nursing, n=39(34.2%) are the most

followed by the Four-Year Diploma in Nursing. However, the requirement to complete a Two-Year General Diploma in Nursing is an enrolled nurse qualification. Only n=5 of these participants indicated that they have a qualification in enrolled nursing. Thus, most of these participants failed to indicate that they have this qualification.

Table 4.5: Qualifications (N=114)

Qualification	Frequency (f)	Percentage (%)
ENA	0	0%
EN	5	4.4%
2 Year General Diploma	39	34.2%
4 Year Diploma	31	27.2%
4 Year B Cur	18	15.8%
Other	21	18.4%

4.2.1.5 Question H5: Patient contact and interaction (N=100)

The results obtained indicated that all the participants had direct patient contact and interaction, n=100(100%).

4.2.1.6 Question H6: Years worked in current specialty (N=100)

Table 4.6 shows the duration that the participants have worked in the current specialty. Most of the respondents n=30 (30%) have worked for 1 - 5 years in their current specialty.

Table 4.6: Years worked in current specialty or profession (N=100)

Year	Frequency (f)	Percentage (%)
Less than 1 year	10	10%
1 - 5 years	30	30%
6 - 10 years	21	21%
11 - 15 years	10	10%
16 - 20 years	7	7%
21 years and more	22	22%
TOTAL	N=100	100%

4.2.2 Section A: Your work area or unit

Section A of the questionnaire focuses on the work area or unit in which the participants spent most of their time and provided clinical care according to patient safety composites.

4.2.2.1 Work area or unit (N=101)

Table 4.7 shows the various departments where the participants predominantly delivered their clinical care. Most of the respondents worked in surgery, n=25(24.8%). All respondents in the category of “other units” indicated that they worked in the operating room, n=20 (19.8%).

Table 4.7: Work areas/Units (N=101)

Unit	Frequency (f)	Percentage (%)
Medical	18	17.8%
Surgery	25	24.8%
Obstetrics	9	8.9%
Pediatrics	6	5.9%
Emergency	6	5.9%
Intensive Care	17	16.8%
Other (Operating room)	20	19.8%
TOTAL	N=101	100%

4.2.2.2 Patient safety composites

The patient safety composites as referred to in Section A refers to:

- teamwork within the unit
- organizational learning
- overall perceptions of patient safety
- staffing
- non-punitive response to errors.

Each patient safety composite comprises separate items which supports the composite. The composite is discussed as such.

4.2.2.2.1 Teamwork within the units

Teamwork was assessed according to the following items on the questionnaire and each item is discussed separately according to the results shown in the tables.

- **Item A1:** People support one another in this unit (N=100).
- **Item A3:** When a lot of work needs to be done quickly, we work together as a team to get the work done (N=100).
- **Item A4:** In this unit, people treat each other with respect (N=99).
- **Item A11:** When one area in this unit becomes busy, others help (N=99).

Analysis about the composite of teamwork within the units shows the total hospital mean score M= 66.27 with three hospitals obtaining mean scores < M=60. ANOVA tests which were

applied identified a significant statistical difference ($p=0.011$) between the hospitals and the teamwork; and a statistical difference ($p=0.039$) between hospital groups and support.

Post-Hoc tests identified statistically significant differences between two groups working specifically 20-39 hours and 40-59 hours with reference to teamwork ($p=0.057$) and support ($p=0.057$).

Item A1: People support one another in this unit (n=100)

Tables 4.8.1 and 4.8.2 shows that most of the participants agreed n=73(73%) that people support one another in the unit with reference to their qualifications and years in their specialty.

The participants n=20 (20%) who worked 1-5 years in their specialty agreed the most as shown in Table 4.8.2

Table 4.8.1: A1: People support one another in this unit (N=100)

Qualification	Disagree	Neutral	Agree
2 Year Diploma General	2 (2%)	10 (10%)	23 (23%)
4 Year Diploma	4 (4%)	2 (2%)	22 (22%)
4 Year BCUR	1(1%)	2 (2%)	13 (13%)
Other	1(1%)	5(5%)	15 (15%)
Total	8 (8%)	19(19%)	73 (73%)

Table 4.8.2: A1: People support one another in this unit (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	0 (0%)	2 (2%)	8 (8%)
1 – 5 Years	4 (4%)	6 (6%)	20 (20%)
6 – 10 Years	0 (0%)	4 (4%)	17 (17%)
11 – 15 Years	1 (1%)	1 (1%)	8 (8%)
16 – 20 Years	2 (2%)	2 (2%)	3 (3%)
21 Years or more	1 (1%)	4 (4%)	17 (17%)
Total (N/%)	8 (8%)	19 (19%)	73 (73%)

Item A3: When a lot of work needs to be done quickly, we work together as a team to get the work done (N=100)

As shown in Tables 4.9.1 and 4.9.2 most of the participants work together as a team when a lot of work has to be done (n=78) (78%) with reference to their qualification and years in their specialty.

The participants with a Two-Year Diploma in General Nursing qualification n=27 (27%) agreed the most that when a lot of work needs to be done quickly, they work together as a team to get the work done.

Table 4.9.1: A 3: We work together as a team to get the work done when there is a lot of work to be done quickly (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	0 (0%)	8 (8%)	27 (27%)
4 Year Diploma	2 (2%)	5 (5%)	21 (21%)
4 Year BCUR	1 (1%)	3 (3%)	12 (12%)
Other	2 (2%)	1 (1%)	18 (18%)
Total (N/%)	5 (5%)	17 (17%)	78 (78%)

Table 4.9.2: A 3: We work together as a team to get the work done when there is a lot of work to be done quickly (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	0 (0%)	2(2%)	8(8%)
1 – 5 Years	1 (1%)	6(6%)	23(23%)
6 – 10 Years	0 (0%)	5(5%)	16(16%)
11 – 15 Years	1 (1%)	2(2%)	7(7%)
16 – 20 Years	1 (1%)	1(1%)	5(5%)
21 Years or more	2 (2%)	1(1%)	19(19%)
Total (N/%)	5 (5%)	17 (17%)	78 (78%)

Item A4: In this unit, people treat each other with respect (N=99)

Most of the participants with reference to their qualifications and years in specialty agreed n=62 (62.6%) that people treated each other with respect in the unit where they worked (Tables 4.11.1 and 4.11.2). Only n=9 (9.1%) of the participants with a Four-Year BCUR degree agreed that people treat each other with respect (Table 4.10.1). While the participants who have worked for 1-5 years in their specialty agreed the most n=18(18.2%) (Table 4.10.2). However, n=28 (28.3%) of the participants remained neutral not agreeing or disagreeing that people treat each other with respect in the unit.

Table 4.10.1: A4: People treat each other with respect in the unit (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	3 (3.0%)	11 (11.1%)	20 (20.2%)
4 Year Diploma	2 (2.0%)	7 (7.1%)	19 (19.2%)
4 Year BCUR	2 (2.0%)	5 (5.1%)	9 (9.1%)
Other	2 (2.0%)	5 (5.1%)	14 (14.1%)
Total (N/%)	9 (9.0%)	28 (28.4%)	62 (62.6%)

Table 4.10.2: A4: People treat each other with respect in the unit (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	0 (%)	4 (4.0%)	5 (5.1%)
1 – 5 Years	4 (4.0%)	8 (8.1%)	18 (18.2%)
6 – 10 Years	1 (1.0%)	4 (4.0%)	16 (16.2%)
11 – 15 Years	1 (1.0%)	4 (4.0%)	5 (5.1%)
16 – 20 Years	1 (1.0%)	3 (3.0%)	3 (3.0%)
21 Years or more	2 (2.0%)	5 (5.1%)	15 (15.2%)
Total (N/%)	9 (9.0%)	28 (28.2%)	62 (62.8%)

Item A11: When one area in this unit becomes busy, others help (N=99)

According to Tables 4.11.1 and 4.11.2 only n=44(44.4%) of the participants agreed that when one area in the unit becomes busy others help, while n=25(25.3%) remained neutral and n=30(30.3%) disagreed. The participants with a Two-Year Diploma in General Nursing qualification n=27(27%) agreed the most that when one area becomes busy others help.

Table 4.11.1: A11: When one area in this unit becomes busy others help (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	11 (11.1%)	8 (8.1%)	16 (16.2%)
4 Year Diploma	8 (8.1%)	8 (8.1%)	11 (11.1%)
4 Year BCUR	3 (3.0%)	4 (4.0%)	9 (9.1%)
Other	8 (8.1%)	5 (5.1%)	8 (8.1%)
Total (N/%)	30 (30.3%)	25 (25.3%)	44 (44.4%)

Table 4.11.2: A11: When one area in this unit becomes busy, others help (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	4 (4.0%)	2 (2.0)	4 (4.0%)
1 – 5 Years	8 (8.1%)	10 (10.1%)	11 (11.1%)
6 – 10 Years	8 (8.1%)	3 (3.0%)	10 (10.1%)
11 – 15 Years	3 (3.0%)	2 (2.0%)	5 (5.1%)
16 – 20 Years	2 (2.0%)	2 (2.0%)	3 (3.0%)
21 Years or more	5 (5.1%)	6 (6.1%)	11 (11.1%)
Total (N/%)	30 (30.3%)	25 (25.3%)	44 (44.4%)

4.2.2.2.2 *Organisational learning*

Organisational learning within the unit was assessed through the following items on the questionnaire and each item was discussed separately according to the results as reflected in the Tables.

- **Item A6:** We are actively doing things to improve patient safety.
- **Item A9:** Mistakes have led to positive changes here.
- **Item A13:** After we make changes to improve a patient's safety, we evaluate the effectiveness.

Results show that the total mean score of all the hospitals $M=72.73$. However, Hospital 2 had a mean score of only $M=17.02$. ANOVA tests showed a significant difference between hospitals with reference to organizational learning, ($p=0.055$). Hospital two is thus more likely to differ from other hospitals with reference to organizational learning. When applying the ANOVA test, it was identified that there is a statistically significant difference ($p=0.045$) between hospital groups and learning.

Item A6: We are actively doing things to improve patient safety (N=100)

Tables 4.12.1 and 4.12.2 show that participants according to their qualifications and years in their specialty agreed that they are actively doing things to improve patient safety $n=89$ (89%). Participants $n=34$ (34%) with a Two-Year Diploma in General Nursing qualification agreed the most that they are actively doing things to improve patient safety while those with 1-5 years, $n=25$ (25%) in their specialty agreed the most. A statistically significant difference ($p=0.058$) was identified between years in the specialty and actively doing things to improve patient safety when applying Spearman's Rho 2-Tailed statistical test.

Table 4.12.1: Item A6: Actively doing things to improve patient safety (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	0 (0%)	1 (1%)	34 (34%)
4 Year Diploma	1 (1%)	2 (2%)	25 (25%)
4 Year BCUR	1 (1%)	2 (2%)	13 (13%)
Other	0 (0%)	4 (4%)	17 (17%)
Total (N/%)	2 (2%)	9 (9%)	89 (89%)

Table 4.12.2: Item A6: Actively doing things to improve patient safety (N=100)

Years in Specialty	Disagree (n%)	Neutral (n/%)	Agree (n/%)
<1 Year	0 (0%)	1 (1%)	9 (9%)
1 – 5 Years	1 (1%)	1 (1%)	28 (28%)
6 – 10 Years	1 (1%)	2 (2%)	18 (18%)
11 – 15 Years	0 (%)	2 (2%)	8 (8%)
16 – 20 Years	0 (0%)	2 (2%)	5 (5%)
21 Years or more	0 (0%)	1 (1%)	21 (21%)
Total (n/%)	2 (2%)	9 (9%)	89 (89%)

A9: Item 9: Mistakes have led to positive changes here (N=100)

Tables 4.13.1 and 4.13.2 show that most of the participants n=67(67%) according to their qualifications and years in specialty agreed that mistakes have led to positive changes. The participants n=23%(23%) with a Two-Year Diploma in a General Nursing qualification mostly agreed that mistakes have led to positive changes. The participants in the 1–5 year category in the specialty mostly agreed that mistakes have led to positive changes, n=17(17%).

Table 4.13.1: Item A9: Mistakes have led to positive changes here (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	4 (4%)	8 (8%)	23 (23%)
4 Year Diploma	4 (4%)	5 (5%)	19 (19%)
4 Year BCUR	2 (2%)	6 (6%)	8 (8%)
Other	1 (1%)	3 (3%)	17 (17%)
Total (N/%)	11 (11%)	22 (22%)	67 (67%)

Table 4.13.2: Item A9: Mistakes have led to positive changes here (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	0 (0%)	1 (1%)	9 (9%)
1 – 5 Years	5 (5%)	8 (8%)	17 (17%)
6 – 10 Years	1 (1%)	5 (5%)	15 (15%)
11 – 15 Years	2 (2%)	2 (2%)	6 (6%)
16 – 20 Years	1 (1%)	3 (3%)	3 (3%)
21 Years or more	2 (2%)	3 (3%)	17 (17%)
Total (N/%)	11 (11%)	22 (22%)	67 (67%)

Item A13: After we make changes to improve a patient’s safety, we evaluate the effectiveness.

Participants according to their qualifications and their years in their specialty n=73(73.7%) agreed that after changes have been made to improve a patient’s safety and they evaluated the effectiveness thereof. The participants with 1-5 years in their specialty, n=23(23.25) agreed the most that after changes have been made to improve a patient’s safety, they evaluated the effectiveness thereof (Tables 4.14.1 and 4.14.2).

Table 4.14.1: Item A13: Changes to improve patient’s safety are evaluated for the effectiveness thereof (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	4 (4.0%)	6 (6.1%)	24 (24.2%)
4 Year Diploma	4 (4.0%)	4 (4.0%)	20 (20.2%)
4 Year BCUR	1 (1.0%)	2 (2.0%)	13 (13.1%)
Other	1 (1.0%)	4 (4.0%)	16 (16.2%)
Total (N/%)	10 (10.1%)	16 (16.2%)	73 (73.7%)

Table 4.14.2: Item A13: Changes to improve patient's safety, are evaluated for the effectiveness thereof (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	2 (2.0%)	0 (0%)	8 (8.1%)
1 – 5 Years	5 (5.1%)	2 (2.0%)	23 (23.2%)
6 – 10 Years	0 (0%)	7 (7.1%)	14 (14.1%)
11 – 15 Years	0 (0%)	4 (4.0%)	6 (6.1%)
16 – 20 Years	3 (3.0%)	0 (0%)	4 (4.0%)
21 Years or more	0 (0%)	3 (3.0%)	18 (18.2%)
Total (N/%)	10 (10.1%)	16 (16.2%)	73 (73.7%)

4.2.2.2.3 Overall perceptions of patient safety

The overall perception of patient safety in the units was assessed through the following items on the questionnaire. Each item is discussed separately according to the results as reflected in the table.

- **Item A10:** It is by chance that more serious mistakes don't happen around here.
- **Item A15:** A patient's safety is never sacrificed to get more work done.
- **Item A17:** We have patient safety problems in this unit.
- **Item A18:** Our procedures and our systems are good at preventing errors from happening.

The analysis showed a total mean score of hospitals for the overall perception of patient safety $M=59.12$, $N=100$. Further analysis shows a statistical difference ($p=0.014$) between units and the overall perceptions of patient safety by applying ANOVA tests. The Bonferroni post-hoc tests identified a statistical difference between intensive care units and operating room theatres ($p=0.036$) with reference to overall perceptions.

Item A10: It is by chance that more serious mistakes don't happen around here (N=99)

According to their qualifications $n=42(42.5\%)$ of the participants disagreed that it was by chance that serious mistakes did not happen while $n=34(34.3\%)$ agreed $n=23(23.2\%)$ remained neutral as shown in Table 4.15.1. The Two-Year Diploma in General Nursing disagreed the most that it was by chance that more serious mistakes did not happen. According to their years in their specialty, most participants were found in the 6–10 year $n=11(11.1\%)$ category who disagreed that it was by chance that more serious mistakes did not happen.

Table 4.15.1: Item A10: It is by chance that more serious mistakes don't happen around here (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	15 (15.2%)	11 (11.1%)	9 (9.1%)
4 Year Diploma	9 (9.1%)	5 (5.1%)	13 (13.1%)
4 Year BCUR	10 (10.1%)	3 (3.0%)	3 (3.0%)
Other	8 (8.1)	4 (4.0)	9 (9.1%)
Total (N/%)	42 (42.5%)	23 (23.2%)	34 (34.3%)

Table 4.15.2: Item A10: It is by chance that more serious mistakes don't happen around here (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	6 (6.1%)	1 (1.0%)	3 (3.0%)
1 – 5 Years	10 (10.1%)	9 (9.1%)	10 (10.1%)
6 – 10 Years	11 (11.1%)	2 (2.0%)	8 (8.1%)
11 – 15 Years	2 (2.0%)	2 (2.0%)	6 (6.1%)
16 – 20 Years	3 (3.0%)	...2 (2.0%)	2 (2.0%)
21 Years or more	10 (10.1%)	7 (7.1%)	5 (5.1%)
Total (N/%)	42 (42.4%)	23 (23.2%)	34 (34.4%)

Item A15: A patient's safety is never sacrificed to get more work done (N=99)

With reference to the participants' qualifications and years in their specialty as shown in Tables 4.16.1 and 4.16.2, most of the participants, n=59(59.6%) agreed that a patient's safety was never sacrificed to get more work done. Most participants who agreed were found in the Two-Year Diploma in General Nursing, n=18(18.2%) and Four-Year Diploma groups, n=18(18.2%). Table 4.16.2 shows that the 1–5 years in the specialty category n=15(15.2%) agreed the most that a patient's safety was never sacrificed to get more work done.

Table 4.16.1: Item A15: A patient's safety is never sacrificed to get more work done (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	11 (11.1%)	6 (6.1%)	18 (18.2%)
4 Year Diploma	4 (4.0%)	5 (5.1%)	18 (18.2%)
4 Year BCUR	4 (4.0%)	1 (1.0%)	11 (11.1%)
Other	5 (5.1%)	4 (4.0%)	12 (12.1%)
Total (n/%)	24 (24.2%)	16 (16.2%)	59 (59.6%)

Table 4.16.2: Item A15: A patient's safety is never sacrificed to get more work done (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	2 (2.0%)	2 (2.0%)	6 (6.1%)
1 – 5 Years	12 (12.1%)	2 (2.0%)	15 (15.2%)
6 – 10 Years	5 (5.1%)	5 (5.1%)	11 (11.1%)
11 – 15 Years	2 (2.0%)	0 (0%)	8 (8.1%)
16 – 20 Years	0 (0%)	2 (2.0%)	5 (5.1%)
21 Years or more	3 (3.0%)	5 (5.1%)	14 (14.1%)
Total (N/%)	24 (24.2%)	16 (16.2%)	59 (59.6%)

Item A17: We have patient safety problems in this unit (N=99)

As shown in Tables 4.17.1 and 4.17.2, only n=41(41.4%) of the participants according to their qualification and their years in specialty disagreed that they had patient safety problems in the unit while n=40(40.4%) agreed and n=18(18.2%) remaining neutral. Most of the participants who agreed were found in the Four-Year Diploma in Nursing category, n=15 (15.2%) and 1–5 years in the specialty category n=13 (13.1%).

