

# **The perceptions of nurses on the factors that influence patient safety culture in a Namibian private healthcare setting**

**Aina Ndilimeke Erastus**

*Thesis presented in partial fulfilment of the requirements  
for the degree of Master of Nursing Science  
in the Faculty of Medicine and Health Sciences  
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**Supervisor: Dr Guin Lourens**

**March 2018**

## **DECLARATION**

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## ABSTRACT

**Background and aim:** The foundation of healthcare delivery is based on patient safety culture. Nurses are the gatekeepers of patient safety due to their roles in coordinating patient care and interdisciplinary team tasks as well as constant alertness to prevent potential patient harm. The aim of the study was to explore the perceptions of nurses on the factors that influence patient safety culture in the Namibian private healthcare sector.

**Methods:** A quantitative descriptive case study design was conducted to explore factors that influence patient safety as perceived by nurses in a Namibian private healthcare setting. The sample size (n=112) that was used comprised of registered nurses (n=66), enrolled nurses (n=42) and enrolled nursing auxiliaries (n=4). The Hospital Survey on Patient Safety Culture questionnaire was used to collect data. Research data was analysed using descriptive with SPSS software, Version 23.

**Results:** The study provided in-depth knowledge on the perceptions of nurses regarding the factors that influence patient safety culture. Findings identified perceived areas of strength in AZ Private Hospital to be 1) management support, 2) organisational learning and 3) teamwork within units. The perceived areas of weakness identified were 1) staffing, 2) communication openness, and 3) frequency of adverse events reporting. The study findings revealed that although management support for the patient safety dimension was perceived to be an area of strength, low reporting frequency of adverse events indicated the need to explore further the factors that influence the frequency of event reporting.

**Conclusion:** The study findings indicate that improving patient safety culture requires strengthening communication in all aspects of care. Hospital management should consider improving communication at all levels of the hierarchy in the hospital by standardising processes to communicate safety issues and creating platforms for nurses to contribute towards preventive measures. Cross-team collaborative care promotes patient safety and thus healthcare administrators should invest in promoting working relationships. Improving patient safety culture requires the involvement of nurses in strategizing and implementing patient safety measures to reduce harm.

**Key words:** Patient safety culture, hospital survey on patient safety culture, nurses and perceptions

## OPSOMMING

**Agtergrond en doel:** Gesondheidsorglewering is op 'n kultuur van pasiëntveiligheid gegrond. Verpleërs is die poortwagters van pasiëntveiligheid weens hul rolle in die koördinerende van pasiëntesorg en die take van interdisiplinêre spanne, asook deurlopende waaksaamheid ter voorkoming van moontlike pasiënt skade. Die doel van die studie was om ondersoek in te stel na die persepsies van verpleërs van faktore wat die kultuur van pasiëntveiligheid in die Namibiese privaat gesondheidsorgsektor beïnvloed.

**Metodes:** 'n Kwantitatiewe beskrywende gevallestudie-ontwerp is gebruik om faktore te ondersoek wat pasiëntveiligheid beïnvloed soos waargeneem deur verpleërs in 'n privaat gesondheidsorg-omgewing in Namibië. Die totale steekproefgrootte ( $n=112$ ) het geregistreerde verpleërs ( $n=66$ ), ingeskrewe verpleërs ( $n=42$ ) en ingeskrewe verpleegassistenten ( $n=4$ ) ingesluit. Die vraelys "Hospital Survey on Patient Safety Culture" is gebruik om data in te samel. Die navorsingsdata is met behulp van beskrywende met die SPSS sagteware, Weergawe 23 ontleed.

**Resultate:** Die studie bied diepte-kennis rakende verpleërs se persepsies van die faktore wat 'n kultuur van pasiëntveiligheid beïnvloed. Die bevindinge rakende die waargenome sterk gebiede in AZ Privaat Hospitaal is 1) bestuursondersteuning, 2) organisasieel en 3) spanwerk in eenhede. Die waargenome swak gebiede is 1) personeelvoorsiening, 2) oop kommunikasie en 3) gereeldheid van rapportering van negatiewe gebeure. Die studiebevindinge het getoon dat alhoewel bestuursondersteuning van die pasiëntveiligheid-dimensie as 'n sterk gebied waargeneem is, lae gereeldheid van rapportering van negatiewe gebeure dui op 'n behoefte aan verdere ondersoek na die invloed van die gereeldheid van rapportering van gebeure.

**Gevolgtrekking:** Die studiebevindinge toon dat die verbetering van 'n kultuur van pasiëntveiligheid die versterking van kommunikasie in alle aspekte van sorg vereis. Die hospitaalbestuur moet verbetering van kommunikasie op alle vlakke van die hospitaal se hiërargie oorweeg deur prosesse waarvolgens veiligheidskwessies gekommunikeer word, te standaardiseer en deur platforms vir verpleërs te skep om tot voorkomingsmaatreëls by te dra. Samewerkende sorg oor spanne heen bevorder pasiëntveiligheid en daarom moet gesondheidsorgadministrateurs in die bevordering van werkverhoudings belê. Die verbetering van die kultuur van pasiëntveiligheid verg die betrokkenheid van verpleërs in strategiebeplanning en die implementering van pasiëntveiligheidsmaatreëls om skade te verminder.

**Sleutelwoorde:** pasiëntveiligheidskultuur, hospitaalopname oor pasiëntveiligheidskultuur, verpleegsters en persepsies

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## ABBREVIATIONS

|         |  |
|---------|--|
| AHRQ    | Agency for Healthcare for Research and Quality |
| APPS    | African Partnership for Patient Safety         |
| CFA     | Confirmatory factor analysis                   |
| EFA     | Exploratory factor analysis                    |
| HSOPSC™ | Hospital Survey on Patient Safety Culture      |
| ICU     | Intensive Care Unit                            |
| IOM     | Institute of Medicine                          |
| MoHSS   | Ministry Of Health and Social Services         |
| SPSS    | Statistical Package for Social Sciences        |
| US      | United States                                  |
| WHO     | World Health Organisation                      |

# CHAPTER 1

## FOUNDATION OF THE STUDY

### 1.1. INTRODUCTION

Ulrich and Kear (2014:113) stated that patient safety culture is the foundation of healthcare delivery. The Agency for Healthcare Research and Quality (AHRQ) defines patient safety culture as “the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety management” (Sorra, Gray, Streagle, Famolaro, Yount & Behm, 2016:1). Patient safety is defined as minimizing and preventing the risk of harm occurring as a result of healthcare processes (Vincent, 2010:130). Healthcare organizations with a positive safety culture are characterized by shared awareness on patient safety initiatives and effective implementation of preventative measures Sorra *et al.* (2016:1).

Nurses are gatekeepers of patient safety because of the role they play in the coordination of patient care and constant alertness to potential harm to patients (Youngberg, 2013:393). The nurses are tasked with identifying, minimising and preventing factors that compromise patient safety to ensure a safe healthcare environment (Youngberg, 2013:393). This study explored the perceptions of nurses on the factors that influence patient safety culture in a private healthcare facility.

### 1.2. BACKGROUND AND SIGNIFICANCE OF THE PROBLEM

The World Health Organisation (WHO) (2014:3) estimates that 1 in 10 patients in developed countries is harmed receiving hospital care. The WHO (2014:3) further reveals that 10 in 100 patients admitted in healthcare facilities in developing countries acquire infections associated with healthcare. Healthcare organisations around the world started to focus more on patient safety following a report released by the Institute of Medicine (IOM) on Building a Safer Health System (Chen & Li, 2010:1). According to the report, 44 000 to 98 000 people die yearly in hospitals in the United States (US) due to preventable medical errors compared to other causes of death (IOM, 1999:1). The report further identified medical errors that commonly occur during the provision of healthcare as medication errors, patient falls, injuries sustained during surgery, surgery performed on the wrong site, mistaken patient identity and pressure ulcers. It was concluded that defective healthcare systems and processes lead to mistakes carried out by healthcare workers. The IOM report recommends that healthcare

organisations develop and maintain a culture in which patient safety plays a major role (IOM, 1999:4).

There is limited data on medical errors occurring in hospitals across Africa (Barrow, 2012:2). Nevertheless, as part of the initiative by the WHO to promote patient safety around the world, an African Partnership for Patient Safety (APPS) was established in 2009 (WHO, 2016:2). APPS has developed a tool to guide African countries with developing healthcare processes to improve patient safety using APPS situational analysis approach. The approach is focussed on 12 action areas (WHO, 2016:2), namely:

1. Patient safety health services and systems development
2. National patient safety policy
3. Knowledge and learning in patient safety
4. Patient safety awareness raising
5. Healthcare-associated infection
6. Health worker protection
7. Healthcare waste management
8. Safe surgical care
9. Medication safety
10. Patient safety partnerships
11. Patient safety funding
12. Patient safety surveillance and research.

The Namibian Constitution Article 95 Section E (Republic of Namibia, 1990:46) ensures healthcare provision by stipulating that “every citizen has a right to fair and reasonable access to public facilities and services in accordance with the law”. The Ministry of Health and Social Services (MoHSS), as the custodian of healthcare in Namibia, including both public and private healthcare sectors, established a quality assurance unit in 2003 (MoHSS, 2014:4). The quality assurance unit is mainly responsible for implementing patient safety initiatives by developing and disseminating national guidelines on clinical processes. According to the MoHSS (2014:16), the following national guidelines were developed and



implemented as recommended by WHO APPS; Infection prevention and control guidelines, which include the management of healthcare waste, management of occupational health and safety guidelines and management of operating theatres and central sterile service department guidelines.

Despite the implementation of those guidelines, cases of compromised patient safety are still reported in Namibian hospitals (MoHSS, 2014:4). The researcher could not find literature related to the assessment of factors influencing patient safety in the Namibian private healthcare settings.

### **1.3. RATIONALE**

The first step towards developing a patient safety culture is to assess the current system (Khater, Akhu-Zaheya, Al-Mahasneh & Khater, 2015:83). Mitchell (2008:3) believes that understanding the existing culture before attempting to transform it, is of utmost importance. Mitchell (2008:3) further asserts that since nurses are the primary caregivers to patients, patient safety is one of their most important tasks. Furthermore, nurses contribute to patient safety through their ability to integrate and coordinate different aspects of patient care in the healthcare setting. It is, therefore, crucial to understand nurses' perceptions of patient safety in an effort to address patient safety aspects.