Table 4.17.1: Item A17: We have patient safety problems in this unit (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	13 (13.1%)	8 (8.1%)	14 (14.1%)
4 Year Diploma	9 (9.1%)	3 (3.0%)	15 (15.2%)
4 Year BCUR	10 (10.1%)	2 (2.0%)	4 (4.0%)
Other	9 (9.1%)	5 (5.1%)	7 (7.1%)
Total (N/%)	41 (41.4%)	18 (18.2%)	40 (40.4%)

Table 4.17.2: Item A17: We have patient safety problems in this unit (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	5 (5.1%)	2 (2.0%)	3 (3.0%)
1 – 5 Years	11 (11.1%)	5 (5.1%)	13 (13.1%)
6 – 10 Years	12 (12.1%)	2 (2.0%)	7 (7.1%)
11 – 15 Years	4 (4.0%)	1 (1.0%)	5 (5.1%)
16 – 20 Years	4 (4.0%)	1 (1.0%)	2 (2.0%)
21 Years or more	5 (5.1%)	7 (7.1%)	10 (10.1%)
Total (N/%)	41 (41.4%)	18 (18.2%)	40 (40.4%)

Item A18: Our procedures and our systems are good at preventing errors from happening (N=99)

Most of the participants n=68(68.7%) according to their qualification and their years in their specialty as shown in Tables 4.18.1 and Table 4.18.2 agreed that procedures and systems in the unit were good at preventing errors from happening. According to their qualification, most of the participants were found in the Two-Year Diploma in General Nursing category, n=29(29.3%) and according to their years in their specialty, they were found in the 1–5 year category, n=20(20.2%).

Table 4.18.1: Item A18: Our procedures and our systems are good at preventing errors from happening (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	2 (2.0%)	4 (4.0%)	29 (29.3%)
4 Year Diploma	5 (5.1%)	8 (8.1%)	14 (14.1%)
4 Year BCUR	1 (1.0%)	5 (5.1%)	10 (10.1%)
Other	1 (1.0%)	5 (5.1%)	15 (15.2%)
Total N/%)	9 (9.1%)	22 (22.2%)	68 (68.7%)

Table 4.18.2: Item A18: Our procedures and our systems are good at preventing errors from happening (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	2 (2.0%)	0 (0%)	8 (8.1%)
1 – 5 Years	2 (2.0%)	7 (7.1%)	20 (20.2%)
6 – 10 Years	2 (2.0%)	3 (3.0%)	16 (16.2%)
11 – 15 Years	0 (0%)	4 (4.0%)	6 (6.1%)
16 – 20 Years	2 (2.0%)	1 (1.0%)	4 (4.0%)
21 Years or more	1 (1.0%)	7 (7.1%)	14 (14.1%)
Total (N/%)	9 (9.1%)	22 (22.2%)	68 (68.7%)

4.2.2.2.4 Staffing

Staffing in the units of each hospital was assessed through the following items on the questionnaire. Each item will be discussed with the specific tables.

- **Item A2:** We have enough staff to handle the workload.
- **Item A5:** Staff in this unit work longer hours than is best for patient care.
- **Item A7:** We use more agency/temporary staff than is best for patient care.
- **Item A14:** We work in “crisis mode”, trying to do too much, too quickly.

The total mean score for staffing of the hospitals, $M=37.37$, ($N=101$) and the total mean score of the units $M=37.37$, ($N=101$). Applying the ANOVA test, it showed a statistical difference ($p=0.006$) between staffing and the years worked in the hospital.

The Pearson Chi square test identified a statistical difference ($p=0.015$) between the qualifications and that participants worked in “crisis mode”, trying to do too much, too quickly.

This was further supported by the Likelihood Ratio of $p=0.012$ and the Bonferroni post hoc test which identified that the years in hospital shows that there is a statistical difference between years in hospital and staffing. It was found that there is a statistical difference between staff with less than one year and those with 1-5 years ($p=0.005$), 6-10 years ($p=0.012$), 11-15 years ($p=0.033$) and 21 years and more ($p=0.044$).

Item A2: We have enough staff to handle the workload (N=100)

Tables 4.19.1 and 4.19.2 show that according to the qualifications and the years in specialty, most of the participants disagreed that there was enough staff in the units to handle the workload, $n=61(61\%)$.

Most of participants who disagreed that there was enough staff to handle the workload were found in the Two-Year Diploma in General Nursing category, $n=23(23\%)$ and the

1–5 years in a specialty category, $n=18(18\%)$.

Table 4.19.1: A2: Item 2: We have enough staff to handle the workload (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	23 (23%)	5 (5%)	7 (7%)
4 Year Diploma	20 (20%)	5 (5%)	3 (3%)
4 Year BCUR	8 (8%)	4 (4%)	4 (4%)
Other	10 (10%)	7 (7%)	4 (4%)
Total (N/%)	61 (61%)	21 (21%)	18 (18%)

Table 4.19.2: Item A2: We have enough staff to handle the workload (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	7 (7%)	0 (0%)	3 (3%)
1 – 5 Years	18 (18%)	6 (6%)	6 (6%)
6 – 10 Years	11 (11%)	5 (5%)	5 (5%)
11 – 15 Years	7 (7%)	2 (2%)	1 (1%)
16 – 20 Years	5 (5%)	2 (2%)	0 (0%)
21 Years or more	13 (13%)	6 (6%)	3 (3%)
Total (N/%)	61 (61%)	21 (21%)	18 (18%)

Item A5: Staff in this unit work longer hours than is best for patient care (N=96)

Most of the participants according to their qualification and their years in the specialty agreed that they worked longer hours than is best for patient care, n=45(46.9%). The Two-Year Diploma in General Nursing category, n=18(18.8%) and in the 1–5 years in the specialty category, n=12 (12.5%) agreed the most.

Table 4.20.1: Item A5: Staff in this unit work longer hours than is best for patient care (N=96)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	7 (7.3%)	10 (10.4%)	18 (18.8%)
4 Year Diploma	12 (12.5%)	5 (5.2%)	9 (9.4%)
4 Year BCUR	6 (6.3%)	3 (3.1%)	6 (6.3%)
Other	4 (4.2%)	4 (4.2%)	12 (12.5%)
Total (N/%)	29 (30.2%)	22 (22.9%)	45 (46.9%)

Table 4.20.2: Item A5: Staff in this unit work longer hours than is best for patient care (N=96)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	1 (1.0%)	2 (2.1%)	7 (7.3%)
1 – 5 Years	9 (9.4%)	7 (7.3%)	12 (12.5%)
6 – 10 Years	8 (8.3%)	2 (2.1%)	9 (9.4%)
11 – 15 Years	1 (1.0%)	4 (4.2%)	5 (5.2%)
16 – 20 Years	2 (2.1%)	2 (2.1%)	3 (3.1%)
21 Years or more	8 (8.3%)	5 (5.2%)	9 (9.4%)
Total (N/%)	29 (30.2%)	22 (22.9%)	45 (46.9%)

A7: Item 7: We use more agency/temporary staff than is best for patient care (N=100)

According to Tables 4.21.1 and 4.21.2, most of the participants agreed that more agency or temporary staff were used than was best for patient care, n=48(48%) according to their qualification and years in the specialty. However, n=30 (30%) of the participants in both groups, neither agreed nor disagreed and n=22(22%) disagreed regarding using more agency or temporary staff than is best for patient care. Most of the participants who agreed were found in the Two-Year Diploma in the General Nursing category, n=22(22%) and in the 1-5 years in the specialty category, n=13(13%).

Table 4.21.1: A7: Item 7: We use more agency/temporary staff than is best for patient care (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	5 (5%)	8 (8%)	22 (22%)
4 Year Diploma	8 (8%)	9 (9%)	11 (11%)
4 Year BCUR	7 (7%)	5 (5%)	4 (4%)
Other	2 (2%)	8 (8%)	11 (11%)
Total (N/%)	22 (22%)	30 (30%)	48 (48%)

Table 4.21.2: A7: Item 7: We use more agency/temporary staff than is best for patient care (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	1 (1%)	0 (0%)	9 (9%)
1 – 5 Years	8 (8%)	9 (9%)	13 (13%)
6 – 10 Years	5 (5%)	7 (7%)	9 (9%)
11 – 15 Years	3 (3%)	2 (2%)	5 (5%)
16 – 20 Years	1 (1%)	3 (3%)	3 (3%)
21 Years or more	4 (4%)	9 (9%)	9 (9%)
Total (N/%)	22 (22%)	30 (30%)	48 (48%)

A14: Item 14: We work in “crisis mode”, trying to do too much, too quickly (N=97)

Tables 4.22.1 and 4.22.2 show that most of the participants agreed that they worked in “crisis mode” trying to do too much, too quickly, n=62(63.9%). According to their qualifications, most of the participants who agreed were found in the Two-Year Diploma in the General Nursing category, n=24(24.7%) and according to the years in specialty, the participants were found in the 1–5 years in specialty category, n=22(22.7%). When the Pearson Chi-Square statistical test was applied, it showed a statistical difference (p=0.015) between the participants’

qualifications and working in “crisis mode” trying to do too much too quickly. Spearman’s Rho showed a statistical difference ($p=0.058$).between the participants’ years in the specialty and we work in “crisis mode” trying to do too much too quickly,

Table 4.22.1: Item A14: We work in “crisis mode” trying to do too much too quickly (N=97)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	4 (4.1%)	6 (6.2%)	24 (24.7%)
4 Year Diploma	3 (3.1%)	6 (6.2%)	18 (18.6%)
4 Year BCUR	7 (7.2%)	1 (1.0%)	7 (7.2%)
Other	4 (4.1%)	4 (4.1%)	13 (13.4%)
Total (N/%)	18 (18.6%)	17 (17.5%)	62 (63.9%)

Table 4.22.2: Item A14: We work in “crisis mode” trying to do too much too quickly (N=97)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	3 (3.1%)	0 (0%)	7 (7.2%)
1 – 5 Years	3 (3.1%)	3 (3.1%)	22 (22.7%)
6 – 10 Years	6 (6.2%)	3 (3.1%)	12 (12.4%)
11 – 15 Years	1 (1.0%)	3 (3.1%)	6 (6.2%)
16 – 20 Years	1 (1.0%)	1 (1.0%)	5 (5.2%)
21 Years or more	4 (4.1%)	7 (7.2%)	10 (10.3%)
Total (N/%)	18 (18.6%)	17 (17.5%)	62 (63.9%)

4.2.2.2.5 *Non-punitive response to errors*

The participants responded to the non-punitive response to errors according to the following items of the questionnaire. Each item is described as related to the Tables.

- **Item A8:** Staff feel as if their mistakes are held against them.
- **Item A12:** When an event is reported, it feels as if the person is being written up and not the problem.
- **Item A16:** Staff worry that any mistakes that they make are kept in their personnel file.

With reference to non-punitive response to errors the total mean score for hospitals $M=46.50$, ($N=100$) and the total mean score for units $M=46.5$, ($N=100$).

Two of the hospitals obtained mean scores $M<30$, whilst none of the hospitals scored $>M=56.5$. The surgical units scored a mean score of only $M=34.6$.

Further results showed that there is a statistical difference ($p=0.037$) between the hospitals and the non-punitive response to errors. It was also found that there is a statistical difference ($p=0.026$) between the units and the non-punitive response to errors.

The Bonferroni post hoc tests identified that there was a statistical difference ($p=0.026$) between the surgical and the emergency units with reference to non-punitive response to errors.

Item A8: Staff feel as if their mistakes are held against them (N=99)

According to Tables 4.23.1, most of the participants agreed that mistakes were held against them, $n=39(39.4\%)$, while $n=32(32.3\%)$ disagreed and $n=28(28.3\%)$ neither agreed nor disagreed that mistakes were held against them.

According to the years in the specialty as shown in Table 4.23.2, $n=39(39.4\%)$ agreed that mistakes were held against them, $n=32(32.3\%)$ disagreed and $n=28(28.3\%)$ neither agreed nor disagreed.

Table 4.23.1: Item A8: Staff feel as if their mistakes are held against them (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	12 (12.1%)	9 (9.1%)	14 (14.1%)
4 Year Diploma	9 (9.1%)	6 (6.1%)	12 (12.1%)
4 Year BCUR	6 (6.1%)	5 (5.1%)	5 (5.1%)
Other	5 (5.1%)	8 (8.1%)	8 (8.1%)
Total (N/%)	32 (32.3%)	28 (28.3%)	39 (39.4%)

Table 4.23.2: Item A8: Staff feel as if their mistakes are held against them (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	4 (4.0%)	3 (3.0%)	3 (3.0%)
1 – 5 Years	8 (8.1%)	7 (7.1%)	14 (14.1%)
6 – 10 Years	7 (7.1%)	4 (4.0%)	10 (10.1%)
11 – 15 Years	1 (1.0%)	6 (6.1%)	3 (3.0%)
16 – 20 Years	1 (1.0%)	5 (5.1%)	1 (1.0%)
21 Years or more	11 (11.1%)	3 (3.0%)	8 (8.1%)
Total (N/%)	32 (32.3%)	28 (28.3%)	39 (39.4%)

A12: Item12: When an event is reported, it feels as if the person is being written up, and not the problem (N=98)

Most participants n=39(39.8%) according to their qualification and their years in the specialty, agreed that when events are reported it felt as if the person was written up and not the problem, however n=37(37.8%) disagreed and n=22(22.4%) remained neutral. The participants with a Two-Year Diploma in General Nursing n=14(14.3%) mostly agreed that when an event is reported that it feels as if the person is being written up and not the problem. The 1-5 years in the specialty agreed the most that when an event is reported, it feels as if the person is being written up, and not the problem.

Table 4.24.1: A12: Item 12: When an event is reported, it feels as if the person is being written up, and not the problem (N=98)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	11 (11.2%)	10 (10.2%)	14 (14.3%)
4 Year Diploma	10 (10.2%)	6 (6.1%)	10 (10.2%)
4 Year BCUR	9 (9.2%)	3 (3.0%)	4 (4.1%)
Other	7 (7.1%)	3 (3.0%)	11 (11.2%)
Total (N/%)	37 (37.8%)	22 (22.4%)	39 (39.8%)

Table 4.24.2: A12: Item 12: When an event is reported, it feels as if the person is being written up, and not the problem (N=98)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	5 (5.1%)	2 (2.0%)	3 (3.1%)
1 – 5 Years	7 (7.1%)	7 (7.1%)	15 (15.3%)
6 – 10 Years	10 (10.2%)	2 (2.0%)	9 (9.2%)
11 – 15 Years	2 (2.0%)	5 (5.1%)	3 (3.1%)
16 – 20 Years	3 (3.1%)	1 (1.0%)	3 (3.1%)
21 Years or more	10 (10.2%)	5 (5.1%)	6 (6.1%)
Total (N/%)	37 (37.8%)	22 (22.4%)	39 (39.8%)

Item A16: Staff worry that any mistakes that they make are kept in their personnel file (N=98)

Table 4.25.1 shows that most of the participants, according to their qualifications, agreed that staff worry that mistakes which they made, were kept in their personnel files, n=54(55.1%) with most of the participants found in the Two-Year Diploma in the General Nursing category, n=19(19.4%). Furthermore, in Table 4.25.2 according to the years in the specialty, most of the participants agreed that the mistakes which staff made were kept in personnel files,

n=54(55.1%). Most of these participants were found in the 1–5 years specialty category, n=16(16.3%).

Table 4.25.1: Item A16: Staff worry that any mistakes that they make are kept in their personnel file (N=98)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	6 (6.1%)	9 (9.2%)	19 (19.4%)
4 Year Diploma	7 (7.1%)	4 (4.1%)	16 (16.3%)
4 Year BCUR	4 (4.1%)	5 (5.1%)	7 (7.1%)
Other	4 (4.1%)	5 (5.1%)	12 (12.2%)
Total (N/%)	21 (21.4%)	23 (23.5%)	54 (55.1%)

Table 4.25.2: A16: Item 16: Staff worry that any mistakes that they make are kept in their personnel file (N=98)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	1 (1.0%)	1(1.0%)	8 (8.2%)
1 – 5 Years	5 (5.1%)	8 (8.2%)	16 (16.3%)
6 – 10 Years	7 (7.1%)	2 (2.0%)	12 (12.2%)
11 – 15 Years	1 (1.0%)	1 (1.0%)	8 (8.2%)
16 – 20 Years	2 (2.0%)	3 (3.1%)	2 (2.0%)
21 Years or more	5 (5.1%)	8 (8.2%)	8 (8.2%)
Total (N/%)	21 (21.4%)	23 (23.5%)	54 (55.1%)

4.2.3 Section B: Your supervisor or manager

This section focuses on the direct report of candidates in view of their expectations of the supervisor or manager regarding actions promoting patient safety according to the following items which will be discussed individually as per the specific Tables.

- **Item B1:** My supervisor or manager says a good word when he or she sees a job done according to established patient safety procedures.
- **Item B2:** My supervisor or manager does seriously consider staff suggestions for improving patient safety.
- **Item B3:** Whenever pressure builds up, my supervisor or manager wants us to work faster, even if it means taking shortcuts.
- **Item B4:** My supervisor or manager overlooks patient safety problems that happen repeatedly.

The total mean for all hospitals $M=62.75$, ($N=100$). Most of the hospitals' mean scores were $M \geq 50$, whilst only one hospital had a mean score of $M < 50$. The total mean score for the units $M=62.75$. Only one mean score of a unit was $M < 60$ while remaining hospital units all scored $M \geq 60$.

Item B1: My supervisor or manager says a good word when he or she sees a job done according to established patient safety procedures $N=100$

Most participants agreed that their managers said a good word when seeing a job done according to established patient safety procedures, $n=80(80\%)$. Most participants who agreed were found in the Two-Year Diploma in General Nursing category, $n=27(27\%)$ followed by the Four-Year Diploma in Nursing, $n=25(25\%)$.

With reference to the years in the specialty, where most of the participants agreed that their manager said a good word when seeing a job done according to established patient safety procedures, $n=22(22\%)$ were found in the 1-5 year category (see Tables 4.26.1 and 4.26.2).

Table 4.26.1: Item B1: My supervisor or manager says a good word when he or she sees a job done according to established patient safety procedures ($n=100$)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	4 (4%)	4 (4%)	27 (27%)
4 Year Diploma	3 (3%)	0 (0%)	25 (25%)
4 Year BCUR	1 (1%)	3 (3%)	12 (12%)
Other	3 (3%)	2 (2%)	16 (16%)
Total (N/%)	11 (11%)	9 (9%)	80 (80%)

Table 4.26.2: Item B1: My supervisor or manager says a good word when he or she sees a job done according to established patient safety procedures ($n=100$)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	0 (0%)	0 (0%)	10 (10%)
1 – 5 Years	3 (3%)	5 (5%)	22 (22%)
6 – 10 Years	2 (2%)	1 (1%)	18 (18%)
11 – 15 Years	2 (2%)	1 (1%)	7 (7%)
16 – 20 Years	0 (0%)	1 (1%)	6 (6%)
21 Years or more	4 (4%)	1 (1%)	17 (17%)
Total (N/%)	11 (11%)	9 (9%)	80 (80%)

Item B2: My supervisor or manager does seriously consider staff suggestions for improving patient safety N=100

As shown in Tables 4.27.1 and 4.27.2, the majority of participants n=79(79%) agreed that their suggestions for patient safety was considered by their manager. Most of the participants according to their qualifications who agreed were found in the Two Year Diploma in the General Nursing category and according to the years in specialty, most participants who agreed were in the 1–5 year category. Spearman' Rho correlation coefficient showed $r=-0.079$, indicating a moderately strong relationship between the years in specialty and my supervisor or manger does seriously consider staff

Table 4.27.1: Item B2: My supervisor or manager does seriously consider staff suggestions for improving patient safety (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	3 (3%)	3 (3%)	29 (29%)
4 Year Diploma	4 (4%)	4 (4%)	20 (20%)
4 Year BCUR	2 (2%)	2 (2%)	12 (12%)
Other	1 (1%)	2 (2%)	18 (18%)
Total (N/%)	10 (10%)	11 (11%)	79 (79%)

Table 4.27.2: Item B2: My supervisor or manager does seriously consider staff suggestions for improving patient safety (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
< 1 Year	0 (0%)	1 (1%)	9 (9%)
1 – 5 Years	5 (5%)	4 (4%)	21 (21%)
6 – 10 Years	1 (1%)	1 (1%)	19 (19%)
11 – 15 Years	1 (1%)	1 (1%)	8 (8%)
16 – 20 Years	1 (1%)	1 (1%)	5 (5%)
21 Years or more	2 (2%)	3 (3%)	17 (17%)
Total (N/%)	10 (10%)	11 (11%)	79 (79%)

Item B3: Whenever pressure builds up, my supervisor or manager wants us to work faster, even if it means taking shortcuts N=100

The majority of participants n=78(78%) disagreed that they had to work faster when work pressure increased even if it meant taking shortcuts, as per Table 4.28.1 and 4.28.2. Most of the participants disagreeing according to their qualification were the Two Year Diploma in General Nursing, n=26(26%) and according to their years in the specialty were those in the 1–5 year category, n=21(21%).

Spearman's Rho correlation coefficient, ($r=-0.056$), indicating a moderate relationship between the years in the specialty and whenever pressure builds up, my supervisor or manager wants us to work faster, even if it means taking shortcuts.

Table 4.28.1: Item B3: Whenever pressure builds up, my supervisor or manager wants us to work faster, even if it means taking shortcuts (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	26 (26%)	7 (7%)	2 (2%)
4 Year Diploma	21 (21%)	4 (4%)	3 (3%)
4 Year BCUR	13 (13%)	1 (1%)	2 (2%)
Other	18 (18%)	2 (2%)	1 (1%)
Total (N/%)	78 (78%)	14 (14%)	8 (8%)

Table 4.28.2: Item B3: Whenever pressure builds up, my supervisor or manager wants us to work faster, even if it means taking shortcuts (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
< 1 Year	9 (9%)	0 (0%)	1 (1%)
1 – 5 Years	21 (21%)	8 (8%)	1 (1%)
6 -10 Years	16 (16%)	4 (4%)	1 (1%)
11 – 15 Years	6 (6%)	2 (2%)	2 (2%)
16 – 20 Years	6 (6%)	0 (0%)	1 (1%)
21 Years or more	20 (20%)	0 (0%)	2 (2%)
Total (N/%)	78 (78%)	14 (14%)	8 (8%)

Item B4: My supervisor or manager overlooks patient safety problems that happen repeatedly (N=100)

The majority of participants according to their qualifications $n=74(74\%)$ disagreed that their supervisor overlooked patient safety problems that happened repeatedly, of these participants who disagreed, most were found in the Two Year Diploma in General Nursing category, $n=28(28\%)$ as per Table 4.29.1. According to their years in specialty, most participants who disagreed were in the 1–5 year category (see Table 4.29.2).

Table 4.29.1: Item B4: My supervisor or manager overlooks patient safety problems that happen repeatedly (n=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	28 (28%)	2 (2%)	5 (5%)
4 Year Diploma	18 (18%)	2 (2%)	8 (8%)
4 Year BCUR	11 (11%)	1 (1%)	4 (4%)
Other	17 (17%)	2 (2%)	2 (2%)
Total (N/%)	74 (74%)	7 (7%)	19 (19%)

Table 4.29.2: Item B4: My supervisor or manager overlooks patient safety problems that happen repeatedly (n=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
< 1 Year	9 (9%)	0 (0%)	1 (1%)
1 – 5 Years	20 (20%)	3 (3%)	7 (7%)
6 – 10 Years	16 (16%)	0 (0%)	5 (5%)
11 – 15 Years	7 (7%)	2 (2%)	1 (1%)
16 – 20 Years	6 (6%)	0 (0%)	1 (1%)
21 Years and more	16 (16%)	2 (2%)	4 (4%)
Total (N/%)	74 (74%)	7 (7%)	19 (19%)

4.2.4 Section C: Communications

In Section C, participants assessed the communication in their work areas according to various items which support the patient safety composites:

- feedback and communication about the error; and
- communication openness.

4.2.4.1 Feedback and communication about error (n=98)

The following items relates to feedback and communication about error and it will be discussed separately according to the specific Tables.

- **Item C1:** We are given feedback about changes put into place based on event reports.
- **Item C3:** We are informed about errors that happen in this unit.
- **Item C5:** In this unit, we discuss ways to prevent errors from happening again.

The total hospital mean score for feedback and communication about error is, M=71.5 (N=98). The highest mean score among the hospitals is M=78.6, while the lowest mean score is M=54.2. Among the units, the total mean score for feedback and communication about error is M=71.47 with the lowest mean found in the surgical units M=68.3 and the highest mean

found in the emergency units is, M=82. Further statistical tests show that there is a statistical difference ($p=0.008$) between the units and the communication applying the ANOVA test. In addition, the Bonferroni post hoc test identified a statistically significant difference ($p=0.042$) between surgical and emergency units with reference to feedback and communication about the error.

Item C1: We are given feedback about changes put into place based on event reports (N=96)

As shown in Table 4.30.1, most of the participants $n=42$ (43.8%) responded that they received feedback most of the time, about changes which were put in place based on event reports. The Two Year Diploma in General Nursing, $n=12$ (12.5%) and the Four Year B Cur Nursing Degree, $n=12$ (12.5%) were the highest who indicated that feedback about changes put into place based on an event report was given most of the time. Table 4.30.2 shows that most of the participants $n=42$ (43.8%) according to their years in specialty, responded that they received feedback about changes which are put into place after an event report, were most of the time. Most participants $n=13$ (13.5%) were found in the 21 years and more category.

Table 4.30.1: Item C1: We are given feedback about changes put into place based on event reports (N=96)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	1 (1%)	4 (4.2%)	11 (11.5%)	12 (12.5%)	7 (7.3%)
4 Year Diploma	3 (3.1%)	2 (2.1%)	10 (10.4%)	8 (8.3%)	3 (3.1%)
4 Year BCUR	1 (1%)	1 (1%)	2 (2.1%)	12 (12.5%)	0 (0%)
Other	0 (0%)	1 (1%)	3 (3.1%)	10 (10.4%)	5 (5.2%)
Total (N/%)	5 (5.2%)	8 (8.3%)	26 (27.1%)	42 (43.8%)	15 (15.6%)

Table 4.30.2: Item C1: We are given feedback about changes put into place based on event reports (N=96)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	1 (1%)	1 (1%)	2 (2.1%)	2 (2.1%)	4 (4.2%)
1 – 5 Years	3 (3.1%)	1 (1%)	12 (12.5%)	11 (11.5%)	2 (2.1%)
6- 10 Years	0 (0%)	1 (1%)	5 (5.2%)	8 (8.3%)	6 (6.3%)
11 – 15 Years	0 (0%)	2 (2.1%)	1 (1%)	6 (6.3%)	0 (0%)
16 – 20 Years	1 (1%)	0 (0%)	3 (3.1%)	2 (2.1%)	1 (1%)
21 Years and more	0 (0%)	3 (3.1%)	3 (3.1%)	13 (13.5%)	2 (2.1%)
Total (N/%)	5 (5.2%)	8 (8.3%)	26 (27.1%)	42 (43.8%)	15 (15.6%)

Item C3: We are informed about errors that happen in this unit (N=97)

According to their qualification the participants n=40(41.3%) responded that they were informed of errors most of the time as shown in Table 4.31.1 and their years in specialty, n=40(41.3%) as per Table 4.31.2 below. According to their qualification most of the participants were found in the Four Year Diploma in Nursing category, n=15(15.5%) and according to their years in specialty they were found in the 1–5 year category, n=12(12.4%) and 21 years and more, n=12(12.4%) category.

Table 4.31.1: Item C3: We are informed about errors that happen in this unit (N=97)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	0 (0%)	5 (5.1%)	5 (5.2%)	9 (9.3%)	16 (16.5%)
4 Year Diploma	0 (0%)	1 (1.0%)	4 (4.1%)	15 (15.5%)	6 (6.2%)
4 Year BCUR	0 (0%)	0 (0%)	2 (2.1%)	7 (7.2%)	7 (7.2%)
Other	0 (%)	0 (0%)	3 (3.1%)	9 (9.3%)	8 (8.2%)
Total (N/%)	0 (0%)	6 (6.1%)	14 (14.5%)	40 (41.3%)	37 (38.1%)

Table 4.31.2: Item C3: We are informed about errors that happen in this unit (N=97)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	0 (0%)	3 (3.1%)	0 (0%)	2 (2.1%)	5 (5.2%)
1 – 5 Years	0 (0%)	2 (2.1%)	5 (5.2%)	12 (12.4%)	10 (10.3%)
6- 10 Years	0 (0%)	0 (0%)	3 (3.1%)	6 (6.2%)	11 (11.3%)
11 – 15 Years	0 (0%)	0 (0%)	3 (3.1%)	5 (5.2%)	1 (1%)
16 – 20 Years	0 (0%)	0 (0%)	2 (2.1%)	3 (3.1%)	2 (2.1%)
21 Years and more	0 (0%)	1 (1%)	1 (1%)	12 (12.4%)	8 (8.2%)
Total (N/%)	0 (0%)	6 (6.2%)	14 (14.5%)	40 (41.2%)	37 (38.1%)

Item C5: In this unit, we discuss ways to prevent errors from happening again (N=97)

Tables 4.32.1 and 4.32.2 indicates that participants with reference to their qualifications and years in their specialty n=40(41.2%) responded that in their unit they discussed ways to prevent errors from happening again most of the time. Most of the participants according to their qualifications n=15 (15.5%) were from the Four-Year Diploma category and according to the years of specialty. In the 1-5 years 13(13.4%) participants indicated that in their unit they discuss ways to prevent errors from happening again.

Table 4.32.1: Item C5: In this unit, we discuss ways to prevent errors from happening again (N=97)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	0 (0%)	1 (1.0%)	9 (9.3%)	13 (13.4%)	12 (12.4%)
4 Year Diploma	1 (1.0%)	3 (3.1%)	4 (4.1%)	15 (15.5%)	3 (3.1%)
4 Year BCUR	0 (0%)	0 (0%)	3 (3.1%)	4 (4.1%)	9 (9.3%)
Other	1 (1.0%)	3 (3.1%)	2 (2.1%)	8 (8.2%)	6 (6.2%)
Total (N/%)	2 (2%)	7 (7.2%)	18 (18.6%)	40 (41.2%)	30 (31%)

Table 4.32.2: Item C5: In this unit, we discuss ways to prevent errors from happening again (N=97)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	0 (0%)	0 (0%)	2 (2.1%)	3 (3.1%)	5 (5.2%)
1 – 5 Years	1 (1.0%)	3 (3.1%)	7 (7.2%)	13 (13.4%)	5 (5.2%)
6- 10 Years	1 (1.0%)	0 (0%)	2 (2.1%)	10 (10.3%)	7 (7.2%)
11 – 15 Years	0 (0%)	2 (2.1%)	2 (2.1%)	1 (1.0%)	4 (4.1%)
16 – 20 Years	0 (0%)	1 (1.0%)	2 (2.1%)	2 (2.1%)	2 (2.1%)
21 Years and more	0 (0%)	1 (1.0%)	3 (3.1%)	11 (11.3%)	7 (7.2%)
Total (N/%)	2 (2.1%)	7 (7.2%)	18 (18.5%)	40 (41.2%)	30 (31%)

4.2.4.2 Communication openness (N=97)

The following items relates to the openness in communication and discussed individually according to the Tables:

- **Item C2:** Staff will speak up if they see something that may negatively affect patient care.
- **Item C4:** Staff feel free to question the decisions or the actions of those with more authority.
- **Item C6:** Staff are afraid to ask questions when something does not seem right.

The total mean score for hospitals is M=62 with the highest mean M=73.8 and the lowest mean M=37.5 for communication openness.

In addition, the total mean score for units regarding communication openness is M=62 with the highest score M=82 for emergency units and the lowest score M=51.7 for surgical units.

ANOVA statistical tests showed a significant difference ($p=0.008$) between the units,.

In addition, the Bonferroni post hoc statistical tests showed a significant difference ($p=0.042$) between surgical and emergency units.

C2: Item 2: Staff will speak up if they see something that may negatively affect patient care (N=97)

According to their qualifications, participants and their years in specialty $n=36(37\%)$ felt that they could speak freely **most of the time**, when seeing something that affected patient care negatively.

Furthermore, some participants $n=25(25.8\%)$ responded that they could **always** speak freely when seeing something that negatively affected patient care.

However, n=22(22.6%) of the participants indicated that they could speak freely only sometimes.

Table 4.33.1: Item C2: Staff will freely speak up if they see something that may negatively affect patient care (N=97)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	0 (0%)	7 (7.2%)	8 (8.2%)	14 (14.4%)	6 (6.2%)
4 Year Diploma	1 (1.0%)	3 (3.1%)	7 (7.2%)	10 (10.3%)	5 (5.2%)
4 Year BCUR	0 (0%)	1 (1.0%)	3 (3.1%)	4 (4.1%)	8 (8.2%)
Other	1 (1.0%)	1 (1.0%)	4 (4.1%)	8 (8.2%)	6 (6.2%)
Total (N/%)	2 (2.1%)	12 (12.4%)	22 (22.7%)	36 (37%)	25 (25.8%)

Table 4.33.2: Item C2: Staff will freely speak up if they see something that may negatively affect patient care (N=97)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	0 (0%)	4 (4.1%)	0 (0%)	4 (4.1%)	2 (2.1%)
1 – 5 Years	0 (0%)	4 (4.1%)	9 (9.3%)	11 (11.3%)	5 (5.2%)
6- 10 Years	1 (0%)	1 (1.0%)	2 (2.1%)	6 (6.2%)	10 (10.3%)
11 – 15 Years	0 (%)	0 (0%)	3 (3.1%)	3 (3.1%)	3 (3.1%)
16 – 20 Years	1 (1.0%)	0 (0%)	4 (4.1%)	1 (1.0%)	1 (1.0%)
21 Years and more	0 (0%)	3 (3.1%)	4 (4.1%)	11 (11.3%)	4 (4.1%)
Total (N/%)	2 (2.1%)	12 (12.4%)	22 (22.7%)	36 (37%)	25 (25.8%)

Item C4: Staff feel free to question the decisions or the actions of those with more authority (N=97)

As shown in Tables 4.34.1 and 4.34.2 the participants n=30(31%) responded according to their qualifications and their years in specialty respectively that they were most times comfortable to question the decisions or the actions of those in authority. However, n=32(32.9%) of the participants responded that they sometimes feel free to question the decisions or the actions of those with more authority.

Table 4.34.1: Item C4: Staff feel free to question the decisions or the actions of those with more authority (N=97)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	0 (0%)	10 (10.3%)	13 (13.4%)	8 (8.2%)	4 (4.1%)
4 Year Diploma	3 (3.1%)	5 (5.2%)	8 (8.2%)	8 (8.2%)	2 (2.1%)
4 Year BCUR	4 (4.1%)	1 (1.0%)	3 (3.1%)	7 (7.2%)	1 (1.0%)
Other	2 (2.1%)	2 (2.1%)	8 (8.2%)	7 (7.2%)	1 (1.0%)
Total (N%)	9 (9.3%)	18 (18.6%)	32 (32.9%)	30 (31%)	8 (8.2%)

Table 4.34.2: Item C4: Staff feel free to question the decisions or the actions of those with more authority (N=97)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	0 (0%)	3 (3.1%)	3 (3.1%)	3 (3.1%)	1 (1.0%)
1 – 5 Years	5 (5.2%)	6 (6.2%)	8 (8.2%)	8 (8.2%)	2 (2.1%)
6- 10 Years	1 (1.0%)	4 (4.1%)	9 (9.3%)	3 (3.1%)	3 (3.1%)
11 – 15 Years	2 (2.1%)	0 (0%)	3 (3.1%)	4 (4.1%)	0 (0%)
16 – 20 Years	1 (1.0%)	2 (2.1%)	1 (1.0%)	3 (3.1%)	0 (0%)
21 Years and more	0 (0%)	3 (3.1%)	8(8.2%)	9 (9.3%)	2 (2.1%)
Total (N%)	9 (9.3%)	18 (18.6%)	32 (32.9%)	30 (31%)	8 (8.2%)

Item C6: Staff are afraid to ask questions when something does not seem right (N=97)

According to their qualifications and years in specialty participants, n=25(25.8%) indicated that they never felt afraid to ask questions when something does not seem right. Most of the participants n=15(15.5%) were found in the Two Year Diploma in General Nursing category who indicated that they rarely felt afraid to ask questions when something does not seem right. Furthermore, according to their years in specialty, participants n=32(33%) indicated that they rarely felt afraid to ask questions when something does not seem right, with most participants from the 1–5 year category (see Table 4.35.1. and Table 4.35.2).