The researcher, who used to work in a private hospital in Windhoek, identified the need to assess the perceptions of nurses working in a private hospital setting to determine what they perceive as factors that compromise patient safety. A study of this nature can be beneficial to the Namibian private and public healthcare settings by promoting staff awareness on patient safety, identifying areas requiring improvement in ensuring patient safety and evaluating the effectiveness of patient safety initiatives (Sorra *et al.*, 2016:2).

The literature review identified an evidence gap regarding nurses' perceptions on the factors that influenced patient safety culture in the Namibian private healthcare sector. It is against this background that the study was conducted to identify aspects that could improve patient safety from the nurses' perspective, consequently contributing to the body of knowledge on patient safety.

### **1.4. PROBLEM STATEMENT**

Although the WHO has stated that the cornerstone of safe practices is progressive measures towards achieving a patient safety culture in an organisation (WHO, 2005:9), less emphasis has been placed on assessing patient safety culture perceptions among

healthcare professionals. The problem is that no study has been conducted on assessing the nurses' perceptions on patient safety culture in Namibia. A scientific study could add value to the body of knowledge on patient safety in a Namibian setting.

### **1.5. RESEARCH QUESTION**

What are the perceptions of nurses on the factors that influence patient safety culture in a Namibian private healthcare setting?

### **1.6. RESEARCH AIM**

The aim of the study was to explore the perceptions of nurses on the factors that influence patient safety culture in the Namibian private healthcare setting.

### **1.7. RESEARCH OBJECTIVES**

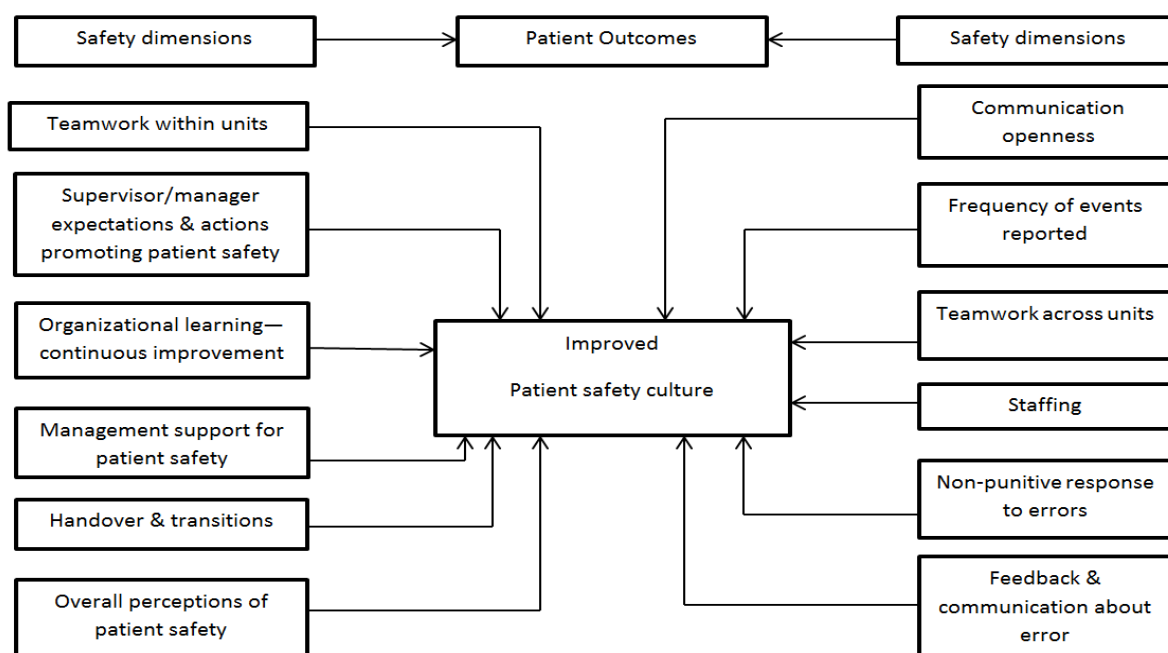
The objectives of this study were:

- To determine the nurses' perceptions on how:
  - Communication contributes to patient safety culture
  - Adverse event reporting and management contributes to patient safety culture
  - Organisational learning contributes to patient safety culture
  - Management support contributes to patient safety culture
  - Teamwork contributes to patient safety culture
- To identify factors that require improvement to strengthen patient safety culture.

### **1.8. CONCEPTUAL FRAMEWORK**

The study was guided by a framework developed and based on several factors that can influence patient safety culture in healthcare organisations. The hospital survey on patient safety culture was developed by AHRQ in 2004 to assess patient safety culture among healthcare professionals (Sorra & Dreyer, 2010:2). The 12 safety dimensions of the hospital survey on patient safety culture will form the basis of the conceptual framework of this study. To identify the 12 safety dimensions of the patient safety survey, the AHRQ team had to review literature on patient safety, hospital adverse events and quality related events, as well as conducting interviews with patient safety experts (Sorra *et al.*, 2016:1). The 12 safety dimensions are as follows; communication openness, feedback and communication about error, frequency of events reported, handoffs and transitions, management support for

patient safety, non-punitive response to error, organizational learning—continuous improvement, overall perceptions of patient safety, staffing, supervisor/manager expectations and actions promoting patient safety, teamwork across units and teamwork within units (Sorra *et al.*, 2016:4). The conceptual framework will be explained by way of Figure 1.1 below followed by with a detailed textual description.



**Figure 1.1: Schematic summary of the conceptual framework (Adapted from Sorra *et al.*, 2016:4)**

The safety framework provided guidance in highlighting how certain healthcare factors influence the patient safety culture as discussed below:

1. **Communication openness** refers to the nurses' ability to speak freely upon observing an action that might compromise patient safety, as well as being able to raise safety concerns with those in authority (Sorra *et al.*, 2016:3).
2. **Feedback and communication about error** refer to the extent to which hospital management informs nurses about patient safety-related incidences that have occurred and giving them an opportunity to contribute towards implementing preventive measures (Sorra *et al.*, 2016:3).
3. **Frequency of events reported** addresses the frequency of adverse and near-miss events reported by the nurses in the hospital (Sorra *et al.*, 2016:3).

4. **Handover and transitions** emphasises the importance of transferring information among nurses during shift changes and across various departments in the hospital (Sorra *et al.*, 2016:3).
5. **Management support for patient safety** focuses on the extent to which the hospital management promotes and prioritises patient safety initiatives (Sorra *et al.*, 2016:3).
6. **Non-punitive response to error** addresses the degree to which nurses feel the punitive response from management following a reported adverse event (Sorra *et al.*, 2016:3).
7. **Organisational learning through continuous improvement** emphasises the level to which patient safety-related incidents that have occurred lead to improvement initiatives in the healthcare processes (Sorra *et al.*, 2016:3).
8. **Overall perceptions of patient safety** focuses on the extent to which healthcare procedures and processes can effectively promote patient safety practices (Sorra *et al.*, 2016:3).
9. **Staffing** concentrates on ensuring that a sufficient number of nurses are available to meet the healthcare needs of patients and that the hours worked are appropriate to warrant safe and quality care to the patients (Sorra *et al.*, 2016:4).
10. **Supervisor/manager expectations and actions promoting patient safety** focuses on the degree to which supervisors/managers consider recommendations given by nurses on quality improvement initiatives (Sorra *et al.*, 2016:4).
11. **Teamwork across units** relates to the extent to which the hospital units coordinate and co-operate to provide safe and quality patient care (Sorra *et al.*, 2016:4).
12. **Teamwork within units** emphasises the ability of nurses in one department to work together as a team, with respect and support for each other (Sorra *et al.*, 2016:4).

## 1.9. RESEARCH METHODOLOGY

A research design is referred to as the outline for conducting a study (Burns & Grove, 2011:253). The research methodology is briefly described here and a detailed description is provided in Chapter 3.

### **1.9.1. Research design**

This research study was conducted using a quantitative descriptive case study design to explore factors which influence patient safety as perceived by nurses. Quantitative research was used to measure relationships between the patient safety culture and factors that influence it (Nykiel, 2007:55). A descriptive study design was used to explore and describe factors influencing patient safety culture as perceived by nurses. Case study design refers to the examination of a single unit, such as a nursing unit or an organisation that can include a few subjects, with a large number of variables being studied (Burns & Grove, 2011:233).

### **1.9.2. Study setting**

The study was conducted in a private hospital located in the Khomas region in Windhoek, the capital of Namibia. The 120-bed private hospital offers a broad spectrum of professional medical services including internal medicine, general surgery, orthopaedics, neurosurgery, maxillofacial surgery, obstetrics, gynaecology, urology, paediatrics, and pulmonology. The hospital comprises the following departments: emergency centre, medical ward, maternity ward, paediatric ward, surgical ward, intensive care unit, and operating theatre.

### **1.9.3. Population and sampling**

The target population included registered nurses, enrolled nurses, and enrolled nursing auxiliaries working at AZ Private Hospital. The study population (n=124) of nurses included registered nurses, enrolled nurses, and enrolled nursing auxiliaries.

The total sample size (n=112) included registered nurses (n=66), enrolled nurses (n=42), and enrolled nursing auxiliaries (n=4). The convenience sampling method was used to recruit participants that were available in the hospital at the time of conducting the study. The study included nurses employed on a full-time basis on both day and night duty, and excluded nurses who were on leave at the time of data collection.

### **1.9.4. Data collection tool**

The HSOPSC™ questionnaire (Appendix 5) used in the study was designed to assist hospitals in assessing the patient safety culture in their institutions (Sorra *et al.*, 2016:1). The self-administered questionnaire consists of 12 safety dimensions, with each safety dimension containing three or four items, totalling 42 items (Sorra *et al.*, 2016:3). The study questionnaire is discussed in detail in Chapter 3.

### **1.9.5. Pilot study**

A pilot study was conducted at AZ Private Hospital a week prior to the main study. The purpose of the pilot study was to identify areas of concern with the questionnaire prior to conducting the main study. The pilot study sample (n=11) included seven registered, three enrolled nurses, and one enrolled nurse auxiliary. Data from the pilot study was included in the main study findings as no modifications were done to the questionnaire after testing it.

### **1.9.6. Validity and reliability**

Previous studies conducted using the HSOPSC™ questionnaire have established the reliability and validity of the questionnaire. An average of Cronbach's alpha ( $\alpha \geq 0.70$ ) was established in most studies that have used the HSOPSC™ questionnaire (Hedsköld, Pukk-Härenstam, Berg, Lindh, Soop, Øvretveit & Sachs, 2013:5). Cronbach's alpha reliability coefficient ranges from 0 to 1.0 with a coefficient closer to 1.0 indicating greater reliability. The construct validity was tested by performing exploratory factor analysis (EFA), confirmatory factor analysis (CFA), standardised path coefficient (limit  $\geq 0.5$ ), and squared multiple correlations (ItemR2) (limit  $\geq 0.3$ ) (Hedsköld *et al.*, 2013:5). The study concluded that the items and dimensions included in the HSOPSC™ questionnaire are psychometrically sound and can be used for assessing patient safety culture. This indicated a reliable and valid data collection tool. The face validity and readability of the questionnaire was tested during the pilot study. Additionally, the statistician and the study supervisor were consulted to assess the validity of the questionnaire due to minor modifications that were done on the questionnaire.

### **1.9.7. Data collection**

The researcher was responsible for data collection, and provided assistance to participants requiring support with the completion of the questionnaire. Most importantly, the researcher was able to share with the participants the study information, as well as provide clear instructions on how the questionnaire had to be completed. Participants were provided with the questionnaire, participant information leaflet, and the declaration of consent. It took the participants 10 to 15 minutes to complete the questionnaires. The researcher will keep all the signed consent forms and questionnaires separately in a locked cabinet for five years for confidentiality purposes. The researcher assured the hospital that the research findings would be shared in a general report to improve the quality of care given to patients. More details on the data collection process are discussed in Chapter 3.

### **1.9.8. Data analysis**

Data collected was entered into the Microsoft Excel program and was randomly checked for accuracy and missing data. Data analysis was done with the assistance of a statistician using the Statistical Package for Social Sciences (SPSS) Version 23. Descriptive statistics analysis, such as percentage and frequency, was used to describe and summarise demographic variables.

## **1.10. ETHICAL CONSIDERATIONS**

The Health Research Ethics Committee of Stellenbosch University approved the study to be conducted; the ethics reference number is S17/04/085 (Appendix 1). Approval to conduct research at the private hospital was obtained from Namibia's Ministry of Health and Social Services, as required in the country (Appendix 2). Approval was also obtained from the AZ Private Hospital head office (Appendix 3). The researcher protected the participants' human rights by applying the following ethical principles: self-determination, confidentiality and anonymity, protection from discomfort and harm, and informed written consent (Burns & Grove, 2011:110). The researcher was guided by the ethical principles and some of the ethical benchmarks as discussed below.

### **1.10.1. Right to self-determination**

The principle of self-determination refers to respecting human beings to make their own informed decisions (Burns & Grove, 2011:110). Participants were provided with information about the study by the researcher. Written and oral information included the aim of the study and how the study will be conducted. Respect for recruited participants included informing participants of their right to withdraw from the study (Emanuel, Wendler, Killen & Grady, 2004:930). The participants were informed that participating in the study was a voluntary process. Therefore, there would be no penalties if they chose to withdraw from the study at any time. Community participation principles were ensured through the benchmark of respecting the nursing community's values, culture, and social practices (Emanuel *et al.*, 2004: 932). Importantly, all these actions ensured that the participants' right to self-determination were respected.

### **1.10.2. Right to confidentiality and anonymity**

According to the Declaration of Helsinki (World Medical Association, 2013:5), the researcher must protect the participants' privacy and keep their personal information confidential. Burns and Grove (2011:544) define privacy as autonomy over the extent, timing, and

circumstances on how personal information would be shared with others. The researcher respected the participants' right to privacy by not requiring the participants' names on the questionnaires.

Confidentiality is treatment of information in a manner in which only the researcher would be able to connect the information to the participants (Burns & Grove, 2011:535). Supporting this definition is the ethical principle of respect for recruited participants and study communities that requires the researcher to develop and implement research processes that ensure participants' confidentiality is protected (Emanuel *et al.*, 2004:932). The researcher ensured confidentiality by not linking the data provided to the individual participants. Anonymity was ensured by not revealing the participants' names in the findings (Burns & Grove, 2011:532).

### **1.10.3. Right to protection from discomfort and harm**

The principle of beneficence refers to the protections of individuals from physical, social, economic or emotional harm and discomfort (Burns & Grove, 2011:118). The researcher ensured that the participants were comfortable at the time of collecting data by providing assurance that the hospital management had approved the study. Counselling was made available through the wellness clinic (occupation health clinic) where the need arose. The social value ethical principle was met through sharing the research findings with the hospital management to improve patient safety practices in the hospital (Emanuel *et al.*, 2004:932).

### **1.10.4. Informed written consent**

Informed consent refers to the provision of extensive information to prospective participants in a study before they consent to take part (Burns & Grove, 2011:122). The participants were given the study information leaflets and declaration of consent forms (Appendix 4) to complete. The declaration of consent forms were signed by the participants upon agreeing to participate in the study. Participants were reminded about their right to withdraw from the study at any time (Emanuel *et al.*, 2004:932).

## **1.11. OPERATIONAL DEFINITIONS/DEFINITIONS**

**Nurse** refers to a person registered or enrolled as a nurse under the Namibian Nursing Professions Act 30 of 1993 Section 13 (Republic of Namibia, 1993:5-7) to practice as a registered or enrolled nurse. For the purpose of this study, the term nurse includes both registered nurses, enrolled nurses, and enrolled nursing auxiliaries.



**Patient safety culture** is “an outcome of the individual and group's values, attitudes, perceptions, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety management” (Sorra *et al.*, 2016:1).

**Patient safety** is defined as prevention and minimisation of undesirable outcomes for patients resulting from healthcare process and systems (Vincent, 2010:140).

**Adverse event** is defined as an unexpected, undesirable or unsafe occurrence in a healthcare facility, which occurs due to system breakdown (Joint Commission International, 2010:2).

**Perception** refers to meaning and interpretation of the environment by individuals through their sensory impressions (Agarwal, 2009:1).

**Medical error** is defined “as the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim” (IOM, 2009:1).

## 1.12. DURATION OF THE STUDY

The Health Research Ethics Committee of Stellenbosch University approved the study on 16 May 2017. The Ministry of Health and Social Services gave permission on 20 July 2017, while the private hospital approved the study on 21 July 2017. Data collection took place as from 12 August 2017 to 25 August 2017. Data analysis was conducted from September to October 2017. The final thesis was submitted on 31 November 2017 for examination.

## 1.13. CHAPTER OUTLINE

**Chapter 1:** Foundation of the study including the introduction, background, rationale, research objectives, conceptual framework, brief discussion of the research methodology, and ethical considerations.

**Chapter 2:** Literature review on patient safety culture as a concept, assessment of patient safety culture, and the five key components of patient safety culture.

**Chapter 3:** Detailed discussion of the research methodology.

**Chapter 4:** Data analysis and results.

**Chapter 5:** Discussion of the results, conclusions, recommendations, and study limitations.

#### **1.14. SIGNIFICANCE OF THE STUDY**

Assessing a safety culture can provide valuable information to hospital managers and policy makers on patient safety issues that require attention. Patient safety culture assessment can assist healthcare organisations with measuring the patient safety culture baseline and track improvement over time, and increase awareness on patient safety culture (Nieva & Sorra, 2016:19). Factors identified in the study as having an impact on patient safety culture can thus be used to improve the quality of healthcare patients receive.

Although only one private hospital was used in the study, the data can be used in other similar environments to address patient safety concerns. The study might also serve to motivate other hospitals in Namibia to assess the safety culture among healthcare professionals to improve the quality of care rendered. Additionally, the study findings would form the basis for further research and could add to the body of knowledge in the patient safety field.

#### **1.15. SUMMARY**

The study research aim and objectives focus on the perceptions of nurses on factors that compromise patient safety culture. The study was guided by the safety dimensions conceptual framework, which focused on identifying the factors that contribute to the patient safety culture. The research methodology described the steps followed in conducting the study. A quantitative descriptive case study design was employed using the AHRQ Hospital Survey on Patient Safety Culture questionnaire. Data analysis was done using exploratory statistical data analysis and descriptive data analysis with the assistance of a statistician. Consequently, the researcher answered the research questions using the findings from the study. Chapter 2 reviews literature on patient safety culture, highlighting key components identified to have a significant impact on patient safety culture.