Table 4.35.1: Item C6: Staff are afraid to ask questions when something does not seem right (N=97)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	7 (7.2%)	15 (15.5%)	8 (8.2%)	4 (4.1%)	1 (1.0%)
4 Year Diploma	6 (6.2%)	6 (6.2%)	8 (8.2%)	5 (5.2%)	1 (1.0%)
4 Year BCUR	6 (6.2%)	4 (4.1%)	2 (2.1%)	1 (1.0%)	3 (3.1%)
Other	6 (6.2%)	7 (7.2%)	6 (6.2%)	0 (0%)	1 (1.0%)
Total (N/%)	25 (25.8%)	32 (33%)	24 (24.7%)	10 (10.3%)	6 (6.2%)

Table 4.35.2: Item C6: Staff are afraid to ask questions when something does not seem right (N=97)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	3 (3.1%)	6 (6.2%)	1 (1.0%)	0 (0%)	0 (0%)
1 – 5 Years	4 (4.1%)	10 (10.3%)	5 (5.2%)	6 (6.2%)	4 (4.1%)
6- 10 Years	8 (8.2%)	3 (3.1%)	5 (5.2%)	2 (2.1%)	2 (2.1%)
11 – 15 Years	2 (2.1%)	3 (3.1%)	4 (4.1%)	0 (0%)	0 (0%)
16 – 20 Years	2 (2.1%)	1 (1.0%)	3 (3.1%)	1 (1.0%)	0 (0%)
21 Years and more	6 (6.2%)	9 (9.3%)	6 (6.2%)	1 (1.0%)	0 (0%)
Total (N/%)	25 (25.8%)	32 (33%)	24 (24.7%)	10 (10.3%)	6 (6.2%)

4.2.5 Section D: Frequency of events reported (N=97)

Section D of the questionnaire focuses on the frequency of event reporting according to the following items in the questionnaire:

- **Item D1:** When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?
- **Item D2:** When a mistake is made, but has no potential to harm the patient, how often is this reported?
- **Item D3:** When a mistake is made that could harm the patient, but does not, how often is this reported?

For this composite the total mean scores for all hospitals $M=60.43$, ($N=97$). No significant difference was found between hospitals when ANOVA tests were applied, ($p= 0.246$). Most of the hospitals obtained a mean score of $M>54$ and only one hospital $M<40$, mean =36.90. Furthermore, the total mean score for units =60.4, ($n=97$). The unit with the highest mean for

the frequency of event reporting was the unit under other which referred to the operating rooms, M=72.4. No significant differences were found between the hospital groups nor the units.

Item 1: When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported? (N=96)

Tables 4.36.1 and 4.36.2 shows that according to the participants, n=37(38.5%) qualifications and years in specialty respectively, most participants reported a mistake which was caught and corrected before affecting the patient **most of the time**. However, n=27(28.1%) of the participants indicated that they reported the mistake only **sometimes**. Most of the participants, n=11(11.5%) who reported most of the time were found among the Two-Year General Diploma in Nursing category, and n=13(13.5%) among the 1–5 years in the specialty category.

Table 4.36.1: Item D1: When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported? (N=96)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	1 (1.0%)	8 (8.3%)	10 (10.4%)	11 (11.5%)	5 (5.2%)
4 Year Diploma	2 (2.1%)	4 (4.8%)	9 (9.4%)	9 (9.4%)	2 (2.1%)
4 Year BCUR	2 (2.1%)	2 (2.1%)	3 (3.1%)	7 (7.3%)	2 (2.1%)
Other	1 (1.0%)	1 (1.0%)	5 (5.2%)	10 (10.4%)	2 (2.1%)
Total (N/%)	6 (6.3%)	15 (15.6%)	27 (28.1%)	37 (38.5%)	11 (11.5%)

Table 4.36.2: Item D1: When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported? (N=96)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	0 (0%)	3 (3.1%)	2 (2.1%)	1 (1.0%)	4 (4.2%)
1 – 5 Years	1 (1.0%)	6 (6.3%)	8 (8.3%)	13 (13.5%)	1 (1.0%)
6- 10 Years	2 (2.1%)	3 (3.1%)	2 (2.1%)	10 (10.4%)	3 (3.1%)
11 – 15 Years	1 (1.0%)	0 (0%)	5 (5.2%)	2 (2.1%)	1 (1.0%)
16 – 20 Years	1 (1.0%)	0 (0%)	4 (4.2%)	2 (2.1%)	0 (0%)
21 Years and more	1 (1.0%)	3 (3.1%)	6 (6.3%)	9 (9.4%)	2 (2.1%)
Total (N/%)	6 (6.3%)	15 (15.6%)	27 (28.1%)	37 (38.5%)	11 (11.5%)

Item D2: When a mistake is made, but has no potential to harm the patient, how often is this reported? (N=95)

Most of participants, according to their qualifications and years in specialty, indicated that they reported mistakes that had no potential harm to patients, **most of the time**, n=31(32.6%) and n=28(29.5%) of the participants indicated that they reported the mistakes only **sometimes**, as per Tables 4.37.1 and 4.37.2. However, most of the participants reporting mistakes with no potential harm to patients were found in the Two-Year General Diploma in Nursing category, n=13(13.7%). Furthermore, in both groups, only 11(11.6%) of the participants indicated that they reported mistakes that had no potential harm to the patient, **always**. Spearman's Rho and Chi Square statistical tests did not show any significant differences between the two groups and when a mistake is made, but has no potential to harm the patient, how often is this reported?

Table 4.37.1: Item D2: When a mistake is made, but has no potential to harm the patient, how often is this reported? (N=95)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	4 (4.2%)	8 (8.4%)	13 (13.7%)	8 (8.4%)	1 (1.1%)
4 Year Diploma	4 (4.2%)	5 (5.3%)	6 (6.3%)	7 (7.8%)	4 (4.2%)
4 Year BCUR	1 (1.1%)	2 (2.1%)	2 (2.1%)	9 (9.8%)	2 (2.1%)
Other	0 (0%)	1 (1.1%)	7 (7.4%)	7 (7.8%)	4 (4.2%)
Total (N%)	9 (9.5%)	16 (16.8%)	28 (29.5%)	31 (32.6%)	11 (11.6%)

Table 4.37.2: Item D2: When a mistake is made, but has no potential to harm the patient, how often is this reported? (N=95)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n %)	Always (n/%)
< 1 Year	2 (2.1%)	2 (2.1%)	4 (4.2%)	1 (1.1%)	1 (1.1%)
1 – 5 Years	3 (3.2%)	5 (5.3%)	6 (6.3%)	12 (12.7%)	2 (2.1%)
6- 10 Years	1 (1.1%)	4 (4.2%)	4 (4.2%)	9 (9.5%)	2 (2.1%)
11 – 15 Years	1 (1.1%)	0 (0%)	3 (3.2%)	2 (2.1%)	3 (3.2%)
16 – 20 Years	1 (1.1%)	2 (2.1%)	3 (3.2%)	1 (1.1%)	0 (0%)
21 Years and more	1 (1.1%)	3 (3.2%)	8 (8.4%)	6 (6.3%)	3 (3.2%)
Total (N%)	9 (9.5%)	16 (16.8)	28 (29.5%)	31 (32.6%)	11 (11.6%)

Item D3: When a mistake is made that could harm the patient, but does not, how often is this reported? N=95

According to Tables 4.38.1 and 4.38.2, most of the participants according to their qualification and their years in specialty, indicated that they reported mistakes that could harm the patient but does not, most of the time, n=41(43.2%) and always, n=26(27.4%). However, n=28(29.5%) of the participants are reporting mistakes that could harm the patient, but does not, only, sometimes, rarely and never. No significant difference was shown when further statistical tests were done.

Table 4.38.1: Item D3: When a mistake is made that could harm the patient, but does not, how often is this reported? (N=95)

Qualification	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
2 Year Diploma General	2 (2.1%)	3 (3.2%)	9 (9.5%)	16 (16.8)	5 (5.3%)
4 Year Diploma	3 (3.2%)	1 (1.1%)	4 (4.2%)	9 (9.5%)	9 (9.47%)
4 Year BCUR	3 (3.2%)	1 (1.1%)	0 (0%)	5 (5.3%)	7 (7.4%)
Other	0 (0%)	1 (1.1%)	1 (1.1%)	11 (11.6%)	5 (5.3%)
Total (N/%)	8 (8.4%)	6 (6.3%)	14 (14.7%)	41 (43.2%)	26 (27.4%)

Table 4.38.2: Item D3: When a mistake is made that could harm the patient, but does not, how often is this reported? (N=95)

Years in Specialty	Never (n/%)	Rarely (n/%)	Sometimes (n/%)	Most of the time (n/%)	Always (n/%)
< 1 Year	0 (0%)	1 (1.1%)	2 (2.1%)	4 (4.2%)	3 (3.2%)
1 – 5 Years	4 (4.2%)	2 (2.1%)	3 (3.2%)	11 (11.6%)	9 (9.5%)
6- 10 Years	1 (1.1%)	1 (1.1%)	4 (4.2%)	8 (8.4%)	6 (6.3%)
11 – 15 Years	2 (2.1%)	0 (0%)	1 (1.1%)	4 (4.2%)	2 (2.1%)
16 – 20 Years	1 (1.1%)	1 (1.1%)	2 (2.1%)	3 (3.2%)	0 (0%)
21 Years and more	0 (0%)	1(1.1%)	2(2.1%)	11(11.6%)	6(6.3%)
Total (N/%)	8 (8.4%)	6 (6.3%)	14 (14.7%)	41 (43.2%)	26 (27.4%)

4.2.6 Section E: Patient safety grade (N=98)

Section E allowed the participants to grade the patient safety in their hospitals according to their qualification and the Likert scale:

- Excellent
- Very good
- Acceptable
- Poor

- Failing.

. The total mean score for hospitals $M=2.22$ ($N=99$). With reference to Table 4.40.1, according to their qualifications, most participants, $n=45(45.9\%)$ graded the patient safety in their units as very good of which, the Two Year General category, $n=16(16.3\%)$ was the highest. In addition, in Table 4.40.2, most participants, according to their years in specialty, graded the patient safety in their units as very good, $n=45(45.9\%)$, however, $n=31(31.6\%)$ of the participants graded their units as acceptable with the most participants found in the 1–5 year category, $n=14(14.3\%)$. Participants $n=3(3.1\%)$ found the patient safety in their units to be poor, while, $n=1$ in the Four Year Diploma in Nursing category and the 1–5 year categories, graded their units' patient safety as failing. Chi-Square and Spearman's Rho analysis did not show a significant difference between the groups..

Table 4.39.1: Section E: Patient safety grade (N=98)

Qualification	Excellent (n/%)	Very Good (n/%)	Acceptable (n/%)	Poor (n/%)	Failing (n/%)
2 Year Diploma General	4 (4.1%)	16 (16.3%)	13 (13.3%)	1 (1.0%)	0 (0%)
4 Year Diploma	4(4.1%)	11 (11.2%)	11 (11.2%)	0 (0%)	1 (1.0%)
4 Year BCUR	5 (5.1%)	7 (7.1%)	3 (3.1%)	1 (1.0%)	0 (0%)
Other	5 (5.1%)	11 (11.2%)	4 (4.1%)	1 (1.0%)	0 (0%)
Total (N/%)	18 (18.4%)	45 (45.9%)	31 (31.6%)	3 (3.1%)	1 (1.0%)

Table 4.39.2: Section E: Patient safety grade (N=98)

Years in Specialty	Excellent (n/%)	Very Good (n/%)	Acceptable (n/%)	Poor (n/%)	Failing (n/%)
<1 Year	3 (3.1%)	5 (5.1%)	1 (1.0%)	1 (1.0%)	0 (0%)
1 – 5 Years	3 (3.1%)	11 (11.2%)	14 (14.3%)	1 (1.0%)	1 (1.0%)
6 – 10 Years	6 (6.1%)	7 (7.1%)	7 (7.1%)	0 (0%)	0 (0%)
11 – 15 Years	3 (3.1%)	5 (5.1%)	1 (1.0%)	1 (1.0%)	0 (0%)
16 – 20 Years	0 (0%)	4 (4.1%)	2 (2.0%)	0 (0%)	0 (0%)
21 Years or more	3 (3.1%)	13 (13.1%)	6 (6.1%)	0 (0%)	0 (0%)
Total (N/%)	18 (18.4%)	45 (45.9%)	31 (31.6%)	3 (3.1%)	1 (1.0%)

4.2.7 Section F: Your hospital

In Section F of the questionnaire, the participants assessed the patient safety within their hospitals according to the following patient safety composites each comprising various items as shown in the questionnaire:

- Management support for patient safety
- Teamwork across units

- Handoffs and transitions.

4.2.7.1 Management support for patient safety (N=101)

Management support for patient safety was assessed through the following items as listed in the questionnaire:

- **Item F1:** Hospital management provides a work climate that promotes patient safety
- **Item F8:** The actions of the hospital management show that patient safety is a top priority
- **Item F9:** Hospital management seems interested when it comes to patient safety only after an adverse event happens.

The results for management support of patient safety for hospitals had a total mean score of M=59. Hospital 4 scored the highest mean score of M=73.14 whilst Hospital 6 had the lowest mean M=37.50 for management support of patient safety. Further analysis showed that the individual units had a total mean score for management support of patient safety of M=59. The highest mean score M=72.2 for emergency units and the lowest mean score for units M=44.4 for pediatric units. ANOVA tests could not establish significant differences between the hospitals and units with reference to management support for patient safety.

Item F1: Hospital management provides a work climate that promotes patient safety (N=100)

Further analysis done according to the qualifications and years in specialty, as shown in Tables 4.40.1 and 4.40.2 respectively showed that participants agreed that hospital management provided a work climate that promoted patient safety, n=54(54%) for both groups. Participants who agreed the most were found in the Two-Year Diploma in General Nursing category, n=20(20%) and in the 21 years and more category for years in specialty, n=15(15%).

However, 22(22%) disagreed and 24(24%) remained neutral. Spearman's Rho and Pearson's Chi-Square statistical tests did not show any significant differences between the two groups and the item; hospital management provides a work climate that promotes patient safety.

Table 4.40.1: Item F1: Hospital management provides a work climate that promotes patient safety (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	6 (6%)	9 (9%)	20 (20%)
4 Year Diploma	9 (9%)	8 (8%)	11 (11%)
4 Year BCUR	5 (5%)	3 (3%)	8 (8%)
Other	2 (2%)	4 (4%)	15 (15%)
Total (N/%)	22 (22%)	24 (24%)	54 (54%)

Table 4.40.2: Item F1: Hospital management provides a work climate that promotes patient safety (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	4 (4%)	0 (0%)	6 (6%)
1 – 5 Years	8 (8%)	9 (9%)	13 (13%)
6 – 10 Years	2 (2%)	8 (8%)	11 (11%)
11 – 15 Years	3 (3%)	2 (2%)	5 (5%)
16 – 20 Years	3 (3%)	0 (0%)	4 (4%)
21 Years or more	2 (2%)	5 (5%)	15 (15%)
Total (N/%)	22 (22%)	24 (24%)	54 (54%)

Item F8: The actions of hospital management showed that patient safety is a top priority (N=99)

Most of the participants according to their qualifications and years in specialty, agreed that hospital management actions showed that patient safety is a top priority, n=69 (69.7%) as per Tables 4.41.1 and 4.41.2. Most of the participants who agreed were in the Two-Year Diploma in General Nursing category, n=24(24.2%) and the 1–5 years in the specialty category, n=18(18.2%). No statistical significant differences were found between the two groups and the item; the actions of hospital management shows that patient safety is a top priority.

Table 4.41.1: Item F8: The actions of hospital management shows that patient safety is a top priority (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	3 (3.0%)	7 (7.1%)	24 (24.2%)
4 Year Diploma	5 (5.1%)	7 (7.1%)	16 (16.2%)
4 Year BCUR	2 (2.0%)	2 (2.0%)	12 (12.1%)
Other	1 (1.0%)	3(3.0%)	17 (17.2%)
Total (N/%)	11 (11.1%)	19 (19.2%)	69 (69.7%)

Table 4.41.2: Item F8: The actions of hospital management shows that patient safety is a top priority (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	1 (1.0%)	2 (2.0%)	7 (7.1%)
1 – 5 Years	3 (3.0%)	9 (9.1%)	18 (18.2%)
6 – 10 Years	1 (1.0%)	3 (3.0%)	17 (17.2%)
11 – 15 Years	3 (3.0%)	0 (0%)	7 (7.1%)
16 – 20 Years	2 (2.0%)	1 (1.0%)	4 (4.0%)
21 Years or more	1 (1.0%)	4 (4.0%)	16 (16.2%)
Total (N%)	11 (11.1%)	19 (19.2%)	69 (69.7%)

Item F9: Hospital management seems interested when it comes to patient safety only after an adverse event happens (N=98)

Most of the participants in Tables 4.42.1 and 4.42.2, agreed that management only became interested when it comes to patient safety after an adverse event, n=41(41.8%) agreeing, however, n=33(33.7%) disagreed, whilst 24(24.5%) remained neutral. Most participants agreeing according to their qualifications were in the Two Year Diploma in General Nursing category, n=16(16.3%) and according to their years in specialty were in the 1–5 years in specialty category, n=13(13.3%). No significant difference was found between the two groups and the item; hospital management seems interested when it comes to patient safety only after an adverse event happens, when further analysis was applied.