#### **1.16. CONCLUSION**

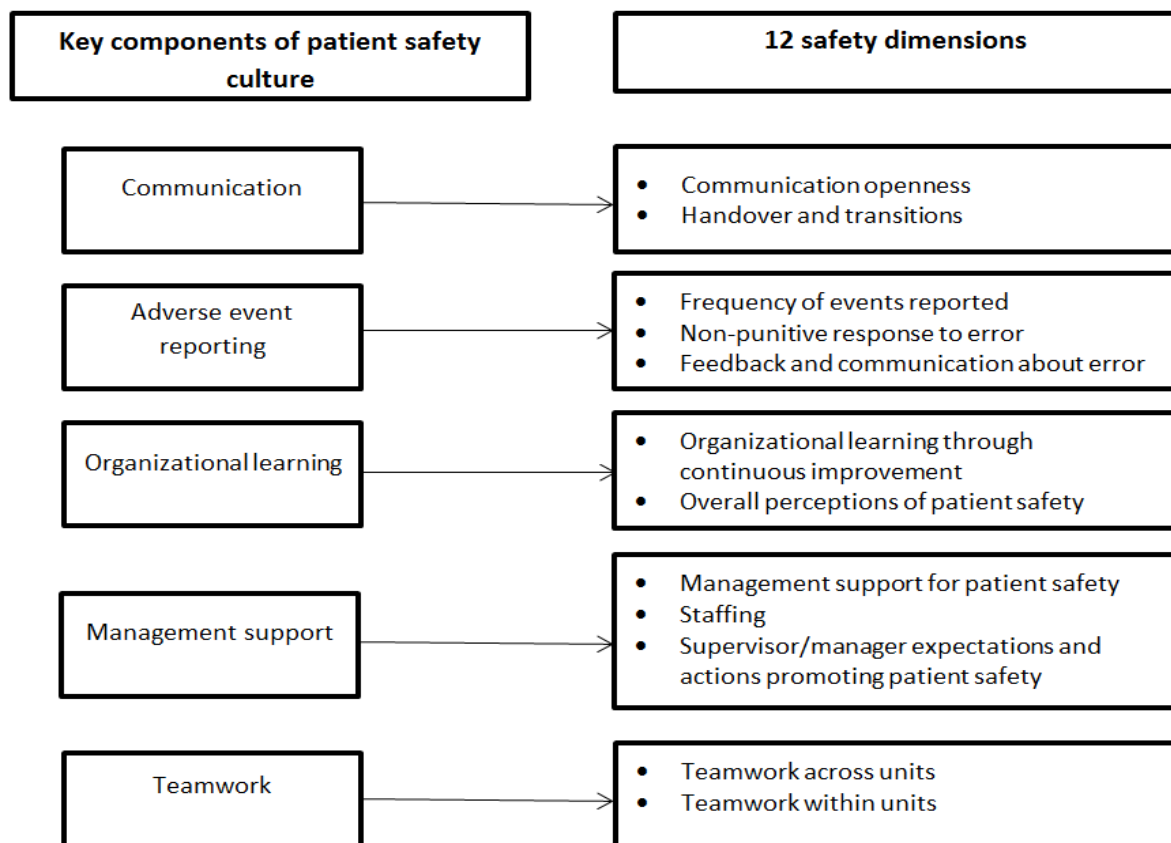
In conclusion, patient safety culture is significant in the provision of healthcare services. Nurses play a major role in healthcare provision and have the responsibility to ensure patient safety. Assessing patient safety culture among nurses helps to identify factors, which influence patient safety. Consequently, this research contributes towards ensuring patient safety.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1. INTRODUCTION

The background to patient safety culture and patient safety, as well as the rationale of this study were discussed in the previous chapter. This chapter reviews literature on the concept of patient safety culture, assessed patient safety culture, and the patient safety dimensions and their influence on the patient safety culture. Discussed in the literature review are the patient safety culture concept, assessment of patient safety culture and the five key components that significantly impact patient safety culture. The five key components are 1) communication, 2) adverse event reporting, 2) organisational learning, 3) management support, and 4) teamwork (Halligan, 2011:8). Figure 2.1 shows how the key components are linked to the 12 safety dimensions during the literature review discussion.



**Figure 2.1: Summarised linkage of key components to the 12 safety dimensions (Adapted from Sorra *et al.*, 2016:4)**

## 2.2. ELECTING AND REVIEWING LITERATURE

The researcher started the literature review process in February 2016 using CINAHL, MEDLINE, Google Scholar, and PubMed databases. The literature review includes mostly studies that have used the HSOPSC™ questionnaire. The search included the following key words: patient safety culture, hospital survey on patient safety culture, nurses, and perceptions.

## 2.3. CONCEPT OF PATIENT SAFETY CULTURE

The concept of safety culture emerged from the high-reliability, error-critical industries such as aviation and nuclear power industries (Sorra & Dreyer, 2010:1). The establishment of a culture of safety in high-reliability organisations has been found to be a key element in ensuring consumer safety. According to Suliman (2015:9), the concept of patient safety culture gained momentum in the healthcare industry following the IOM report *To Err is Human: Building a Safer Health System*. The IOM report recommends that healthcare organisations develop a patient safety culture among healthcare providers to minimise the occurrence of preventable injuries during patient care (IOM, 1999:4). Healthcare organisations have started strengthening patient safety by creating and maintaining a positive patient safety culture (Chen & Li, 2010:1). Thus, the concept of patient safety culture is fundamental in improving patient safety and provision of quality healthcare (Sorra & Dreyer, 2010:1).

According to Sorra and Dreyer (2010:1), the concept of patient safety culture includes improving staff values, beliefs, perceptions and norms towards provision of safe healthcare, as well promoting behaviour and attitudes that demonstrate commitment towards achieving a safety culture. Furthermore, Aboshaiqah and Baker (2013:115) stated that most patient safety culture definitions include:

1. Common beliefs shared among organisational members
2. Concerns with formal health and safety management systems in an organisation
3. An emphasis on participation of all members of an organisation
4. Compromises in members' attitudes and behaviour at work
5. Reflections on the association between the organisation's reward systems and safety performance, and

6. An organisation's willingness to learn from adverse events that impact safety culture.

## 2.4. ASSESSMENT OF PATIENT SAFETY CULTURE

According to Suliman (2015:16), following the publication of the IOM report *To Err is Human: Building a Safer Health System*, many healthcare organisations around the world assessed patient safety culture. Healthcare organisations can improve patient safety culture by assessing the current patient safety culture, thereafter identifying and addressing areas that need improvement in the healthcare processes (Sorra & Dreyer, 2010:3). A review by Halligan (2011:7) on the concepts, dimensions, and measures in healthcare safety culture noted that different tools are used by healthcare organisations to assess the patient safety culture. Halligan (2011:7) listed the different tools used in healthcare organisations as follows: patient safety culture in healthcare organisations surveys, safety attitudes questionnaires, hospital surveys on patient safety culture, and safety climate scales. Additionally, Halligan (2011:11) identified steps healthcare organisations can follow to improve patient safety culture, which are to 1) conduct a baseline patient safety culture assessment, 2) educate staff on the patient safety initiatives, 3) identify patient safety-related concerns, 4) strengthen leadership support on safety issues, 5) learn from adverse events that have occurred, and 6) reassess the patient safety culture.

Barrow (2012:6) stated that establishing a patient safety culture might be challenging for healthcare organisations, as it requires behavioural change by every member of the multi-disciplinary team. Nonetheless, Barrow (2012:7) highlights that healthcare organisations that have managed to improve staff behaviour, attitudes and perceptions towards patient safety, are known to provide effective quality healthcare. Consequently, these organisations are characterised by a positive patient safety culture. A positive patient safety culture in healthcare organisations requires nurses to prioritise patient safety during the provision of healthcare (Barrow, 2012:7).

Nurses play an important role in ensuring patient safety (Mwachofi & Walston, 2011:274). Furthermore, there is relationship between the nurses' working environment and their ability to provide safe and quality nursing care. Issues such as work overload, nursing shortage/staffing and physical environment have an impact on how patient safety is perceived by the nurses (Mwachofi & Walston, 2011:275). Considering nurses' critical role in healthcare provision, healthcare organisations should prioritise assessing the nurses' patient safety perceptions and the factors that influence their views (Mwachofi & Walston, 2011:275). Moreover, assessing patient safety culture assists health administrators to

identify areas of strength, as well as areas requiring improvement within their organisations, in order to promote patient safety culture (Suliman, 2015:16).

In Namibia, the MoHSS conducted a healthcare quality management assessment across 34 public hospitals, two private hospitals and five health centres among 543 participants, which comprised nurses, doctors, patients, and community members. The assessment was aimed at measuring the quality of healthcare services provided in facilities across the country, as well as to make recommendations on how to create and maintain a culture of quality and safe healthcare provision. The study found that most healthcare facilities do not have quality management systems and processes in place, which negatively affect the patients' outcomes. Furthermore, the assessment report recommended the strengthening of quality management policies and strategies of implementation, as well as development of quality indicators to assist with monitoring of performance at healthcare facilities (MoHSS, 2014:2). Although the study was not focussed on the perceptions of staff, but rather on the healthcare quality structures and systems in place, it identified areas requiring attention in order to ensure safe and quality care in Namibia.

## **2.5. KEY COMPONENTS OF THE PATIENT SAFETY CULTURE**

Halligan (2011:8) stated that, although different tools measured different key components of patient safety culture, the following components were included in most of the tools: 1) communication, 2) adverse event reporting, 3) organisational learning, 4) management support, and 5) teamwork. The five key components have a significant impact on patient safety and are discussed under the relevant headings as illustrated in Figure 2.1.

This literature review includes studies that have used the HSOPSC™ questionnaire. It is important to note that the AHRQ guidelines on the use of the HSOPSC™ questionnaire stipulate that only positive responses are to be included in the analysis (Sorra *et al.*, 2016:30). The two highest scores – strongly agree (5) and agree (4) or most of the time (4) and always (5) – are considered to be positive responses. A positive response rate of 70% and above indicates a perceived area of strength for the hospital, while a rate between 70% and 50% indicates a perceived area requiring improvement. A response rate below 50% indicates a perceived area of weakness (Suliman, 2015:55).

### **2.5.1. Communication**

Aboshaiqah (2013:2) conducted a cross-sectional descriptive study in Saudi Arabia by doing a baseline assessment of 300 registered nurses' perceptions on the factors contributing to patient safety culture. Aboshaiqah (2013:52) stated that communication plays a major role in

ensuring patient safety. Moreover, provision of quality and safe healthcare requires effective communication across disciplines. Communication breakdown in healthcare settings can be attributed to various factors such as high work load, staff shortages, and poor shift handover reports. The study recommended that improving communication could be achieved through strengthening communication between hospital management and staff as well as developing processes to effectively transfer information between personnel. Two safety dimensions related to communication, that is 1) communication openness and 2) handover and transmission, are discussed below.

### **2.5.1.1. Communication openness**

Sorra *et al.* (2016:3) define communication openness as the nurses' ability to speak freely upon observing an action that might compromise patient safety as well as the ability to raise safety concerns with those in authority. Okuyama, Wagner and Bijnen (6:2014) conducted a literature review focused on the factors that influence speaking up for patient safety by hospital-based healthcare professionals. The study identified several factors that have an influence on the ability of staff to speak freely. The factors are years of experience, perceived fear of management, sense of responsibility towards the patients, perceived lack of knowledge, and perceived negative response from the addressed person. The study recommended strengthening of communication openness by creating a comfortable working environment for staff, patient support from hospital management, and strengthening interdisciplinary policy-making.

Nordin (2015:28) conducted a cross-sectional study in Sweden assessing the perceptions of 3 713 hospital managers, doctors and nurses in three Swedish hospitals. The study findings revealed that communication openness, teamwork within units, and feedback and communication error scored the highest positive responses in the hospitals. The results are indicative of positive perception towards teamwork and communication related to the management of adverse events. The study emphasised that creating and maintaining an open communication culture requires interventions involving healthcare providers and patients. Such discussions can increase patient safety awareness and improve communication between nurses, doctors and patients to freely communicate patient safety concerns (Nordin, 2015:54).

On the contrary, a study by Suliman (2015:72) aimed to identify 136 nurses' perceptions on the main determinants of patient safety culture in five public hospitals in Jordan. The study findings indicated that communication openness scored an average positive response of 38%, which demonstrated that nurses felt they could not freely discuss patient safety-related

concerns with their seniors (Suliman, 2015:73). Furthermore, Jordanian nurses attributed poor communication openness to the blaming culture in the hospital (Suliman, 2013:73).

In the African setting, Barrow (2012:54) conducted a study to measure patient safety culture among 221 participants. Participants included doctors, nurses, pharmacist assistants, and laboratory assistants in three Gambian public hospitals. The study confirmed the hypothesis that communication openness has a significant association with patient safety culture in Gambian hospitals. Communication openness scored an average positive response of 45% among the three hospitals in that study. The Gambian staff indicated that they could not question those in authority regarding patient safety. Barrow (2012:54) suggests that the Gambian ministry of health consider the following in order to improve communication openness: 1) create and promote an environment where staff can freely report adverse events, 2) develop a non-punitive response to error culture to improve adverse event reporting, and 3) train staff on adverse and near-miss event management. Barrow (2012:9) indicates that the provision of safe and quality healthcare can be compromised by communication and emphasises the importance of healthcare organisations removing communication hindrance such as shaming and blaming.

Similarly, a study conducted by Kamati (2014:48) in a Namibia hospital to assess factors influencing work performance among 48 registered nurses focussed on the following variables: training, staffing, availability of resources, remuneration, management support, and work environment. The study found that 77% of Namibian nurses experienced poor communication between nurses and hospital management due to the lack of involvement in decision making on healthcare service delivery. The study recommended that hospital management strengthen communication with nurses by involving them in decision making, especially on issues affecting quality of healthcare provision (Kamati, 2014:60). Although the study was limited by the small size of the study sample, it highlighted the need for more research on factors influencing the provision of safe and quality healthcare services in Namibia.

#### **2.5.1.2. Handover and transition**

This dimension emphasises the importance of transferring information among nurses during shift changes and across various departments in the hospital (Sorra *et al.*, 2016:3). This dimension includes four items that determine if 1) information gets lost when patients are transferred between departments, 2) patient care information is lost during change of shifts, 3) concerns often arise during exchange of information between hospital departments, and 4) shift changes result in patient safety being compromised (Suliman, 2015:56).



Lee, Phan, Dorman, Weaver and Pronovost (2016:1) conducted a study using hierarchical multiple linear regression on 2010 HSOPSC™ data from four hospitals in the US. The study was aimed at analysing how different elements of patient safety culture are associated with clinical handover and perceptions of patient safety. The study defined handover as an exchange of professional accountability and responsibility of patient healthcare information by nurses at the end of their shifts to ensure continuity and quality of care. Lee *et al.* (2016:2) stated that handovers are influenced by how information is exchanged, individual behaviours during handover and organisational processes in place. The study revealed that effective teamwork and a strong reporting culture might promote positive perceptions on handover and transition. However, this will require nurses to ensure dedicated space and time during handover to verify that the receiving nurses have understood all the information shared. Lee *et al.* (2016:7) provided strategies to improve handover by strengthening teamwork within and across hospital units, standardised handover process and ensuring that staff are provided with training on those processes.

Chen and Li (2010:6) conducted a study in 42 hospitals in Taiwan to assess patient safety culture among 788 staff, which included physicians, nurses, and non-clinical staff. The handover and transition dimension scored an average positive response of 48%. The staff felt that hospital management is not doing enough to ensure patient safety during handover, as adverse events often occur during the exchange of information. Unhindered handover and transition will improve patient safety in the hospital (Chen & Li, 2010:6).

A patient safety study was conducted by Richter (2013:13) in the US in 1 052 hospitals, involving 515 637 participants, among them physicians, physician assistants, nurses, and medical assistants. The study aimed to determine which seven safety dimensions (teamwork across units, management support, organisational learning, staffing, teamwork within units, supervisor support, and communication openness) were perceived to be strongly associated with successful patient handover. Richter (2013:55) reveals that many hospital staff perceived that safety dimensions are associated with successful hospital handover. However, the strongest association was with teamwork across units, compared to other safety dimensions ( $\beta$ : 0.83, 95% CI: 0.77-0.89). Richter (2013:65) concluded that hospitals aiming to improve the processes of patient handover should consider strengthening the safety dimension of teamwork across units, as it is found to have significant impact on handover. The study also concluded that improvement in teamwork across units requires facilitation by the hospital manager as it involves different departments, and that different methods can be applied such as interdisciplinary rounds and focus groups to detect areas of concern in the teams (Richter, 2013:65).

## 2.5.2. Adverse events reporting

The WHO (2005:14) emphasises that the main objective of adverse event reporting is to learn from errors. Importantly, reporting an adverse event does not improve patient safety; it is the management of the adverse event reported that leads to change (WHO, 2005:14). Although emphasis was placed on learning from adverse events in healthcare organisations, staff were not informed about adverse events that had occurred nor what had been learnt from the occurrence, the WHO study reveals. As a consequence, preventable errors continued to harm patients (WHO, 2005:7). WHO (2005:14) urges healthcare organisations to carry out root-cause analysis to identify underlying system failure and lead efforts to redesign the systems and processes to prevent reoccurrence of events.

The WHO (2005:10) asserts that effective adverse event management should include standardised processes for reporting, analysing, learning and sharing of best practices resulting from reported events. The three safety dimensions related to adverse event management are 1) frequency of adverse event reported, 2) non-punitive response to error, and 3) feedback and communication error. These are discussed below.

### 2.5.2.1. Frequency of adverse event reported

This dimension addresses the frequency of adverse and near-miss events reported by the nurses in the hospital (Sorra *et al.*, 2016:3). This dimension assesses the following: 1) how often near-miss events are reported, 2) how often adverse events that have no potential to harm patients are reported, and 3) how often adverse events that can result in patient harm, but did not, are reported (Suliman, 2015:53).

A retrospective review of medical records was conducted in eight countries: Egypt, Jordan, Kenya, Morocco, Tunisia, Sudan, South Africa and Yemen. The review aimed at assessing the frequency of adverse events in developing countries (Wilson, Michel, Olsen, Gibberd, Vincent, El-Assady, Rasslan, Qsous, Macharia, Sahel, Whittaker, Abdo-Ali, Letaief, Ahmed, Abdellatif & Larizgoitia, 2012:2). The review included 15 548 medical records, which were randomly selected from 26 hospitals. The study found that events reported were at an average rate of 8.2% among the eight countries, ranging from 2.5% to 18.4%. According to Wilson *et al.* (2012:5), similar findings of adverse event reporting rates of about 10% were reported in other studies using the same method. Furthermore, 83% of the adverse events identified could have been prevented: 34% of adverse events resulted from medical related errors and 30% of the adverse events resulted in patient death (Wilson *et al.*, 2012:3). The study concluded that lack of staff skills and knowledge as well as lack of standardised

healthcare processes to ensure provision of quality and safe healthcare contributed greatly to adverse events (Wilson *et al.*, 2012:3).

In an analysis to determine which nine safety dimensions<sup>1</sup> are perceived to be strongly associated with a high frequency of error reporting, Richter (2013:13) established that management support for safety, error feedback, and organisational learning had a strong association to error reporting. Specifically, feedback on error reports was found to have the strongest association with error reporting (Richter, 2013:23). The study recommended that hospital management should provide staff with feedback on error as soon as possible, and strengthen staff involvement identifying possible solutions to prevent re-occurrence. Increasing the frequency of adverse event reporting provide the hospitals with opportunities to learn from the errors, and to identify changes required in healthcare processes, thus improving patient health outcomes (Richter, 2013:12).

Barrow (2012:27) established that the frequency of adverse event reporting scored the lowest average positive response of 29% among the three hospitals. This indicates that most staff are not reporting adverse events resulting in many adverse events not being addressed and learnt from. This confirmed the study hypothesis that frequency of adverse event reporting has a positive correlation with patient safety culture (Barrow, 2012:44). Reporting of adverse events creates a platform for staff to share experiences as well as learn from them, thereby promoting a culture of learning (Barrow, 2012:52).

#### **2.5.2.2. Non-punitive response to error**

This dimension addresses the degree to which nurses feel the punitive response from management following an adverse event reported (Sorra *et al.*, 2016:3). There are three items measured in this dimension: 1) staff perceive that mistakes are held against them, 2) when an error is reported, staff feel as if they are being reported, and 3) staff worry that adverse event reports are kept in their staff file (Suliman, 2015:53).

Bowman, Neeman and Sehgal (2013:1) assessed the perceptions of 170 fourth-year medical students at three hospitals in the US. The aim of the study was to identify areas requiring improvement in patient safety-related training of students. Although this study only included medical students, its findings will add value to the Namibian setting as nursing and medical students are trained at various Namibian hospitals. The study revealed 56% of the

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<sup>1</sup> 1) Supervisor support for safety, 2) non-punitive response to error, 3) feedback and communication about error, 4) communication openness, 5) teamwork within units, 6) teamwork across units, 7) staffing, 8) organisational learning, and 9) management support.

students perceived that they will not speak up if they witness an event that might result in patient harm. Similarly, 55% of the students indicated that they will not question issues related to patient harm. Bowman, Neeman and Sehgal (2013:5) identified barriers to students engaging in patient safety initiatives as poor communication and punitive response to errors. Additionally, the students' low position of power in the hospitals contributed greatly to poor communication. The study recommended strategies such as role modelling by residents to promote open communication and additional training on patient safety related issues.

A total of 309 participants (doctors and nurses) in three public hospitals completed a survey that assessed perception of patient safety culture in Turkey (Bodur & Filiz, 2010:1). The study was aimed at determining the validity and reliability of the translated HSOPSC™ questionnaire and to evaluate doctors' and nurses' perceptions of patient safety in Turkish public hospitals. Non-punitive responses to errors scored the lowest average score among all other safety dimensions in Turkey. Turkish staff perceived that hospital management punished them for reporting adverse events that had occurred (Bodur & Filiz, 2010:1). Richter (2013:12) emphasises that the presence of a punitive reporting system, fear of hospital management and high workload have been strongly associated with low reporting of adverse events.