Table 4.42.1: Item F9: Hospital management seems interested when it comes to patient safety only after an adverse event happens (N=98)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	9 (9.2%)	9 (9.2%)	16 (16.3%)
4 Year Diploma	7 (7.1%)	8 (8.2%)	13 (13.1%)
4 Year BCUR	7 (7.1%)	3 (3.1%)	6 (6.1%)
Other	10 (10.2%)	4 (4.1%)	6 (6.1%)
Total (N%)	33 (33.7%)	24 (24.5%)	41 (41.8%)

Table 4.42.2: Item F9: Hospital management seems interested when it comes to patient safety only after an adverse event happens (N=98)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	2 (2.0%)	3 (3.1%)	5 (5.1%)
1 – 5 Years	9 (9.2%)	8 (8.2%)	13 (13.3%)
6 – 10 Years	9 (9.2%)	4 (4.1%)	8 (8.2%)
11 – 15 Years	2 (2.0%)	3 (3.1%)	5 (5.1%)
16 – 20 Years	2 (2.0%)	1 (1.0%)	4 (4.1%)
21 Years or more	9 (9.2%)	5 (5.1%)	6 (6.1%)
Total (N/%)	33 (33.7)	24 (24.5%)	41 (41.8%)

4.2.7.2 Teamwork across units (N=101)

The teamwork across units was assessed through the following items on the questionnaire with a specific discussion related to individual tables:

- **Item F2:** Hospital units do not coordinate well with one another
- **Item F4:** There is good cooperation among hospital units who need to work together
- **Item F6:** It is often unpleasant to work with staff from other hospital units
- **Item F10:** Hospital units work well together to provide the best care for patients.

The results measuring the teamwork across hospitals showed, n=101, total mean score M=59.9. All hospitals obtained mean scores M>50 except for Hospital 6 with a mean score of M=45.83, this was also the lowest. No significant difference was established between the hospitals, (p=0.283) applying the ANOVA tests. The total mean score for units was, M=59.9. All units obtained mean scores M>50 except for pediatrics, which was also the lowest, mean M=46.9. A significant difference was identified between applying the Bonferroni post hoc tests with reference to teamwork between participants who worked 20-39 hours and 40-59 hours of work per week.

Item F2: Hospital units do not coordinate well with one another (N=100)

As shown in Tables 4.43.1 and 4.43.2, according to their qualifications and years in specialty, the participants disagreed that hospital units do not coordinate well with one another, n=36(36%). However, in both groups, n=31(31%), of participants agreed that hospitals do not coordinate well with one another, whilst n=3(3%) neither agreed nor disagreed and remained neutral.

Table 4.31.1: Item F2: Hospital units do not coordinate well with one another (N=100)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	11 (11%)	14 (14%)	10 (10%)
4 Year Diploma	10 (10%)	7 (7%)	11 (11%)
4 Year BCUR	7 (7%)	6 (6%)	3 (3%)
Other	8 (8%)	6 (6%)	7 (7%)
Total (N/%)	36 (36%)	33 (33%)	31 (31%)

Table 4.31.2: Item F2: Hospital units do not coordinate well with one another (N=100)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	5 (5%)	2 (2%)	3 (3%)
1 – 5 Years	13 (13%)	9 (9%)	8 (8%)
6 – 10 Years	5 (5%)	8 (8%)	8 (8%)
11 – 15 Years	4 (4%)	4 (4%)	2 (2%)
16 – 20 Years	2 (2%)	3 (3%)	2 (2%)
21 Years or more	7 (7%)	7 (7%)	8 (8%)
Total (N/%)	36 (36%)	33 (33%)	31 (31%)

Item F4: There is good cooperation among hospital units who need to work together (N=99)

Most participants according to their qualifications and years in specialty, in Table 4.44.1 and 4.44.2 agreed that there is good cooperation among hospital units who need to work together, n=49(49.5%). However, some participants neither agreed nor disagreed and remained neutral, n=35(35.4%). No significant difference was found when further statistical tests were applied.

Table 4.44.1: Item F4: There is good cooperation among hospital units who need to work together (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	7 (7.1%)	11 (11.1%)	16 (16.2%)
4 Year Diploma	3 (3.0%)	13 (13.1%)	12 (12.1%)
4 Year BCUR	0 (0%)	5 (5.1%)	11 (11.1%)
Other	5 (5.1%)	6 (6.1%)	10 (10.1%)
Total (N/%)	15 (15.2%)	35 (35.4%)	49 (49.5%)

Table 4.44.2: Item F4: There is good cooperation among hospital units who need to work together (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	4 (4.0%)	1 (1.0%)	5 (5.1%)
1 – 5 Years	3 (3.0%)	10 (10.1%)	17 (17.2%)
6 – 10 Years	4 (4.0%)	7 (7.1%)	10 (10.1%)
11 – 15 Years	0 (0%)	7 (7.1%)	3 (3.0%)
16 – 20 Years	1 (1.0%)	2 (2.0%)	4 (4.0%)
21 Years or more	3 (3.0%)	8 (8.1%)	10 (10.1%)
Total (N/%)	15 (15.2%)	35 (35.5%)	49 (49.5%)

Item F6: It is often unpleasant to work with staff from other hospital units (N=98)

Most of the participants n=56(57.1%) disagreed that it is often unpleasant to work with staff from other hospitals as shown in Tables 4.45.1 and 4.45.2. Of the participants who disagreed, the most were from the Two-Year Diploma in General Nursing category, n=18 (18.4%) and from the 1–5 years in the specialty category, n=17(17.3%). Further statistical tests showed no significant differences between the two groups and the item: it is often unpleasant to work with staff from other hospital units.

Table 4.45.1: Item F6: It is often unpleasant to work with staff from other hospital units (N=98)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	18 (18.4%)	8 (8.2%)	8 (8.2%)
4 Year Diploma	20 (20.4%)	5 (5.1%)	3 (3.1%)
4 Year BCUR	8 (8.2%)	4 (4.1%)	4 (4.1%)
Other	10 (10.2%)	7 (7.1%)	3 (3.1%)
Total (N/%)	56 (57.1%)	24 (24.5%)	18 (18.4)

Table 4.45.2: Item F6: It is often unpleasant to work with staff from other hospital units (N=98)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	6 (6.1%)	1 (1.0%)	3 (3.1%)
1 – 5 Years	17 (17.3%)	9 (9.2%)	4 (4.1%)
6 – 10 Years	11 (11.2%)	6 (6.1%)	4 (4.1%)
11 – 15 Years	6 (6.1%)	1 (1.0%)	2 (2.0%)
16 – 20 Years	5 (5.1%)	1 (1.0%)	1 (1.0%)
21 Years or more	11 (11.2%)	6 (6.1%)	4 (4.1%)
Total (N/%)	56 (57.1%)	24 (24.5%)	18 (18.4%)

Item F10: Hospital units work well together to provide the best care for patients (N=99)

As shown in Tables 4.46.1 and 46.2 most of the participants agreed that hospital units work well together to provide the best care for patients according to their qualifications, n=60(60.1%) and according to their years in specialty, n=60(60.6%). The participants from the Two-Year Diploma in General Nursing, n=21(21.2%) and the 1–5 years in specialty, n=16(16.2%) were the categories who agreed the most. No significant differences were shown with further statistical tests.

Table 4.46.1: Item F10: Hospital units work well together to provide the best care for patients (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	5 (5.1%)	9 (9.1%)	21 (21.2%)
4 Year Diploma	3 (3.0%)	10 (10.1%)	15 (15.2%)
4 Year BCUR	2 (2.0%)	5 (5.1%)	9 (9.1%)
Other	2 (2.0%)	3 (3.0%)	15 (15.2%)
Total (N/%)	12 (12.1%)	27 (27.3%)	60 (60.6%)

Table 4.46.2: Item F10: Hospital units work well together to provide the best care for patients (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1Year	0 (0%)	2 (2.0%)	8 (8.1%)
1 – 5 Years	4 (4.0%)	10 (10.1%)	16 (16.2%)
6 – 10 Years	4 (4.0%)	3 (3.0%)	13 (13.1%)
11 – 15 Years	0 (0%)	4 (4.0%)	6 (6.1%)
16 – 20 Years	1 (1.0%)	1 (1.0%)	5 (5.1%)
21 Years or more	3 (3.0%)	7 (7.1%)	12 (12.1%)
Total N (%)	12 (12.1%)	27 (27.3%)	60 (60.6%)

4.2.7.3 Handoffs and transitions (N=101)

Handoffs and transitions within the hospitals were assessed according to the following items as listed in the questionnaire. Each item will be discussed individually as related to the specific tables:

- **Item F3:** Things “fall between the cracks” when transferring patients from one unit to another
- **Item F5:** Important patient care information is often lost during shift changes
- **Item F7:** Problems often occur in the exchange of information across hospital units
- **Item F11:** Shift changes are problematic for patients in this hospital.

The total mean score for hospitals handoffs and transitions was $M=57.07$. The mean scores of two hospitals were below $M<50$, with the highest $M=65.62$ for Hospital 9 and the lowest was Hospital 5 $M=45.07$. In addition, the total mean score for the units $M=57.07$ with emergency unit scoring the highest mean score $M=63.5$ and the lowest $M=47.91$ for the pediatric units. No statistical differences were shown when applying the ANOVA tests.

Item F3: Things “fall between the cracks” when transferring patients from one unit to another (N=98)

Most participants according to their qualifications and their years in specialty, disagreed that things fell between the cracks when transferring patients from one unit to another, $n=46(46.9\%)$ for both groups as shown in Tables 4.47.1 and 4.47.2. The participants disagreeing the most were the Two-Year Diploma in General Nursing and the Four-Year Diploma in Nursing, $n=14(14.3\%)$. According to the years in specialty, the participants who disagreed the most were the 1–5 year category, $n=17(17.3\%)$. However, $n=25(25.5\%)$ agreed and $n=27(27.6\%)$ remained neutral. Further statistical tests did not show any significant differences between the two groups and the item; things “fall between the cracks” when transferring patients from one unit to another.

Table 4.47.1: Item F3: Things “fall between the cracks” when transferring patients from one unit to another (N=98)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	14 (14.3%)	10 (10.2%)	9 (9.2%)
4 Year Diploma	14 (14.3%)	5 (5.1%)	9 (9.2%)
4 Year BCUR	8 (8.2%)	5 (5.1%)	3 (3.1%)
Other	10 (10.2%)	7 (7.1%)	4 (4.1%)
Total (N/%)	46 (46.9%)	27 (27.6%)	25 (25.5%)

Table 4.47.2: Item F3: Things “fall between the cracks” when transferring patients from one unit to another (N=98)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	3 (3.1%)	4 (4.1%)	3 (3.1%)
1 – 5 Years	17 (17.3%)	4 (4.1%)	9 (9.2%)
6 – 10 Years	13 (13.1%)	7 (7.1%)	1 (1.0%)
11 – 15 Years	5 (5.1%)	2 (2.0%)	3 (3.1%)
16 – 20 Years	2 (2.0%)	3 (3.1%)	2 (2.0%)
21 Years or more	6 (6.1%)	7 (7.1%)	7 (7.1%)
Total (N/%)	46 (46.9%)	27 (27.6%)	25 (25.5%)

Item F5: Important patient care information is often lost during shift changes (N=97)

Most of the participants disagreed that important information was lost during shift changes in both groups, n=42(43.3%) while n=32(33%) neither agreed nor disagreed and remained neutral.

Pearson's Chi- Square and Spearman's Rho tests did not show any significant statistical differences between the groups and the item; important patient care information is often lost during shift changes.

Table 4.48.1: Item F5: Important patient care information is often lost during shift changes (N=97)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	14 (14.4%)	12 (12.4%)	7 (7.2%)
4 Year Diploma	8 (8.2%)	10 (10.3%)	10 (10.3%)
4 Year BCUR	11 (11.3%)	4 (4.1%)	1 (1.0%)
Other	9 (9.3%)	6 (6.2%)	5 (5.2%)
Total (N/%)	42 (43.3%)	32 (33%)	23 (23.7%)

Table 4.48.2: Item F5: Important patient care information is often lost during shift changes (N=97)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	3 (3.1%)	1 (1.0%)	5 (5.2%)
1 – 5 Years	16 (16.5%)	7 (7.2%)	7 (7.2%)
6 – 10 Years	12 (12.4%)	5 (5.2%)	4 (4.1%)
11 – 15 Years	2 (2.1%)	5 (5.2%)	3 (3.1%)
16 – 20 Years	2 (2.1%)	4 (4.1%)	1 (1.0%)
21 Years or more	7 (7.2%)	10 (10.3%)	3 (3.1%)
Total (N/%)	42 (43.3%)	32 (33%)	23 (23.7%)

Item F7: Problems often occur in the exchange of information across hospital units (N=97)

Tables 4.49.1 and 4.49.2 show that the participants did not show much difference between the categories namely that n=37(38.1%). disagreed that problems often occur in the exchange of information across hospital units whilst n=30(31%) of the participants agreed and n=30(31%) remained neutral. Further statistical tests showed no significant differences between the groups and the item; problems often occur in the exchange of information across hospital units.

Table 4.49.1: Item F7: Problems often occur in the exchange of information across hospital units (N=97)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	12 (12.4%)	10 (10.3%)	12 (12.4%)
4 Year Diploma	9 (9.3%)	10 (10.3%)	8 (8.2%)
4 Year BCUR	6 (6.2%)	5 (5.2%)	4 (4.1%)
Other	10 (10.3%)	5 (5.2%)	6 (6.2%)
Total (N/%)	37 (38.1%)	30 (31%)	30 (30.9%)

Table 4.49.2: Item F7: Problems often occur in the exchange of information across hospital units (N=97)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	3 (3.1%)	2 (2.1%)	5 (5.2%)
1 – 5 Years	12 (12.4%)	9 (9.3%)	7 (7.2%)
6 – 10 Years	9 (9.3%)	5 (5.2%)	7 (7.2%)
11 – 15 Years	2 (2.1%)	4 (4.1%)	4 (4.1%)
16 – 20 Years	2 (2.1%)	3 (3.1%)	2 (2.1%)
21 Years or more	9 (9.3%)	7 (7.2%)	5 (5.2%)
Total (N/%)	37 (38.1%)	30 (31%)	30 (31%)

Item F11: Shift changes are problematic for patients in this hospital (N=99)

Most of the participants n=46(46.4%) disagreed that shift changes are problematic for patients in this hospital as per Table 4.50.1 and 4.50.2. However, participants n=35(35.4%) remained neutral, neither agreeing nor disagreeing, according to their qualifications and their years in specialty. Most of the participants who disagreed that shift changes are problematic in the hospital were the Two Year Diploma in General Nursing, n=17(17.2%) and the 1–5 years in specialty, n=17(17.2). No significant difference was shown on further statistical tests.

Table 4.50.1: Item F11: Shift changes are problematic for patients in this hospital (N=99)

Qualification	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
2 Year Diploma General	17 (17.2%)	11 (11.1%)	7 (7.1%)
4 Year Diploma	13 (13.1%)	12 (12.1%)	2 (2.0%)
4 Year BCUR	7 (7.1%)	6 (6.1%)	3 (3.0%)
Other	9 (9.1%)	6 (6.1%)	6 (6.1%)
Total (N/%)	46 (46.4%)	35 (35.4%)	18 (18.2%)

Table 4.50.2: Item F11: Shift changes are problematic for patients in this hospital (N=99)

Years in Specialty	Disagree (n/%)	Neutral (n/%)	Agree (n/%)
<1 Year	3 (3.0%)	2 (2.0%)	5 (5.1%)
1 – 5 Years	17 (17.2%)	10 (10.1%)	2 (2.0%)
6 – 10 Years	14 (14.1%)	4 (4.0%)	3 (3.0%)
11 – 15 Years	2 (2.0%)	6 (6.1%)	2 (2.0%)
16 – 20 Years	2 (2.0%)	4 (4.0%)	1 (1.0%)
21 Years or more	8 (8.1%)	9 (9.1%)	5 (5.1%)
Total (N/%)	46 (46.4%)	35 (35.4%)	18 (18.2%)

4.2.8 Section G: Number of events reported (N=100)

Section G measured the number of event reports completed by participants in the past 12 months according to their qualifications. No significant differences were found between the hospitals and the units when ANOVA statistical tests were applied. Total mean scores for hospitals for the completion of event reports M=60.43. The highest mean score was Hospital 6 whilst Hospital 2 scored the lowest mean M=36.9.

The total mean score for units was 60.4. The highest reporting mean came from “other” (Operating room) M=72.4 and the lowest mean was pediatrics M=45.8. The PNs who held a Two-Year General Diploma in Nursing, n=12(12%) completed 3-5 event reports (Table 4.51.1).

PNs who held the Four Year Diploma, n=14(14%), completed 1-2 event reports, the PN who held the B Cur Degree, n=9(9%) completed 1-2 event reports and PNs who held other qualifications, n=12(12%) completed 3-5 event reports (Table 4.51.1).

No significant differences were found when applying Pearson’s Chi-Square and Spearman’s Rho statistical test.

Table 4.51.1: Section G: Number of events reported (N=100)

Qualification	No events reported (n/%)	1-2 Events (n/%)	3-5 Events (n/%)	6-10 Events (n/%)	11-20 Events (n/%)	21 events or more (n/%)
2 Year Diploma General	4 (4%)	11 (11%)	12 (12%)	6 (6%)	2 (2%)	0 (0%)
4 Year Diploma	4 (4%)	14 (14%)	6 (6%)	2 (2%)	2 (2%)	0 (0%)
4 Year BCUR	1 (1%)	9 (9%)	1 (1%)	3 (3%)	1 (1%)	1 (1%)
Other	3 (3%)	3 (3%)	12 (12%)	2 (2%)	1 (0%)	0 (0%)
Total (N/%)	12 (12%)	37 (37%)	31 (31%)	13 (13%)	6 (6%)	1 (1%)

Table 4.51.2: Section G: Number of events reported (N=100)

Years in Specialty	No events reported (n/%)	1-2 Events (n/%)	3-5 Events (n/%)	6-10 Events (n/%)	11-20 Events (n/%)	21 events or more (n/%)
< 1 Year	2 (2%)	4 (4%)	1 (1%)	2 (2%)	1 (1%)	0 (0%)
1 – 5 Years	2 (2%)	7 (7%)	13 (13%)	6 (6%)	2 (2%)	0 (0%)
6 – 10 Years	4 (4%)	9 (9%)	5 (5%)	2 (2%)	1 (1%)	0 (0%)
11 – 15 Years	1 (1%)	3 (3%)	4 (4%)	1 (1%)	0 (0%)	1 (1%)
16 – 20 Years	0 (0%)	6 (6%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)
21 Years or more	3 (3%)	8 (8%)	7 (7%)	2 (2%)	2 (0%)	0 (0%)
Total (N/%)	12 (12%)	37 (37%)	31 (31%)	13 (13%)	6 (6%)	1 (1%)

4.2.9 Section I: Comments about patient safety, error and event reporting (N=42)

Section I was an open question and it gave the participants an opportunity for comments. Participants, n=26 who commented, had more than one comment which was categorized into the various themes. The total comments, n=42, were coded and divided into eight themes and 16 subthemes by the researcher. Most of the participants' comments pertained to issues regarding safe staffing of the unit, n=19.

4.2.9.1 Theme 1: Staffing

Most comments pertained to staffing of the units, and this was divided further into subthemes:

- Staff shortages
- Workload
- Retention of staff
- Competency of staff
- Agency staff utilization
- Staff-patient ratios.

4.2.9.1.1 Subtheme 1: Staff shortages

Examples of comments which participants made are as follows:

1. *Patient safety is compromised due to staff shortages.*
2. *Errors happen mostly due to staff shortages and when incompetent agency staff are used due to staff availability.*
3. *Nursing staff shortages and inexperienced agency staffing impact on patient safety.*

4.2.9.1.2 Subtheme 2: Workload

1. *Workload increases, staff stays the same, more responsibility, mistakes increase; and*
2. *Workload increasing and paperwork increasing.*

4.2.9.1.3 *Subtheme 3: Retention of staff*

1. *Staff retention needs focus; and*
2. *Staff retention is a problem.*

4.2.9.1.4 *Subtheme 4: Competency of staff*

1. *Errors happen when incompetent agency staff are used due to staff availability;*
2. *Competent staff are leaving; and*
3. *In order to provide safe patient care, you should have enough competent staff.*

4.2.9.1.5 *Subtheme 5: Agency staff utilisation*

1. *Inexperienced agency staffing impacts on patient safety.*

4.2.9.1.1 *Subtheme 6: Staff patient ratios*

1. *Staff-patient ratio is a big risk.*

4.2.9.2 Theme 2: Events and reporting

4.2.9.2.1 *Subtheme 1: Errors not reported*

1. *Some errors are swept under the rug by staff covering for each other; and*
2. *Errors made are not reported but are covered up by another.*

4.2.9.2.2 *Subtheme 2: Punitive stigma*

1. *Event report still have a punitive stigma and punitive reactions; and*
2. *If not enough staff and anything goes wrong, who is to blame?*

4.2.9.3 Theme 3: Patient safety, a value

4.2.9.3.1 *Commitment to company values*

1. *Patient safety is a value but is not practiced properly.*

4.2.9.4 Theme 4: Management support

4.2.9.4.1 *Subtheme 1: Visibility*

1. *Management are distant from the floor.*

4.2.9.4.2 *Subtheme2: Openness*

1. *Unit managers to improve help and communication to staff.*

4.2.9.5 Theme 5: Patient safety a priority

4.2.9.5.1 Subtheme 1: Duty to care

- 1. Patient safety is a priority at this hospital, and everything is fine to maintain;*
- 2. Patient safety is our priority, we make sure we give the best care to our patients; and*
- 3. Staff are more focused on the patient's journey than on the patient's safety.*

4.2.9.6 Theme 6: Teamwork and communication

4.2.9.6.1 Subtheme 1: Team dynamics

- 1. Poor teamwork and communication among peers; and*
- 2. Nobody is held accountable.*

4.2.9.7 Theme 7: Doctors and anaesthetists

4.2.9.7.1 Subtheme 1: Chasing time

- 1. Surgeons and anaesthetists compromise patient safety by wanting to finish lists quickly.*

4.2.9.7.2 Subtheme 2: Surgical checks

- 1. Safety checks are not done, and mistakes cannot be rectified.*

4.2.9.8 Theme 8: Record-keeping

4.2.9.8.1 Subtheme 1: Documentation

- 1. Reduce paperwork; and*
- 2. We must write in English, not in our first language.*

4.3 SUMMARY

In this chapter, data obtained from the questionnaire was analysed and presented in order to answer the research question regarding the factors influencing safe patient care provided by professional nurses in a private healthcare organization in the Western Cape.

Furthermore, the objectives of the study have been investigated:

- to determine whether leadership influenced the PNs in providing safe patient care within the private healthcare organisations;
- to determine if a Just Culture influenced the PNs in providing safe patient care within the private healthcare organisations;
- to determine whether organisational learning influenced the PNs in providing safe patient care within the private healthcare organisations; and

- to establish if the personal background information related to safe patient care provided by the professional nurses within private healthcare organisations.

A discussion and the conclusions of the results of the study, limitations of the study and the recommendations based on the study will follow in Chapter 5.

CHAPTER 5: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In the previous chapters, the researcher provided an overview of the study, a literature review, the methodology and a quantitative investigation into the objectives of the study and the aim of the study was pursued.

In this chapter, an in-depth discussion of the results obtained in the study is described. The study limitations and recommendations are also discussed.

5.2 DISCUSSION

The aim of the study was to investigate the factors influencing the safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape.

The discussion is based on the following objectives of the study:

- To determine whether leadership has influenced the PNs in providing safe patient care within the private healthcare organisation.
- To determine whether just culture influenced the PNs in providing safe patient care within the private healthcare organisation.
- To determine whether Organisational Learning influenced the PNs in providing safe patient care within the private healthcare organisation
- To determine whether personal background information related to safe patient care provided by the PNs, within the private healthcare organisation

5.2.1 Objective 1: To determine whether Leadership influenced the PNs in providing safe patient care in a private healthcare organisation

Leadership of the organisation was assessed and discussed according to the following patient safety composites:

- Supervisor or manager expectations and actions promoting patient safety (Paragraph 4.2.3).
- Management support for patient safety (Paragraph 4.2.7.1).
- Communication openness (Paragraph 4.2.4.2).

5.2.1.1 *Supervisor or manager expectations and actions promoting patient safety*

The study found that the total mean score for all hospitals and units regarding supervisor or manager expectations and actions promoting patient safety was only $M=62.75$ ($N=100$) as per Paragraph 4.2.3. One hospital scored <50 while all the individual units scored >60 . These low

percentages are concerning as the expectation for a quality accreditation by The Council for Health Service Accreditation of South Africa (COHSASA) is >80% compliance (cohsasa.co.za/accreditation-criteria-2). Furthermore, Sammer and James (2011:1-10) advised nurse leaders to improve patient safety at unit level, through the development of a safety culture which is built on leadership, communication, teamwork, learning, a patient-centred culture, a just culture and evidence-based practice.

According to their qualifications and years in specialty, the majority of the participants $n=80$ (80%), agreed that their managers or supervisors had a good word to say when seeing a job done, according to patient safety procedures (Tables 4.26.1 & 4.26.2). In addition, the study found that $n=79$ (79%) of the participants agreed that their supervisor or manager considered their suggestions for improving patient safety (Tables 4.27.1 & 4.27.2). Further statistical tests (Spearman's Rho Correlational Coefficient) showed a moderately strong relationship, $r=0.079$, between the years in specialty and whether the supervisor or the manager does seriously consider staff suggestions for improving patient safety. (Paragraph 4.2.3., Item B2). Ridberg *et al.* (2017:1-7) attributes successful patient safety cultures to an organisational culture that is conducive to patient safety, leadership support for patient safety, long term commitment to patient safety and a well-organized patient safety system.

These results are further supported by Al-Dossary (2017:251-255) by defining nursing leadership as not only being an influence to achieve goals, but to also influence others to improve quality care through direct participation in clinical care.

Jangland, *et al.* (2017:1-11) established that unclear leadership, limited resources and challenges in nursing led to missed nursing care and highlighted the importance of fundamental care. Jangland *et al.* (2017:1-11) supports the results of the study which shows that the majority of participants $n=78$ (78%) according to their qualifications and years in specialty, disagreed that their supervisor or manager wanted them to work faster whenever pressure built up, even if it meant taking shortcuts (Tables 4.28.1 & 4.28.2). Spearman's Rho correlation coefficient, ($r=-0.056$), indicated a moderate relationship between *the years in specialty and whenever pressure builds up, my supervisor or manager wants us to work faster, even if it means taking shortcuts*.

The study found that $n=74$ (74%) of the participants disagreed that their supervisors or their managers overlooked patient safety problems that happened repeatedly. According to Bjarsan and LaSala (2011:18–24) all nurses despite their role, have an obligation and a duty towards moral leadership, which promotes ethical nursing environments and creates a nursing culture wherein safe, quality care is enhanced and therefore supports the study's results. This

is further supported by Murphy and Bishop (2016:109), who saw nursing leadership as an influence on the professional practice of nurses, their psychological state and their ability to practise safely.

James Reason (2000:768-770) theorised that adverse events occurred as a result of active failures and latent conditions in the system. Reason's theory depicted in his model of accident causation, theorised that there were factors in the system which he likened to the holes in Swiss cheese, that were the cause of adverse events and accidents. These factors include organisational influences, unsafe supervision, unsafe acts and the pre-conditions for unsafe acts. When the holes become aligned, defences in the system were broken down and a trajectory was caused for the occurrence of events.

In a sentinel alert report published by the Joint Commission (2017:1), adverse events occurred as a result of inadequate leadership, which resulted from a lack of support for staff reporting events, a lack of feedback and response to staff reporting events, intimidation of staff reporting events and the inconsistent implementation of safety recommendations. Thus, leadership was seen as an essential role in the development of patient safety cultures.

5.2.1.2 Management support for patient safety (Items F1, F8 and F9)

The study identified that the total mean score for the hospitals and units for management support for patient safety was only 59 (Paragraph 4.2.7.1). Hospital 6 achieved a mean score of only 37.50 (Paragraph 4.2.7.1). None of the hospitals or units achieved a mean score of >80%. The majority of participants, only n=54 (54%), agreed that management provided a work climate that promoted patient safety (Tables 4.40.1 & 4.40.2). However, n=41 (41.8%) of the participants agreed that management only seemed interested in patient safety after an adverse event happened, whilst n=24 (24.5%) neither agreed nor disagreed (Tables 4.42.1 & 4.42.2). When ANOVA tests were applied, a significant statistical difference ($p=0.039$) was identified between the hospital groups, with reference to management support for patient safety.

In the researcher's clinical experience, patient safety is a core value of the organisation and it is imperative that management support is evident in the hospitals and units. The results of the study do not show adequate support for patient safety. Nursing managers are responsible and accountable for patient safety in their hospitals and units and have a key role in ensuring the delivery of quality care.

Armstrong *et al.* (2015:1–9) established that unit managers spent only 25.8% of their time on direct patient care, only 13.4% on support and communication while other activities such as

patient administration, hospital administration and staff management equated to 60.8% of their time. Armstrong *et al.* (2015:1–9) proposed that unit managers be enabled to lead the provision of high, quality care through continuous professional development, executive management support and the creation of an enabling practice environment.

Parand *et al.* (2014:1–15) found that hospital boards in the United States spent only <25% on quality care and concluded that managers' time and work can influence the performance, processes and clinical outcomes of hospitals. However, Francolin *et al.* (2015:275–281) concluded that healthcare establishments with an event reporting system, a risk management committee and who had discussions about events, stimulated event reporting and promoted a non-punitive organisational culture.

Healthcare organisations should be alerted by Reason's hypothesis (Reason, 2000:768–770) that there are active and latent conditions in the system that are the cause of adverse events and that these are related to preconditions for unsafe acts, organisational influences and unsafe supervision.

In addition to Reason's hypothesis, the WHO Alliance on Patient Safety (World Health Organisation, 2005:5) was developed to assist healthcare decision makers in addressing crucial questions regarding policies, regulations, leadership, learning from adverse events and an improvement in raising standards and expectations regarding patient safety.

As discussed, and supported by the literature specifically, Reason (2000:768-770) and World Health Organisation (2005:5) the researcher suggests that healthcare organisations be cognizant of the expectations of management support within a patient safety culture, thus ensuring adequate support of staff in the delivery of safe, quality care.

5.2.1.3 Communication openness (Items C2, C4 and C6)

The study found that the hospitals' total mean scores for communication openness $M=62$, the highest mean, $M=73.8$ and the lowest $M=37.5$ (Paragraph 4.2.3.2). A statistically significant difference was found between the units, $p=0.008$ and between the surgical and emergency units about communication, $p=0.042$ (Paragraph 4.2.3.2). Total mean scores for units were only $M=62$ with the highest score $M=82$ in the emergency units and the lowest mean score $M=51.7$ in the surgical units. Cullen and Gordon (2014:23–29) showed a moderately positive statistically significant relationship between leadership and communication skills, $r=0.35$, $p=0.00$. The study implied that nurse managers who had effective communication and leadership skills had positive influences on the behavior of the nursing team (Cullen & Gordon: 2014:23–29).

The results further showed that only n=36 (37.1%) of the participants felt that they could speak freely most of the time, when seeing something that affected patient care negatively. Only n=25 (25.8%) responded that they could always speak freely whilst n=22 (22%) of the participants indicated that they could only speak freely sometimes (Tables 4.33.1 and 4.33.2). In a just culture, staff should not feel inhibited to speak up when seeing something that might negatively affect patient care. The National Guidelines for Patient Safety Incident Reporting and Learning in the Health Sector of South Africa (2017:11–12), proposes that health establishments be open about failures.

According to Henderson, it is imperative for leaders to influence staff positively in the delivery of quality nursing care in a complex healthcare environment, thus, the communication process needs to be open, extending upwards and laterally (Henderson, 2015:693–694). However, further results showed that only n=30 (31%) of the participants were comfortable with questioning the decisions or the actions **most of the time** of those with more authority (Tables 4.34.1 and 4.34.2).

Ridelberg *et al.* (2017:1-7) identified in their study that 85% of participants (n=155) saw improved communication between patients and healthcare professionals as important and 75% of the participants saw improved communication between healthcare professionals as important. According to participants' qualifications and years in specialty this study found that only 32.9% **rarely** felt afraid to ask questions when something did not seem right, whilst 25.8% indicated that they **never** felt afraid.

Patient safety cultures are built on transparency, accountability, mutual trust and respect, and learning from errors, therefore communication openness is a fundamental requirement for a safe patient culture. It is thus a concern to note that only n=25 (25.8%) of the participants never felt afraid to ask questions when something did not seem right, whilst n=32 (33%) rarely felt afraid (Table 4.35.1 and 4.35.2). This is supported by Cullen and Gordon (2014:23–29) who implied that nurse managers who had effective communication and leadership skills had positive influences on the behavior of the nursing team.

Underlying problems within the hospital and units have been discussed. This concludes objective 1, to determine whether leadership influenced the PNs in providing safe patient care in a private healthcare organisation, was successfully investigated.

5.2.2 Objective 2: To determine whether Just Culture influenced the PNs in providing safe patient care in a private healthcare organisation

The just culture of the organisation was assessed and is discussed according to the following patient safety composites of the questionnaire:

- Non-punitive response to errors (Paragraph 4.2.2.2.5).
- Teamwork within the units (Paragraph 4.2.2.2.1).
- Teamwork across units (Paragraph 4.2.7.2).
- Staffing (Paragraph 4.2.2.2.4).

5.2.2.1 Non punitive response to errors (Items A8, A12 and A16)

The study showed that the total mean scores for hospitals and units was $M=46.50$ for the non-punitive response to errors (Paragraph 4.2.2.1.5). None of the hospitals achieved mean scores >60 , the highest $M= 56.5$, whilst two of the hospitals scored <30 . The surgical units scored only $M=34.6$ (Paragraph 4.2.2.1.5). According to the National Guidelines for Patient Safety Incident Reporting and Learning in the Health Sector of South Africa (National Health Department, 2017: 23-25), a just culture recognizes that error can be caused by faulty systems and human error. This implies that staff should not experience a feeling of victimisation or blame when reporting adverse events, but instead, should be treated in a just manner so that learning can take place (National Health Department, 2017:11-12).

The study found a statistical difference ($p=0.037$) between the hospitals and non-punitive response to errors and a statistical difference ($p=0.026$) between the units and non-punitive response to errors. In addition, the results discussed under Paragraph 5.2.1.2, show that participants are not receiving optimal management support for patient safety either ($M=59$). It, therefore, appears that participants are experiencing a punitive culture being practised in the organisation.

Furthermore, $n= 39$ (39.4%) of participants, agreed that mistakes were held against them (Table 4.23.1 and 4.23.2). These results are supported by Cole *et al.* (2019:1176–1181) whose study aimed to explore the factors that influenced patient advocacy among registered nurses and their willingness to report unsafe practices and found that 45.8% of nurses ($n=33$) feared retaliation when reporting adverse events and near misses.

Further results showed that $n= 39$ (39.8%) of the participants agreed that when events are reported, it felt as though the person was written up and not the problem, however, $n=37$ (37.8%) disagreed and $n= 22$ (22.4%) remained neutral (Tables 4.24.1 & 4.24.2). “To err is human” and humans are fallible, thus, staff should not feel guilty when they report an adverse event but should rather be encouraged to report than to under-report. Cooper *et al.*

(2017:455–461) expressed a concern for the results of a study to describe the blame attribution to incidents. The study found that the high percentage of blame (45%) attributed to incidents, reflected a healthcare culture of blame and retribution instead of learning and improvement.

In addition, the study found that most participants, $n=54$ (55.1%), agreed that mistakes they made were kept in their personal files. These results are supported by Yung *et al.* (2016:580–588) who determined that 83% of nurses feared blame, distrust, self-recrimination and being labelled as incompetent. Thus, it can be concluded that professional nurses in the organisation have a fear and are scared that negative information will be kept on their personal files.

5.2.2.2 Teamwork within and across units (Items A1, A3, A4 and A11)

The results of the composite teamwork are discussed, according to teamwork within the unit and across units.

The study shows that the total hospital mean score for teamwork within the units $M=66.27$ and across units $M=59.9$. When ANOVA tests were applied, a significant statistical difference ($p=0.011$) was identified between the hospitals and teamwork and between hospital groups and support, ($p=0.039$). Post-Hoc tests identified statistically significant differences between two groups working specifically 20-39 hours and 40-59 hours with reference to teamwork ($p=0.057$) and support ($p=0.057$).

Participants $n=78$ (78%) agreed that they work together as a team when there is a lot of work to be done and were in the majority (Tables 4.9.1 & 4.9.2). However, according to Paragraph 4.2.9.6, open questions about patient safety culture in the hospital, one participant perceived teamwork and communication among peers as poor and another felt that nobody is held accountable.

According to the researcher's observation the culture of the healthcare environment and the establishment impacts negatively and positively on the team cohesion which exists. This is mainly due to the type of leadership and management which drives the culture in the healthcare establishments. The sentiment of the researcher is supported by Taplin *et al.* (2013:279–281) that creating an effective team requires leaders of the organisation to be cognizant of their role in developing teams and this is attained through supporting coaching, influencing and rewarding team performances.

In addition, Hwang and Ahn (2014:14–20) supports the study and places emphasis on the importance of teamwork in their study, by recommending that managers make a concerted

effort towards teamwork, as it contributes to the improvement of error reporting and patient safety. Hwang and Ahn (2014:14–20) identified that nursing teams who scored higher results for team communication were more inclined to report errors to their managers and the patient safety departments.