Yilmaz and Goris (2015:597) conducted a study determining patient safety culture among 316 Intensive Care Unit (ICU) nurses in three hospitals in Turkey. The purpose of the study was to assess nurses' knowledge and practices related to patient safety. The study findings indicated that most of the Turkish nurses perceived the presence of punitive response to error, including a shame and blame culture. According to Varkey (2010:59), punitive culture in a hospital is likely to influence the frequency of adverse events reported, which might result in under reporting of actual adverse events. Consequently, this makes it difficult for hospital management to implement appropriate preventive measures. Additionally, hospitals that have improved on patient safety measures are likely to have an increased number of adverse events reported (Varkey, 2010:59).

### **2.5.2.3. Feedback and communication error**

Sorra *et al.* (2016:3) define this dimension as the extent to which hospital management informs the nurses about the patient safety-related incidences that have occurred and give them an opportunity to contribute towards implementing preventive measures. Importantly, hospital management should ensure that communication mechanisms are in place to provide feedback to staff on adverse events that have occurred and quality improvement

initiatives implemented to prevent re-occurrence (Aboshaiqah, 2010:53). Lack of feedback from hospital management on adverse events reported by nurses can contribute to poor adverse events reporting, as the necessity to report adverse events can become questionable (Barrow, 2012:9).

In the study by Suliman (2015:70), 49% of the Jordanian nurses included indicated that they received feedback on interventions implemented after adverse events had occurred. This indicates the need to learn from adverse events, which can be achieved through regular meetings between nurses and nursing managers to discuss approaches to prevent or minimise re-occurrence (Suliman, 2015:70). A study conducted by Hamdan and Saleem (2013:170) to assess patient safety culture in Palestinian hospitals, found that 54% of the doctors and nurses felt little informed about adverse or near-miss events that had occurred in the hospital. Bodur and Filiz (2010:8), in a study on Turkish nurses' perceptions on patient safety culture, learnt that 62% of the participants believed that feedback and communication openness about errors does not take place in their hospitals. Studies have revealed the importance of feedback provision to staff, and their involvement in making changes to existing systems so as to avoid and minimise errors, as well as ensure staff accountability and sense of ownership towards patient safety initiatives (Ammouri, Tailakh, Muliira, Geethakrishnan & Al Kindi, 2015:108).

A study conducted by Sorra and Dreyer (2010:11) analysing the psychometric properties of the AHRQ hospital survey on patient safety culture on 331 US hospitals survey data, established a strong relationship between adverse events reporting and feedback and communication error. Their study findings highlight the importance of strengthening communication with staff on adverse events occurrence and the interventions implemented, as it can contribute to an increased number of adverse events reported by staff.

### **2.5.3. Organisational learning**

Aboshaiqah (2010:57) refers to organisational learning as the ability of an organisation to improve performance by learning from their experience as well as of others, through sharing of best practices. Continuous learning is a key component in patient safety culture in any organisation (Youngberg, 2013:414). To achieve continuous learning, Youngberg (2013:414) encourages the promotion of a learning culture and the introduction of performance improvement initiatives to advance care delivery, which would result in increased safety awareness among healthcare practitioners. The two safety dimensions related to organisational learning discussed below are organisational learning through quality improvement and overall perceptions to patient safety.

### 2.5.3.1. Organisational learning through quality improvement

Emphasis is placed on the level to which patient safety-related incidents that have occurred lead to improvement initiatives in the healthcare processes (Sorra *et al.*, 2016:3). This dimension assesses whether 1) healthcare organisations are actively implementing initiatives to improve patient safety, 2) adverse or near-miss events have led to positive change, and 3) changes implemented are evaluated for effectiveness (Suliman, 2015:51).

A cross-sectional descriptive study conducted in Saudi Arabia by Aboshaiqah (2010:109) found that organisational learning scored an overall positive score of 83%. Saudi Arabian nurses felt that hospitals were actively implementing improvement initiatives to ensure patient safety and that adverse events have led to positive change. Furthermore, the study by Aboshaiqah (2010:109) highlighted that a high score in organisational learning can be attributed to hospital management creating a learning environment as well as supporting the nurses' learning and development, thus increasing safety skills among nurses.

Suliman (2015:70) reports that Jordanian nurses scored positive response of 61% in organisational learning-continuous improvement. However, differences were observed among the three items assessed. Most nurses (70%) responded that they actively implemented activities to improve patient safety and 63% of the nurses felt changes are evaluated for effectiveness. However, only 40% of the nurses indicated that positive change results from adverse events reported. According to Suliman (2015:70), these findings indicated that Jordanian nurses put great effort into ensuring patient safety, however minimal effort was placed on learning from adverse events that have occurred. The study recommends that hospitals develop patient safety programmes to educate nurses, as the process of learning and continuous education is critical to creating, implementing and maintaining a patient safety culture (Suliman, 2015:71).

Contrasting results were found in the Namibian study on healthcare quality management assessment (MoHSS, 2014:21). Although this study did not assess the safety dimensions of the AHRQ, findings indicated that out of 208 healthcare workers who participated, only 38% indicated that they had received training in healthcare quality improvement approaches. Furthermore, healthcare workers expressed a concern with challenges in improving the standard of healthcare delivery due to lack of resources. The report recommended that MoHSS consider making sufficient financial, material and human resources available to ensure the provision of safe and quality healthcare services. Additionally, the report recommended that MoHSS strengthen capacity-building in quality improvement methodologies, which can result in positive patient outcomes (MoHSS, 2014:25).

lipinge, Hofnie, Van der Westhuizen and Pendukeni (2006:8) conducted a qualitative study on the perceptions of registered nurses, medical doctors, health inspectors and social workers about conditions of service in Namibia to identify factors that could improve healthcare service delivery. The study was conducted in 20 public and private healthcare facilities using focus group interviews. The study established that Namibian healthcare professionals felt that there is a shortage of competent staff due to a lack of learning opportunities, leading to poor quality healthcare service rendered (lipinge *et al.*, 2006:8). The study recommended the strengthening of continuous learning at healthcare facilities in order to improve healthcare service delivery (lipinge *et al.*, 2006:17).

### **2.5.3.2. Overall perceptions to patient safety**

This dimension focuses on the extent to which healthcare procedures and processes can effectively promote patient safety practices (Sorra *et al.*, 2016:3). The overall perceptions about patient safety are that: 1) patient safety is ensured at all times during the provision of healthcare services, 2) healthcare processes and systems are effectively preventing adverse events from occurring, 3) serious adverse events do not occur by coincidence, and 4) there are concerns with patient safety in the units (Suliman, 2015:52).

Ammouri *et al.* (2015:4) found that Oman nurses had a low perception on overall patient safety culture, scoring an average positive response of 50.7%. Most importantly, the study found that nurses in Oman perceived overall patient safety culture to be strongly associated with manager expectations and actions, feedback and communications about error, teamwork across hospital units, and handover and transition. The study results indicate the important role managers play in improving patient safety culture through the provision of feedback about error to staff and standardised handover processes within or across units.

A mixed method study was conducted by Wami, Demssie, Wassie and Ahmed (2016:2) to assess factors that influence patient safety culture among Ethiopians in four hospitals. The participants (n=637) included physicians, nurses, midwives, psychiatrist, pharmacy, laboratory staff, radiology staff, supervisors and hospital managers among four hospitals. The study found that overall patient safety culture scored an average positive response of 46.7%. The study reported that factors such as hours worked per week, staffing levels, teamwork with hospital communication and feedback about errors has a significant influence on patient safety culture in Ethiopian hospitals. The findings on overall patient safety indicated that the Ethiopian hospitals had a poor patient safety culture, which requires urgent improvement by addressing areas that scored the lowest in the assessment (Wami *et al.*, 2016:7).



## 2.5.4. Management support

Availing financial resources is one way hospital management could promote patient safety, as well as promote continuous education and policies. According to Vincent (2010:130), hospital management that places a high priority on patient safety avails more resources to instil a patient safety culture in the health institution. Additionally, hospital management support can focus on analysis of processes, implementation of improvement initiatives, and use of evidence-based practices to improve patient safety (Aboshaiqah, 2010:50). Effective communication, which is a key component in patient safety, can be achieved through a visible safety policy statement and provision of newsletters promoting safety topics by hospital management (Aboshaiqah, 2010:53). Three safety dimensions – management support for patient safety; staffing and supervisor/manager expectations; and actions promoting patient safety – are discussed below.

### 2.5.4.1. Management support for patient safety

The focus is placed on the extent to which the hospital management promotes and prioritises patient safety initiatives (Sorra *et al.*, 2016:3). The safety dimension on management support for patient safety assesses if hospital management 1) creates a positive working environment, 2) direct initiatives towards prioritising patient safety, and 3) are involved in patient safety only after an error has occurred (Suliman, 2015:52).

Sorra and Dreyer (2010:11) examined the psychometric properties of the HSOPSC™ survey among 331 US hospitals and found a strong correlation between overall perceptions of patient safety and management support for patient safety dimensions. The strong correlations highlight the important role of hospital management in attaining a patient safety culture. Healthcare professionals scored higher on overall perceptions of patient safety when they perceived strong management support for patient safety.

Bodur and Filiz (2010:9) as well as Hamdan and Saleem (2013:173) revealed average positive responses of 60% by doctors and nurses in Turkey and 63% by healthcare professionals in Palestine. The results indicate a perceived lack of management support as staff shortages that negatively impact patient safety were not addressed. Bodur and Filiz (2010:9) suggest that hospital management strengthens support for patient safety by providing sufficient resources required to improve patient safety. Furthermore, staff need to be educated about patient safety issues, encouraged to identify safety concerns as well give recommendations on improvement initiatives, while maintaining open communication. In



addition, Hamdan and Saleem (2013:173) emphasise that leadership commitment is the foundation to an effective patient safety programme.