5.2.2.3 Staffing within the hospitals and units (Items A2, A5, A7 and A14)

The results of the study show that the total mean scores for hospitals $M=37.37$ and for the units $M=37.37$. A statistical difference ($p=0.006$) was found between the hospitals and the years worked in specialty, when applying ANOVA statistical tests. Further results show a statistical difference ($p=0.015$) between the qualifications of participants and that participants worked in “crisis mode”, trying to do too much, too quickly.

This is further supported by the Likelihood Ratio of $p=0.012$ and the Bonferroni post hoc test which identify a statistical difference between years in specialty or hospital and staffing. The results show a statistical difference between staff with less than one year and those with 15 years ($p=0.005$), 6-10 years ($p=0.012$), 11-15 years ($p=0.033$) and 21 years and more ($p=0.044$) (Paragraph 4.2.2.1.4).

The results show that there are differences within the workplace with reference to staffing. Staff with less than one year of experience are more likely to experience problems with staffing in comparison to staff who have more experience.

The researcher has observed according to her experience in the clinical field that nursing budgetary constraints are a factor that influences the delivery of quality care to patients. The prescribed patient acuities and staffing skills mix has become a challenge for nursing managers to implement adequately in the clinical field. The qualitative data obtained from the open question in Paragraph 4.2.9.6 shows that most participants are displeased with how the organisation is staffed. The issues surrounding staffing such as workload, agency staff, skill and competence, are seen as compromising patient safety (Paragraph 4.2.9.1). Eygelaar and Stellenberg (2012:1–8), showed that inadequate staffing is seen as a barrier to delivering quality nursing care $N=272$ (97%).

Further results of the study show that $N=61\%$ (61%) of participants disagreed that there was enough staff to manage the workload (Tables 4.19.1 & 4.19.2). Griffiths *et al.* (2019:609–617) concluded that a shortage of RNs has a negative outcome on patient safety. Supporting this study, Griffiths *et al.* (2019:609–617), established that RN and nursing assistant hours should not be treated as equal, as it was found that patient deaths increased by 3% each time the RN staffing decreased below the required mean. Furthermore, RN shortage should not be

remedied by increasing the lower skilled nursing staff in the workforce (Griffiths *et al.*, 2019:609–617).

Ball *et al.* (2014:116–125) found that 86% of nurses reported that missed nursing care was due to insufficient time and established an association between the number of patients per registered nurse and the incidence of missed nursing care ($p < 0,001$). In addition, Ball *et al.* (2014:116-125) established that in wards where patient safety was rated as excellent, an average of 2.4 activities were left undone on a shift, whilst in wards where patient safety was rated as failing, an average of 7.4 activities were left undone on a shift ($p < 0.001$).

Further results show that 46.9% of participants agreed that they worked longer hours than is best for patient care (Table 4.20.1 & 1.20.2). The Basic conditions of Employment Act 75 of 1997, stipulates that an employee is required to work no longer than 45 hours per week (Act No,75 of 1997). Kunaviktikul *et al.* (2015:386–393) established a statistically significant positive relationship between the extended hours worked and patient related outcomes such as pressure ulcers, communication errors, patient complaints and identification errors, $r = 0.068-0.083$. The study found that nurses working >16 hours overtime per week were more likely to perceive all four patient outcomes, (pressure ulcers, communication errors, patient complaints and identification errors) than nurses working only >8 hours overtime per week.

According to Table 4.21.1 and Table 4.21.2, 48% of the participants agreed that agency or temporary staff were used more than was best for patient safety. whilst 30% remained neutral, neither agreeing nor disagreeing. According to the researcher's experience in the clinical field, nurses in the clinical field perceive agency nurses as inconsistent, with no continuity of care and thus do not deliver optimal levels of quality care. This is supported by Rispel and Moorman (2015:1–9) who concluded that agency staff were perceived as being sub-optimal in comparison to permanent staff and provide sub-optimal quality care. The perceptions of agency staff were further characterised as a lack of commitment and loyalty, reluctance to perform extra nursing tasks and take on extra nursing duties (Rispel & Moorman, 2015:1–9).

The majority of participants, $n = 62$ (63.9%), indicated that they worked in “crisis mode” trying to do too much too quickly. Safe nurse staffing is critical in delivering safe, quality care in hospitals (International Council of Nurses, 2018:1–7). Furthermore, the ICN recommends that healthcare employers create positive work cultures with adequate numbers of staff, manageable workloads, quality leadership and managerial support (International Council of Nurses, 2018:1–7). Trust requires the existence of a just culture in which a distinction is made between blameless and blameworthy, therefore, whilst it is more satisfying to blame individuals for the occurrence of errors, effective risk management is dependent on an

effective reporting culture wherein trust is a key element (Reason, 2000:768–770). The results therefore suggest that a just culture is not evident within the organisation.

This concludes objective 2 successfully, to determine whether Just Culture influenced the PNs in providing safe patient care, in a private healthcare organisation.

5.2.3 Objective 3: To Determine whether Organisational Learning influenced the PNs in providing safe patient care in a private healthcare organisation

The organisational learning of the organisation was investigated and will be discussed according to the following patient safety composites:

- Frequency of event reporting (Paragraph 4.2.5).
- Feedback and communication about error (Paragraph 4.2.4.1).
- Handoffs and transitions (Paragraph 4.2.7.3).
- Overall perceptions of patient safety (Paragraph 4.2.2.2.3).

5.2.3.1 Frequency of event reporting (Items D1, D2 and D3)

The study results show that the total mean score for hospitals is $M=60.43$ regarding the frequency of event reporting. Most hospitals scored >54 ; however, Hospital 2 scored a mean of only $M=36.90$. Furthermore, the results show that the total mean score for the units $M=60.4$ and the operating rooms having the highest mean $M=72.4$. According to Table 4.36.1 and 4.36.2, only $n=27$ (28.1%) of participants indicated that they only sometimes report a mistake that happens and is caught and corrected before affecting the patient.

Further results show in Table 4.37.1 and 4.37.2, that when a mistake is made, but has no potential to harm the patient, $n=28$ (29.5%) of participants reported this only **sometimes**. When a mistake is made that could harm the patient, but does not, is **always** reported by only $n=26$ (27.4%) of the participants (Tables 4.38.1 & 4.38.2).

It is concerning that only $n=26$ (27.4%) of the participants have indicated that they **always** report mistakes which affect the patient (Table 4.38.1 and 4.38.2). The reason for this has not been investigated, however, in Paragraph 5.2.2.1, hospitals and units scored a mean score of only 46.50 for the non-punitive response to errors. This is supported by Cole *et al.* (2019:1176–1181) whose study suggested that the willingness to report unsafe patient care matters was due to key factors, namely, experience of nurses and their working environment. The results of Cole *et al.*, showed that although the majority of participants ($n=33$), did not fear retaliation, 45.8% of the participants feared retaliation for reporting unsafe care.

5.2.3.2 Feedback and communication about error (Items C1, C3 and C5)

The results of the study showed that the total hospital mean score for feedback and communication about error, $M=71.5$ and for the units $M=68.3$. A significant statistical difference was found when applying ANOVA tests between the units and communication ($p=0.008$). Further statistical tests (Bonferroni) showed a significant statistical difference between the surgical units and emergency units, regarding communication ($p=0.042$).

Further results in Table 4.30.1 and 4.30.2. show that $n=42$ (43.8%) of the participants indicated that they receive feedback about changes put into place, based on event reports, **most of the time** while $n=37$ (38.1%) of the participants indicated that they are **always** informed about errors that happen in this unit (Tables 4.31.1 & 4.31.2). Most participants, $n=40$ (41.2%) indicated that they discuss ways to prevent errors from happening again, **most of the time** (Tables 4.32.1 and 4.32.2).

These results show an under-reporting of near-misses and adverse events. Nursing staff are not reporting as they should, and this is in line with the researcher's experience in the clinical field. The aim of the management of adverse events is to prevent the recurrence thereof which is done through feedback and communication of the root cause analysis of the event to nursing staff. This is corroborated by the National Guidelines for Patient Safety Incident Reporting and Learning in the Health Sector of South Africa (National Department of Health, 2017:28), that the root cause of adverse events must be communicated timeously, and learning must be ensured. In addition, Zaheer, *et al.* (2015:13–23) recommends that management teams improve on participative leadership styles, in order to integrate and involve frontline staff more efficiently in the management of errors, thereby ensuring that staff are comfortable to communicate safety concerns.

5.2.3.3 Handoffs and transitions (Items F3, F5, F7 and F11)

The results of the study show that the total hospital mean score $M=57.07$ for handoffs and transitions and for units $M=57.07$. Of the hospitals, the highest mean score =65.62 for Hospital 9 and the lowest was Hospital 5, $M=45.07$. In Tables 4.47.1 and 4.47.2, only 46.9% of the participants, disagree that things “fell through the cracks” when transferring patients from one unit to the other. Further results show that $n=32$ (33%) neither agree nor disagree that things “fell through the cracks” when transferring patients from one unit to another (Tables 4.48.1 & 4.48.2). In addition, the results show that $n=30$ (30.9%) of the participants agree that problems often occur in the exchange of information across hospital units (Tables 4.49.1 & 4.49.2).

Handoff or “handover” as it is commonly known is the transfer of patient information, responsibility and accountability from one PN to the other or one shift to the other. Often this is the busiest time in a unit or the part of nursing care that is most rushed. This results in pertinent information being lost, which can give rise to error or adverse events. This is in accordance with the Joint Commission that describes handoff as a “real time” communication process, in which information is shared between caregivers and ensures the safety and continuity of care (Joint Commission Sentinel Event Alert 58, 2017). Furthermore, Lee et al. (2016:1–8) found that effective handoff of information, responsibility, and accountability were necessary to assure positive perceptions of patient safety.

The study confirms Reason’s (2000:768–770) hypothesis that there are factors, such as organisational influences, unsafe supervision, unsafe acts and the pre-conditions for unsafe acts in the system that can be likened to the holes in Swiss cheese that are the cause of adverse events and accidents.

This concludes objective 3, to determine whether Organisational Learning influenced the PNs in providing safe patient care in a private healthcare organisation

5.2.4 Objective 4: To determine whether personal background information related to the PNs providing safe patient care in a private healthcare organisation

In Chapter 4, the results show that there is a difference in the way the participants responded to the questionnaire, according to their personal background information. According to their qualifications, most participants were from the Two Year General Diploma in Nursing category (n=39/34%) as per Table 4.5 and according to their years in specialty, in the 1-5 year category (n=30/30%) as per Table 4.6.

The Two-Year General Diploma in Nursing qualification is on a National Quality Framework (NQF) level 5. According to the South African Qualifications Authority (2012:5-13), this level of education can only apply procedures to demonstrate and to understand the context of a problem. However, only n=18 (15.8%) of the participants held bachelor’s degrees in nursing which is equivalent to an NQF level 8 (Table 4.5). This implies that the ability of knowledge demonstrated is to identify and analyse abstract problems. Thus, this may be problematic for the organisation as most of the PNs cannot be expected to think critically through identifying and analysing problems, due to their level of education.

The study did not determine how many of the PNs with a Two-Year General Diploma in Nursing completed post graduate studies. However, it is assumed that most did not hold a post graduate qualification as there are only n=21 (18.4%) participants who hold a post

graduate qualification in the entire sample (Table 4.5). Furthermore, all PNs who hold a Two-Year Diploma in General Nursing hold an Enrolled Nurse qualification, as this is a requirement for the Bridging Course to PN (South African Nursing Council Regulation 683).

According to the years in specialty, most participants were found in the 1-5year category (n=30/30%). It appears that this group comprised mostly Two-Year General Diploma qualification. The study shows that these groups despite being the largest, were inclined to agree the most with the items in the questionnaire, even when the item was negatively phrased, e.g. *Item F9: Hospital management seems interested when it comes to patient safety only after an adverse event happens*, n=16 (16.3 %) of the Two-Year General Diploma in Nursing agree, n=13 (13.3%) of the 1-5 Year category agree, while only n=6 (6.1%) of the B Cur category agreed.

Blignaut et al. (2014:224–231), found that the way nurses perceived patient safety and quality care was problematic and that adverse events were under-reported. However, they could not establish a correlation between the perceptions of patient safety and the qualifications.

However, Aiken, et al. (2003:1617–1623) established that a nurse's education level was associated with mortality and a failure to rescue. Aiken found on a 95% confidence interval that a 10% increase in nurses holding a nurse's degree was associated with a 5% decrease in patient mortality within 30 days of admission and in failure to rescue.

Furthermore, the researcher observed according to her experience in the clinical field, that due to the lack of experience, the PNs in the <1year category and the 1-5 year category are experiencing difficulty in understanding and exercising their roles and need support and guidance in their roles more than PNs who have more than five (5) years' experience. According to the researcher's experience in the clinical field, the level of support and guidance that is given to the new graduate PNs appears inconsistent between hospitals. The researcher observed that while support and guidance is optimal at one hospital, it may be sub-optimal in another and the new graduate does not receive adequate guidance, support and mentorship in their first year of being a PN. These PNs are expected to lead and supervise, yet, as novice nurses, they require supervision themselves.

These participants differed in their perception of the staffing of hospitals. Bonferroni statistical tests show significant statistical difference between years in hospital and staffing. The study shows a significant statistical difference between participants working for one year and less and those working 1-5years (p=0.005), 6-10years (p=0.012), 11-15years (p=0.033) and 21years and more (p= 0.044) in hospital and staffing.

Hussein, Everette, Ramjan, Hu and Salamonson (2017:1-9) found that new graduate nurses required clinical, emotional and social support and despite orientation programs, needed better support from nurse managers, other nurses and educators, to increase their competence and confidence to practise according to their scope of practice.

This is further supported by Gardiner and Sheen (2016:7–12) who described the experiences of new graduates as: a) stressful and overwhelmed by nursing responsibilities, b) needing feedback and assistance with the transition and c) need support and supervision.

Management support for patient safety had a mean score for hospitals and units of only M=59. This implies that it is not only the new graduate PNs who do not receive the support and guidance that they require of a patient safety culture, but also most of the PNs. Thus, the personal background information of the PN does relate to the safe patient care provided by the PN.

This concludes objective 4, to determine whether personal background information related to the PNs providing safe patient care in a private healthcare organisation.

5.3 LIMITATIONS OF THE STUDY

The study was conducted in a private healthcare organisation in the Western Cape in South Africa. The sample of the study covered small, medium and large hospitals, as well as rural and urban areas of the Western Cape. The findings of the study are limited only to the context of one private healthcare organisation.

5.4 CONCLUSIONS

The research question of the study; What are the factors influencing the PNs providing safe patient care in a private healthcare organisation in the Western Cape, South Africa, has been answered. The objectives have been investigated and discussed.

The study results have concluded that:

- Leadership influences the PNs in providing safe patient care in a private healthcare organisation in the Western Cape.
- Just culture influences the safe patient care provided by PNs in a private healthcare organisation in the Western Cape.
- Organisational learning influences the PNs in providing safe patient care in a private healthcare organisation in the Western Cape.
- Personal background information relates to the PNs in providing safe patient care in a private healthcare organisation in the Western Cape.

5.5 RECOMMENDATIONS

The recommendations of the study are done in accordance with the conceptual framework that guided the study. Reason (2000:768-770) saw error in two ways, person's approach and system's approach. The person's approach acknowledges that humans fail and is therefore fallible. The systems approach acknowledges that there are active failures and latent conditions in the system which contribute towards failure and error. For this reason, it will be advisable for the healthcare organisation to welcome the recommendations in order to address the factors which are influencing the safe patient care provided by PNs.

5.5.1 Leadership

It is recommended that the leadership of the healthcare organisations should be aware of the results of the study and should take note of the factors which are influencing the safe patient care provided by the PNs. Patient safety cultures built on participative leadership, open communication, teamwork, learning and a just culture should be developed and advocated on unit level.

5.5.2 Just Culture

A healthcare organisation needs to replace the punitive culture with a non-punitive culture wherein the PN is treated fairly and should be given the benefit of doubt when reporting an error or adverse event.

5.5.3 Organisational learning

Hospitals and units must be transparent and communicate openly, regarding the adverse events which occur, so that learning can take place. Patient safety committees should be developed on hospital level, to assist patient safety managers with the management and awareness relating to a patient safety culture, thus ensuring continuous quality improvement.

5.5.4 Personal background information

Private healthcare organisations are challenged by financial constraints with reference to nurse staffing, however, it is imperative that new graduate PNs receive adequate support, guidance and mentorship in the first year of becoming a PN. More effort should be put into mentorship of the new graduate PNs across hospitals. This will be beneficial not only to the new graduate, but for the benefit of patient safety within the healthcare organisation.

5.5.5 Future research

There is a gap in the literature regarding comparative studies of patient safety cultures within the private healthcare organisations of the Western Cape.

An investigation into the factors influencing the PNs in private healthcare organisations of the Western Cape should be undertaken.

5.6 DISSEMINATION

The researcher proposes to present her research to the management of the organisation where the research was conducted and to provide them with a copy of the research report. Furthermore, she proposes to present at conferences and academic research days of the university, including publishing the research.

5.7 CONCLUSION

In conclusion, the study has alluded to the factors which influence safe, patient care provided by the PNs in a private healthcare organisation in the Western Cape. The healthcare organization is challenged, as most of the PNs are not fully equipped to think critically and analytically. It is also evident that the PN plays a pivotal role in the execution of care and more so, patient safety in the clinical field. Thus, the role of the PN has a direct impact on reducing the occurrence of adverse events, nursing malpractice litigation, and patient outcomes.

In order for the PN to enact this role, a support framework which comprises adequate leadership, just culture, learning and knowledge of PNs biographical information is needed. This will equip her with the necessary skills, critical thinking skills and clinical competence to be able to identify the factors that impact the delivery of safe patient care and positive patient outcomes. Moreover, PNs are the heartbeat of healthcare and the driving force behind safe, patient care and thus, the healthcare organisation should acknowledge the important role that PNs have within the clinical field and on patient outcomes.

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APPENDICES

APPENDIX 1: PERMISSION TO DO RESEARCH - MEDICLINIC



MEDICLINIC CORPORATE OFFICE
25 DU TOIT STREET
STELLENBOSCH
7600
SOUTH AFRICA

PO BOX 456
STELLENBOSCH
7599
SOUTH AFRICA

T +27 21 809 6500
www.mediclinic.co.za

20 May 2019

Ms Ruth Daniels
Mediclinic Louis Leipoldt
PO Box 369
Bellville
7535

Ruth.daniels@mediclinic.co.za

Dear Ms Daniels

PERMISSION TO CONDUCT RESEARCH AT MEDICLINIC

Your research proposal entitled "*Factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape*" refers.

It is in order for you to conduct your research at Mediclinic Panorama, Mediclinic Constantiaberg, Mediclinic Milnerton, Mediclinic Durbanville, Mediclinic Louis Leipoldt, Mediclinic Paarl, Mediclinic Worcester, Mediclinic Klein Karoo and Mediclinic Geneva and Neuro Clinic. I wish you success with this project.

Yours sincerely

A handwritten signature in black ink that reads "Estelle Coustas".

Dr Estelle Coustas
Nursing Executive
MEDICLINIC-SOUTHERN AFRICA

ETHICS LINE +27 12 543 5332
TOLL-FREE 0800 005 316 (SOUTH AFRICA ONLY)

MEDICLINIC (PTY) LTD
REG. NO. 1969/009218/07

APPENDIX 2: HREC APPROVAL



Approved with Stipulations

New Application

08/04/2019

Project ID: 9237

HREC Reference #: S19/02/046

Title: Factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape

Dear Ms Ruth Daniels,

The **Response to Modifications** received on 03/04/2019 22:33 was reviewed by members of the **Health Research Ethics Committee 2 (HREC2)** via Minimal Risk Review procedures on 08/04/2019 and was approved with stipulations.

Please note the following information about your approved research protocol:

Protocol Approval Period: **08-April-2019 – 07-April 2020**.

The stipulations of your ethics approval are as follows:

1. ICF: Please include the contact details of the HREC in the ICF and the details as outlined in the template as follows:

Is there anything else that you should know or do?

- You can phone Dr [insert PI's name here] at [insert PI's tel number here] if you have any further queries or encounter any problems.
- You can phone the Health Research Ethics Committee at 021 938 9677/9819 if there still is something that your study doctor has not explained to you, or if you have a complaint.
 - You will receive a copy of this information and consent form for you to keep safe.

2. Budget: Please add refreshments to the budget.

Please remember to use your **Project ID [9237]** and ethics reference number **[S19/02/046]** on any documents or correspondence with the HREC concerning your research protocol.

Please note that this decision will be ratified at the next HREC full committee meeting. HREC reserves the right to suspend approval and to request changes or clarifications from applicants. The coordinator will notify the applicant (and if applicable, the supervisor) of the changes or suspension within 1 day of receiving the notice of suspension from HREC. HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:

Please note you can submit your progress report through the online ethics application process, available at: <https://apply.ethics.sun.ac.za> and the application should be submitted to the Committee before the year has expired. Please see [Forms and Instructions](#) on our HREC website for guidance on how to submit a progress report.

The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility, permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Please consult the Western Cape Government website for access to the online Health Research Approval Process, see: <https://www.westerncape.gov.za/general-publication/health-research-approval-process>. Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.

For standard HREC forms and instructions, please visit: [Forms and Instructions](#) on our HREC website (www.sun.ac.za/healthresearchethics)

If you have any questions or need further assistance, please contact the HREC office at 021 938 9677.

Yours sincerely,

Mr. Francis Masiye,

HREC Coordinator,

Health Research Ethics Committee 2 (HREC2).

National Health Research Ethics Council (NHREC) Registration Number:

REC-130408-012 (HREC1)·REC-230208-010 (HREC2)

Federal Wide Assurance Number: 00001372

Office of Human Research Protections (OHRP) Institutional Review Board (IRB) Number:

IRB0005240 (HREC1)·IRB0005239 (HREC2)

The Health Research Ethics Committee (HREC) complies with the SA National Health Act No. 61 of 2003 as it pertains to health research. The HREC abides by the ethical norms and principles for research, established by the [World Medical Association \(2013\). Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects](#); the [South African Department of Health \(2006\). Guidelines for Good Practice in the Conduct of Clinical Trials with Human Participants in South Africa \(2nd edition\)](#); as well as the Department of Health (2015). Ethics in Health Research: Principles, Processes and Structures (2nd edition).

The Health Research Ethics Committee reviews research involving human subjects conducted or supported by the Department of Health and Human Services, or other federal departments or agencies that apply the Federal Policy for the Protection of Human Subjects to such research (United States Code of Federal Regulations Title 45 Part 46); and/or clinical investigations regulated by the Food and Drug Administration (FDA) of the Department of Health and Human Services.

APPENDIX 3: PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM**PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM**

TITLE OF RESEARCH PROJECT:	
Factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape	
DETAILS OF PRINCIPAL INVESTIGATOR (PI):	
Mrs Ruth Daniels	S19/02/046
31 Leerdam Street, Avondale, Parow, 7500	0825021112

We would like to invite you to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff any questions about any part of this project that you do not fully understand. It is very important that you are completely satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary**, and you are free to decline to participate. In other words, you may choose to take part, or you may choose not to take part. Nothing bad will come of it if you say no: it will not affect you negatively in any way whatsoever. Refusal to participate will involve no penalty or any loss of benefits or reduction in the level of care to which you are otherwise entitled to. You are also free to withdraw from the study at any point, even if you do agree to take part initially.

This study has been approved by the **Health Research Ethics Committee at Stellenbosch University**. The study **will be conducted according to the ethical guidelines and principles of the Declaration of Helsinki**, the South African Guidelines for Good Clinical Practice (2006), the Medical Research Council (MRC)

Ethical Guidelines for Research (2002), and the Department of Health Ethics in Health Research: Principles, Processes and Studies (2015).

What is this research study all about?

- This study will take place at nine (9) various hospitals in your organisation. The study aims to recruit one hundred and forty-seven (147) professional nurses to participate in the survey.
- Recent studies done in the Western Cape and Gauteng identified that there were multiple factors which resulted in adverse events and revealed that the professional nurses contributed the highest percentage to the adverse events which led to malpractice litigation in nursing practice. The study would like to investigate the factors which are influencing safe patient care provided by the professional nurses in your organisation.

Why do we invite you to participate?

- As a professional nurse of the organisation, you have been randomly selected to participate in the survey.

What will your responsibilities be?

- As a participant in the survey you are expected to follow the instructions on the survey and to answer as truthfully as possible.

Will you benefit from taking part in this research?

- You will not receive any reimbursement for your participation, however, your opinion in this survey will make a valuable contribution towards improving patient safety. A complimentary chocolate will be provided to you for your participation.

Are there any risks involved in your taking part in this research?

- No risks have been identified.

If you do not agree to take part, what alternatives do you have?

- The survey is voluntary and you are free to choose not to participate or to withdraw at any time.

Who will have access to your information?

- All information collected will be treated as private and confidential and will be stored on a database which is password protected. If it is used in a publication or for a thesis, the identity of the participant will remain anonymous. The information collected will only be accessible to the researcher, the biostatistician and the supervisor. All information will be anonymous and no participant names will be recorded on the questionnaire.

Even though it is unlikely, what will happen if you become injured somehow because you have taken part in this research study?

- Participants will be protected from harm and any discomfort and will be able to withdraw from the study at any time without penalty. Participants who become emotional during the survey or feel the need to speak to somebody after the completion of the survey, will be able to make use of the resident occupational health care facilities at your institution, namely, INCON Health.

Will you be paid to take part in this study and are there any costs involved?

- All costs of the study are the responsibility of the researcher. You will not be compensated to take part in the study. You will not have to pay for anything, if you do take part.

How long will the questionnaire take to complete and where/when can I complete it?

- The questionnaire will take approximately ten (10) to fifteen (15) minutes to complete and you are allowed to complete it in your own time. The questionnaire must be completed and returned within 24 hours after being issued to you, once your consent has been obtained. Completed questionnaires must be returned to the researcher in a sealed envelope which will be provided and placed in the box provided in the after-hours office at your institution.

Is there anything else that you should know or do?

- You can phone Ms Ruth Daniels at 0825021112 if you have any further queries or encounter any problems.
- You can phone the Health Research Ethics Committee at 021 938 9677/9819 if there still is something that your study doctor has not explained to you, or if you have a complaint.
- You will receive a copy of this information and consent form for you to keep safe.

Declaration by participant

By signing below, I agree to take part in a research study entitled “Factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape”.

I declare that:

- I have read this information and the consent form, or it was read to me, and it is written in a language in which I am fluent in and with which I am comfortable with.
- I have had a chance to ask questions and I am satisfied that all my questions have been answered.
- I understand that taking part in this study is **voluntary**, and that I have not been pressurised in any way to take part.
- I may choose to leave the study at any time and nothing bad will come of it. I will not be penalised or prejudiced in any way.

Signed at (*place*) on (*date*) 2019

.....

Signature of participant

.....

Signature of witness

Declaration by investigator

I (*name*) declare that:

- I have explained the information in this document in a simple and in a clear manner to
- I have encouraged him or her to ask questions and that I have taken enough time to answer them.
- I am satisfied that he or she completely understands all the aspects of the research, as discussed above.
- I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below.*)

Signed at (*place*) on (*date*) 2019.

.....

Signature of investigator

.....

Signature of witness

APPENDIX 4: HOSPITAL SURVEY ON PATIENT SAFETY CULTURE**Adapted from the Agency for Healthcare and Research SOPS Hospital Survey
Version 1.0****Instructions**

This survey asks for your opinions about patient safety issues, medical errors, and event reporting in your hospital and will take about ten (10) to fifteen (15) minutes to complete.

If you do not wish to answer a question, or if a question does not apply to you, you may leave your answer blank.

- An **“event”** is defined as any type of error, mistake, incident, accident, or deviation, regardless of whether it results in patient harm or not.
- **“Patient safety”** is defined as the avoidance and the prevention of patient injuries or adverse events resulting from the processes of health care delivery.

SECTION A: Your Work Area/Unit

In this survey, think of your “unit” as the work area, department, or clinical area of the hospital where you spend *most* of your work time, or provide *most* of your clinical services.

What is your primary work area or unit in this hospital? Select ONE answer.

Medical Surgery Obstetrics Paediatrics

Emergency department Intensive care unit (any type)

Other, please specify: _____

Please indicate your agreement or disagreement with the following statements about your work area/unit.

Think about your hospital work area/unit where:

1. Disagree
2. Strongly Disagree
3. Neither Agree or Disagree
4. Agree
5. Strongly Agree

1. People support one another in this unit

1 2 3 4 5

2. We have enough staff to handle the workload

1 2 3 4 5

3. When a lot of work needs to be done quickly, we work together as a team to get the work done

1 2 3 4 5

4. In this unit, people treat each other with respect

1 2 3 4 5

5. Staff in this unit work longer hours than is best for patient care

1 2 3 4 5

6. We are actively doing things to improve patient safety

1 2 3 4 5

7. We use more agency/temporary staff than is best for patient care

1 2 3 4 5

8. Staff feel as if their mistakes are held against them

1 2 3 4 5

9. Mistakes have led to positive changes here

1 2 3 4 5

10. It is just by chance that more serious mistakes don't happen around here

1 2 3 4 5

11. When one area in this unit becomes busy, others help out

1 2 3 4 5

12. When an event is reported, it feels as if the person is being written up, and not the problem

1 2 3 4 5

- 13. After we make changes to improve a patient's safety, we evaluate the effectiveness**

1 2 3 4 5

- 14. We work in "crisis mode", trying to do too much, too quickly**

1 2 3 4 5

- 15. A patient's safety is never sacrificed to get more work done**

1 2 3 4 5

- 16. Staff worry that any mistakes that they make are kept in their personnel file**

1 2 3 4 5

- 17. We have patient safety problems in this unit**

1 2 3 4 5

- 18. Our procedures and our systems are good at preventing errors from happening**

1 2 3 4 5

SECTION B: Your Supervisor/Manager

Please indicate your agreement or disagreement with the following statements about your immediate supervisor/manager or person to whom you directly report to.

- 1. Disagree
- 2. Strongly Disagree
- 3. Neither Agree or Disagree
- 4. Agree
- 5. Strongly Agree

1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures

1 2 3 4 5

2. My supervisor/manager does seriously consider staff suggestions for improving patient safety

1 2 3 4 5

3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts

1 2 3 4 5

4. **My supervisor/manager overlooks patient safety problems that happen repeatedly**

1 2 3 4 5

SECTION C: Communications

How often do the following things happen in your work area/unit? Think about your hospital work area/unit.

- 1. Never
- 2. Rarely
- 3. Sometimes
- 4. Most of the time
- 5. Always

1. **We are given feedback about changes put into place based on event reports**

1 2 3 4 5

2. **Staff will freely speak up if they see something that may negatively affect patient care**

1 2 3 4 5

3. **We are informed about errors that happen in this unit**

1 2 3 4 5

4. **Staff feel free to question the decisions or the actions of those with more authority**

1 2 3 4 5

5. **In this unit, we discuss ways to prevent errors from happening again**

1 2 3 4 5

6. **Staff are afraid to ask questions when something does not seem right**

1 2 3 4 5

SECTION D: Frequency of Events Reported

In your hospital work area/unit, when the following mistakes happen, *how often are they reported?*

- 1. Never
- 2. Rarely
- 3. Sometimes
- 4. Most of the time
- 5. Always

1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?

1 2 3 4 5

2. When a mistake is made, but has *no potential to harm the patient*, how often is this reported?

1 2 3 4 5

3. When a mistake is made that *could harm the patient*, but does not, how often is this reported?

1 2 3 4 5

SECTION E: Patient Safety Grade

Please give your work area/unit in this hospital an overall grade on patient safety.

Excellent Very good Acceptable Poor Failing

SECTION F: Your Hospital

Please indicate your agreement or disagreement with the following statements about your hospital. Think about your hospital.

1. Disagree
2. Strongly Disagree

3. Neither Agree or Disagree

4. Agree

5. Strongly Agree

1. Hospital management provides a work climate that promotes patient safety

1 2 3 4 5

2. Hospital units do not coordinate well with one another

1 2 3 4 5

3. Things “fall between the cracks” when transferring patients from one unit to another

1 2 3 4 5

4. There is good cooperation among hospital units who need to work together

1 2 3 4 5

5. Important patient care information is often lost during shift changes

1 2 3 4 5

6. It is often unpleasant to work with staff from other hospital units

1 2 3 4 5

7. **Problems often occur in the exchange of information across hospital units**

1 2 3 4 5

8. **The actions of hospital management shows that patient safety is a top priority**

1 2 3 4 5

9. **Hospital management seems interested when it comes to patient safety only after an adverse event happens**

1 2 3 4 5

10. **Hospital units work well together to provide the best care for patients**

1 2 3 4 5

11. **Shift changes are problematic for patients in this hospital**

1 2 3 4 5

SECTION G: Number of Events Reported

In the past twelve months, how many event reports have you filled out and submitted?

- No event reports 1-2 event reports 3-5 event reports
- 6-10 event reports 11-20 event reports 21 event reports or more

SECTION H: Background Information

This information will help in the analysis of the survey results.

1. How long have you worked in this hospital?

- Less than 1 year 1 to 5 years 6 to 10 years
- 11 to 15 years 16 to 20 years 21 years or more

2. How long have you worked in your current hospital work area/unit?

- Less than 1 year 1 to 5 years 6 to 10 years
- 11 to 15 years 16 to 20 years 21 years or more

3. Typically, how many hours per week do you work in this hospital?

- Less than 20 hours per week 20 to 39 hours per week
- 40 to 59 hours per week 60 to 79 hours per week

80 to 99 hours per week 100 hours per week or more

4. Do you hold any of the following qualifications?

Enrolled Nursing Auxiliary Enrolled Nurse

2 Year Diploma in General Nursing

4 Year Diploma in Nursing (General, Psychiatry, Community) and
Midwifery Administration/Management

B Cur in Nursing (General, Psychiatry, Community) and Midwifery

Other, please specify: _____

5. In your staff's position, do you typically have direct interaction or contact with patients?

YES, I typically have direct interaction or contact with patients.

NO, I typically do NOT have direct interaction or contact with patients.

6. How long have you worked in your current specialty or profession?

Less than 1 year 1 to 5 years 6 to 10 years

11 to 15 years

16 to 20 years

21 years or more

SECTION I: Your Comments

Please feel free to write any comments about patient safety, error, or event reporting in your hospital.

THANK YOU FOR COMPLETING THIS SURVEY

If you need any assistance, please contact me on the contact number or at the email address below:

Name: Mrs R Daniels

Contact number: 082 502 1112

Email address: ruth.daniels@live.co.za

Supervisor: Mrs A Damons (SU)

Email address: damonsa@sun.ac.za

APPENDIX 5: LANGUAGE EDITING CERTIFICATE



115 Main Road, Cape Agulhas, Western Cape, South Africa

Cell: +27 72 244 4363

Email: info@busybeediting.co.za / brendavanrensburg2@gmail.com

Website: www.busybeediting.co.za

Proofreading and Editing Certificate

TO WHOM IT MAY CONCERN

This is to certify that we Hugo Chandler and Brenda van Rensburg the owners of the above company are both professional freelance proof-readers and editors. For the past twelve years we have been providing proofreading, editing, layout, syntax, spelling and grammar checks as well as typing and graphic design services to university students and to graduates for their theses, reports and dissertations, as well as to authors for their manuscripts. We will gladly provide any references if needs be. References are also available on our website www.busybeediting.co.za.

We have completed the proofreading, editing, layout, syntax, spelling and grammar check on a 36 314 word / 132-page Thesis titled: **FACTORS INFLUENCING SAFE PATIENT CARE PROVIDED BY PROFESSIONAL NURSES IN A PRIVATE HEALTHCARE ORGANISATION IN THE WESTERN CAPE** for RUTH DANIELS, a student at STELLENBOSCH UNIVERSITY.

Hugo Chandler

Hugo Chandler

Brenda van Rensburg

Brenda van Rensburg

Date: 6 December 2019

APPENDIX 6: TRANSLATION CERTIFICATE



English/Afrikaans
Afrikaans/English

3 Beroma Crescent Beroma Bellville
Tel 0219514257
Cell 0782648484
Email illona@toptutoring.co.za

* Translations * Editing * Proof Reading
* Transcription of Historical Docs
* Transcription of Qualitative Research
* Preparation of Website Articles

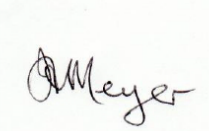
TO WHOM IT MAY CONCERN

This letter serves to confirm that the undersigned

ILLONA ALTHAEA MEYER

has translated the ABSTRACT into AFRIKAANS.

Signed



Ms IA Meyer

07 December 2019

For: Ms Ruth Daniels

TITLE OF THESIS: Factors influencing safe patient care provided by professional nurses in a private healthcare organisation in the Western Cape