Similarly, lipinge *et al.* (2006:8) reveal a perceived lack of management support among Namibian healthcare professionals in aspects of ensuring adequate staffing in healthcare facilities, leading to poor provision of quality and safe healthcare services. The study recommended that staffing be improved by reviewing the MoHSS staff establishment, strengthening communication from top management to ground level staff and involvement of healthcare professionals in patient healthcare decision-making (lipinge *et al.*, 2006:16).

#### **2.5.4.2. Staffing**

Sorra *et al.* (2016:4) explain that the staffing safety dimension concentrates on the availability of a sufficient number of nurses to meet the healthcare needs of patients and that the hours worked are appropriate to ensure safe and quality care to the patients. According to Suliman (2015:54), the staffing safety dimension focuses on assessing 1) the sufficient number of staff available to provide patient healthcare; 2) staff working overtime; 3) usage of agency staff, which may compromise patient care; and 4) staff performing too many patient care activities in a short period of time.

Khater *et al.* (2015:87) conducted a cross-sectional descriptive study among 658 registered nurses from 21 hospitals in Jordan. The staffing dimension was identified to be one of the areas requiring improvement, with an average positive score of 34%. The results indicate that Jordanian nurses perceived that they do not have adequate nurses to handle the workload in the hospitals. Khater *et al.* (2015:89) reveal that a heavy workload on nurses can result in decreased productivity and alertness, as well as high fatigue, subsequently leading to an increased number of adverse events occurring. It is, therefore, important for hospital management to create methods to improve staffing.

Similar results were found in a study by Ammouri *et al.* (2015:1) assessing the patient safety culture among 414 registered nurses working in four hospitals in Oman. The study revealed that Oman nurses perceived staff shortages in their hospitals, with an average positive score of 27% for the staffing dimension (Ammouri *et al.*, 2015:1). Although the staffing dimension was one of the lowest scoring dimensions, the researchers failed to discuss the results, as well as provide recommendations on how hospital management can improve on this area.

In Namibia, Kamati (2014:52) found that 87% of the Namibian registered nurses felt there was a shortage of nurses in the hospital resulting in an increased workload on nurses and consequently poor quality nursing care as well as compromised patient safety. Their study

recommends that nursing staff shortages be improved through offering nursing student internships at the hospital, as it would allow registered nurses to attend to critically ill patients while student nurses provide patients with basic care needs (Kamati, 2014:52).

#### **2.5.4.3. Supervisor/ manager expectations and actions promoting patient safety**

This dimension focuses on the degree to which supervisors/managers consider recommendations given by nurses on quality improvement initiatives (Sorra *et al.*, 2016:4). Suliman (2015:54) states that this dimension addresses the following: 1) whether supervisors recognise good work on patient safety; 2) whether supervisors consider staff ideas on patient safety; 3) whether supervisors encourage staff to take shortcuts when workload is high; and 4) whether supervisors ignore patient safety-related concerns.

Barrow (2012:41) reports that Gambian doctors, nurses, pharmacist assistants and laboratory assistants scored an average positive response of 74% to the supervisor/ manager expectations and actions promoting patient safety dimension. This was found to be an area of strength in the Gambian hospitals. The study emphasised the need for supervisors to engage staff on patient safety-related issues as it promotes a sense of ownership and accountability among staff towards ensuring that patient safety measures are implemented (Barrow, 2012:45).

Hamdan and Saleem (2013:173) reveal that Palestinian clinical and non-clinical staff perceived that supervisors were not doing enough to promote patient safety activities. The average positive score of 56% of this dimension indicates a lack of effective leadership and insufficient resources to strengthen a patient safety culture. Importantly, leadership support is crucial in developing, implementing and sustaining patient safety culture (Hamdan & Saleem, 2013:173).

Similarly, Saudi Arabian nurses scored this dimension positively at 49% (Aboshaiqah, 2010:118). The study highlighted that hospitals with strong patient safety cultures are characterised by supportive supervisors who provide feedback to staff on patient safety concerns. Furthermore, provision of feedback to staff can encourage staff to share ideas on initiatives to reduce actual and potential risk to patients (Aboshaiqah, 2010:118).

#### **2.5.5. Teamwork**

Communication and teamwork can influence nurses' perception of patient safety within a ward (Vincent, 2010:130). Kelly and Tazbir (2013:145) believe effective teamwork to improve

safe patient care includes the following: effective coordination of tasks within the units, promotion of open communication, mutual respect, and involvement of all in the decision-making process. The discussion below includes teamwork across units and teamwork within units.

#### **2.5.5.1. Teamwork across units**

Sorra *et al.* (2016:4) explained that teamwork across units refers to the extent to which the hospital units coordinate and co-operate to provide safe and quality patient care. Teamwork measures the following: 1) good cooperation among hospital units; 2) how well hospital units coordinate care; and 3) how well staff from different units work with each other (Suliman, 2015:54).

Khater *et al.* (2015:88) report that Jordanian nurses scored an average of 41% for the teamwork across units. The study results indicate that nurses found it difficult to work with nurses from other departments and there was poor coordination of activities among hospital units, which could result in patient harm. Interestingly, Jordanian nurses scored teamwork within the units an average positive response of 78.8%. This result indicates that Jordanian nurses supported and treated each other with respect within their own work units. The study emphasises that effective teamwork is one of the crucial components in ensuring patient safety. With a supportive and collaborative working environment, nurses are most likely to adhere to safety requirements (Khater *et al.*, 2015:88).

In Turkey, Bodur and Filiz (2010:8) report that nurses from the same unit found it easier to work with each other, but appeared to be unwilling to work with nurses from other units. The study findings revealed an average positive response of 40% for teamwork across units and an average response of 70% for teamwork within units. Bodur and Filiz (2010:8) recommended that hospital management encourage staff from different units to be supportive and respectful of each other, in order to build and maintain good working relationships.

#### **2.5.5.2. Teamwork within units**

Emphasis is placed on the ability of nurses in one department to work together as a team, with respect and support for each other (Sorra *et al.*, 2016:4). This dimension assesses the following: 1) if staff support each other in the unit, 2) if the team works together effectively, 3) if staff treat each other with respect, and 4) whether the team receive help from others when they are busy (Suliman, 2015:54).

Wami *et al.* (2016:1) report that Ethiopian nurses, doctors, dentists, and pharmacists scored an average positive response of 82% to teamwork within units, which is found to be an area of strength in these hospitals. Findings from the qualitative study reveal that the participants perceived improved teamwork and collaboration among different healthcare professionals as having positive patient healthcare outcomes (Wami *et al.*, 2016:8). Effective teamwork can reduce patient risk as team members are aware of each other's strengths and vulnerabilities in the work area. This makes it easier to detect error and prevent patient harm (Aboshaiqah, 2010:63).

Teamwork within units was found to be an area of strength in a study by Suliman (2015:69). Jordanian nurses scored an average positive response of 74% on this dimension. According to Suliman (2015:69), the result indicates that Jordanian nurses support each other and have a high sense of belonging. Moreover, effective teamwork is critical to ensure patient safety, as an individual nurse cannot maintain patient safety without assistance from others (Suliman, 2015:69).

## **2.6. SUMMARY**

This literature review chapter included discussions on the concept of patient safety, assessment of patient safety culture as well as the key components of patient safety culture: communication, event reporting and management, management support, organisational learning, and teamwork. The main discussion focussed on research studies that assessed the patient safety culture using the hospital survey of the patient safety culture questionnaire. The 12 safety dimensions were discussed under the relevant patient safety components. The next chapter describes the methodology used in this study.

## **2.7. CONCLUSION**

Assessing patient safety culture is the first step healthcare organisations need to take to identify priority areas they need to be address to improve the patient safety culture. According to literature, factors such as a punitive response to error and poor communication have a negative impact on patient safety. Additionally, literature reveals that many safety dimensions have positive or negative associations; thus, improving one dimension could strengthen the other.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1. INTRODUCTION**

The previous chapter reviewed literature on the concept and assessment of patient safety culture and the key components of patient safety culture. This chapter discusses the research process followed to determine the factors that influence patient safety culture in a Namibian private healthcare setting.

#### **3.2. AIM AND OBJECTIVES**

The aim of the study was to explore the perceptions of nurses on the factors that influence patient safety culture in the Namibian private healthcare sector.

The objectives of this study were:

- To determine the nurses' perceptions on how:
  - Communication contributes to patient safety culture
  - Adverse event reporting and management contribute to patient safety culture
  - Organisational learning contributes to patient safety culture
  - Management support contributes patient safety culture
  - Teamwork contributes to patient safety culture
- To identify factors that require improvement in terms of patient safety culture

#### **3.3. STUDY SETTING**

Namibia is situated in South-West Africa on the Atlantic coast and shares borders with South Africa, Botswana, Zimbabwe, Zambia and Angola. The study was conducted in a private hospital in the capital city of Namibia, Windhoek, which is located in the Khomas region. For anonymity and confidentiality purposes, the private hospital is referred to as AZ Private Hospital throughout the study. AZ Private Hospital is one of the five private hospitals in the Khomas region. The 120-bed private hospital offers professional medical services, which include general medicine and surgery, orthopaedics, neurosurgery, maxillofacial surgery,

obstetrics and gynaecology, urology, paediatrics, and pulmonology. The hospital comprises the following departments: medical ward, maternity ward, paediatric ward, surgical ward, intensive care unit, operating theatre, and emergency centre.

AZ Private Hospital has a nursing staff complement of 124 that includes registered nurses, enrolled nurses, and enrolled nursing auxiliaries. Registered nurses, also known as professional nurses, hold a four-year degree or diploma; enrolled nurses have a two-year certificate in nursing; while the enrolled nursing auxiliaries, also referred to as assistant nurses, have completed one year of training.

### **3.4. RESEARCH DESIGN**

The study used a quantitative descriptive case study design to identify factors that influence patient safety as perceived by nurses. Nykiel (2007:55) describes quantitative research as a systematic process used to measure relationships between variables. According to Burns and Grove (2011:256), a descriptive design can be used to identify problems in current practices as well as to validate practices. The descriptive study design allowed the researcher to identify areas of strength and weakness in the healthcare processes and systems, consequently enabling the researcher to provide feedback to the hospital management on areas to focus on when improving the safety culture. Case study design is defined as the examination of a single unit, which can be either a nursing unit or an organisation, including a few subjects, with a large number of variables being studied (Burns & Grove, 2011:233). Case study design allowed the researcher to conduct the study in one private hospital as a single unit (Burns & Grove, 2011:233). The HSOPSC™ questionnaire, specifically designed to assess perceptions of hospital staff on patient safety culture, was used (Sorra *et al.*, 2016:1).

### **3.5. POPULATION AND SAMPLING**

Population refers to a group of people who form the focus of the study, while the target population is the group of people who meet the requirements of the sampling criteria (Burns & Grove, 2011:290). For this study, the target population included registered nurses, enrolled nurses and enrolled nursing auxiliaries working at AZ Private Hospital. The total number of nurses at AZ Private Hospital is 124 (n=124), including registered nurses, enrolled nurses, and enrolled nurse auxiliaries.

The researcher engaged with a statistician to determine the required sample size. Burns and Grove (2011:548) define sampling as the process of selecting individuals to represent the total population being studied. However, for the purpose of this study, due to the size of the

target population, a convenience sampling method was employed, as advised by the statistician. All the nurses that were in the hospital at the time of conducting the study were invited to participate. The researcher handed out 118 questionnaires and 112 were returned, yielding a response rate of 94%. According to the statistician, 80% (n=99) of the target population was statistically viable for the study. Table 3.1 indicates the sample size (n=112) per nursing category.

**Table 3.1: Category and number of staff members**

| Category                   | Number |
|----------------------------|--------|
| Registered nurses          | 66     |
| Enrolled nurses            | 42     |
| Enrolled nurse auxiliaries | 4      |
| Total                      | 112    |

The recruitment procedure is discussed under Section 3.9.

### 3.5.1. Inclusion criteria

The study included all nurses employed on full-time basis on both day and night shifts.

### 3.5.2. Exclusion criteria

The study excluded nurses who were on leave at the time of data collection, as it was difficult for the researcher to reach them due to logistical constraints.

## 3.6. DATA COLLECTION TOOL

The AHRQ Surveys on Patient Safety Culture (SOPS™) program developed the Hospital Survey on Patient Safety Culture (HSOPSC™) in 2004 (Sorra & Dreyer, 2010:2). The questionnaire was developed to assess patient safety culture perceptions among healthcare professionals (Sorra et al., 2016:1). The HSOPSC™ questionnaire (Appendix 6) can be used to create awareness among hospital staff on patient safety, assess the safety culture, identify areas of strength and weakness in the system, identify concerning trends, and evaluate cultural beliefs on patient safety (Sorra et al., 2016:1).

Permission to use the questionnaire was obtained from the AHRQ (Appendix 6). Furthermore, the AHRQ recommends that modification can be made to the questionnaire, however only when necessary to suit the research setting (Sorra et al., 2016:8).

The HSOPSC™ questionnaire is divided into Section A to G classified as follows:

**Section A** consisted of six closed-ended questions containing background information pertaining to staff position, interaction with patients, period worked in the hospital and hours worked per week. The data collected was used to describe the population.

**Sections B to F** comprised questions measured on a five-point Likert scale. Section B had 18 questions that focussed on issues such as teamwork and workload.

**Section C** contained four questions on management support in as far as patient safety was concerned.

**Section D** contained six questions on communication issues, such as feedback on adverse events and staff freedom to speak about safety concerns.

**Section E** had three questions on the frequency of adverse events reported by staff.

**Section F** comprised 11 questions focusing on teamwork among units in the hospital, specifically looking at communication during patient handover.

**Section G** required the participants to indicate the number of events reported in the past 12 months.

**Section H** required the participants to provide an overall grade on patient safety in the unit.

With the developers' permission, and in consultation with the study supervisor, modifications were made to the questionnaire on staff position section, primary work areas section and to the sequence of the questionnaire. Staff positions which are non- nursing were removed from the background section. Departments which were reflecting on the questionnaire and are not in AZ private hospital were removed from the primary work area section. The background information was moved from the last section to Section A and patient safety grading was moved from Section E to Section H.

The term "handoffs" was replaced with "handovers", a term commonly used in Namibia. Handoff (as in the original questionnaire) referred to the transfer of vital information and responsibility of patient care from one nursing shift to the next shift as part of continuation of healthcare provision (Henly, 2015:276). These modifications were made to enhance the logical flow of the document for research purposes and to ensure that participants understood the terms used. The questionnaire was in English, the official language in



Namibia, as well as the mode of communication in the selected AZ Private Hospital. It took the participants approximately 10 to 15 minutes to complete the questionnaire.

According to Sorra *et al.* (2016:40-42) three or four survey items are grouped together to measure one safety dimension. Table 3.2 indicates how the survey items were grouped together to measure the 12 safety dimensions.

**Table 3.2: Safety dimensions and survey items (Adapted from Sorra *et al.*, 2016:40-42)**

| 12 Safety dimensions as included in the questionnaires                |          |                         |
|---|----------|-------------------------|
| Safety Dimension  | Sections | Questions/ survey items |
| 1. Teamwork within units  | B        | 1, 2, 3, 4 & 11         |
| 2. Supervisor/manager expectations & actions promoting patient safety | C        | 1, 2, 3 & 4             |
| 3. Organisational learning — continuous improvement                   | B        | 6, 9 & 13               |
| 4. Management support for patient safety                              | F        | 1, 8 & 9                |
| 5. Overall perceptions of patient safety                              | B        | 10, 15, 17 & 18         |
| 6. Feedback & communication about error                               | D        | 1, 3 & 5                |
| 7. Communication openness   | D        | 2, 4 & 6                |
| 8. Frequency of events reported                                       | E        | 1, 2 & 3                |
| 9. Teamwork across units  | F        | 2, 4, 6 & 10            |
| 10. Staffing  | B        | 2, 5, 7 & 14            |
| 11. Handover & transitions  | F        | 3, 5, 7 & 11            |
| 12. Non-punitive response to errors                                   | B        | 8, 12 & 16              |

Adapted from: Sorra *et al.*, (2016:40-42).

### 3.7. PILOT STUDY

The purpose of conducting the pilot study was to determine areas of concern with the questionnaire, which might have required modification prior to conducting the main study. The researcher conducted the pilot study on 4 August 2017. A purposive sampling method was used to select the pilot study samples to ensure proper representation of all three categories of nurses in the hospital. Sample size included 11 nurses: seven registered nurses, three enrolled nurses and one enrolled nurse auxiliary. All questionnaires handed to the 11 participants were returned, which indicated a 100% response rate.

Upon completion, the participants were encouraged to give feedback on the questionnaire in terms of language and any other information was welcomed. Overall, the participants' feedback was positive. No modification was required to the questionnaire after the pilot study was conducted. Prior to conducting the pilot study, the researcher modified the questionnaire by adding the enrolled nurse auxiliary to the nursing categories listed. As stated in Chapter 1, data collected from the pilot study was included in the main study.

### 3.8. VALIDITY AND RELIABILITY

The statistician and the study supervisor were consulted to assess the validity of the questionnaire and modifications were effected accordingly. The pilot study was conducted to identify possible errors with the questionnaire prior to commencing the main study. However no further modifications were necessary. Additionally, the questionnaire has been measured for the reliability and validity in previous studies that used the HSOPSC™ questionnaire (Hedsköld *et al.*, 2013:5).

#### 3.8.1. Validity

Burns and Grove (2011:552) define validity as the abstract construct accuracy reflected by a measuring instrument. Construct validity assesses the degree to which the instrument measures the theoretical construct it aims to measure (Burns & Grove, 2011:535). Hedsköld *et al.* (2013:5) tested the construct validity by using the CFA and EFA. The study found the HSOPSC™ survey's items and dimensions psychometrically sound to assess patient safety culture in a hospital.

#### 3.8.2. Reliability

Reliability refers to the degree to which the measuring instrument is consistent (Burns & Grove, 2011:546). Internal consistency is used to test the degree to which the construct is consistently measured by the items in the instrument (Burns & Grove, 2011:334). The internal consistencies of the items were measured using the Cronbach's alpha coefficient. Hedsköld *et al.*, (2013:5) stated that most of HSPSC studies established an average of Cronbach's alpha  $\geq 0.70$ . Furthermore, the Cronbach's alpha's acceptable levels of reliability for the safety dimensions are ( $\alpha \geq 0.6$ ).

### 3.9. DATA COLLECTION

Data were collected over a two-week period from 12 August 2017 to 25 August 2017. The researcher collected the data in person. This also enabled the researcher to be available for participants who needed assistance with completing the questionnaire.

The researcher sought permission from the nursing service manager to distribute the questionnaires in all the departments during the daily morning meetings. The completion of the questionnaires did not have an impact on patient healthcare provision, as the meetings were part of the daily routine in the clinical departments. The meetings were attended by nurses working night and day shifts, allowing the researcher to address nurses working on

both shifts. The researcher shared information about the survey and provided clear instructions on how the questionnaires were to be completed. The nursing staff were informed that completing the questionnaire was voluntary and responses would be kept confidential. The unit managers were excused after the information was shared; this ensured that participants were comfortable. The researcher had no affiliation to AZ Private Hospital; therefore, providing information about the survey did not have an impact on the participants' responses.

Once information had been given, the researcher distributed the questionnaires in unsealed envelopes to the nursing staff. Attached to the questionnaires were the participant information leaflets and the declarations of consent. It took the participants 10 to 15 minutes to complete the questionnaires. The researcher encouraged those willing to participate in the survey to complete the questionnaire after the information was shared, and was available to offer any assistance as needed. The participants, who were unable to complete the questionnaires during the meetings, were advised to complete the questionnaire at a time convenient to them. Additionally, participants were advised to use the same envelopes to return the completed questionnaires and the signed consent forms. The completed questionnaires and the signed consent forms were returned in drop boxes provided in all seven clinical departments.

The drop boxes were locked and the researcher kept the numbered keys. This helped reassure staff that no one from the hospital would have access to the completed surveys. This whole process took two weeks to cover all seven clinical departments in the hospital. The drop boxes were left at the hospital for another two weeks and thereafter collected from the hospital. The researcher grouped the questionnaires with declarations of consent by using numbers. The researcher would keep separately all the signed consent forms and questionnaires in a locked cabinet for 5 years. The researcher assured the participants that the research findings would be shared in a general report with the hospital to improve the quality of care given to the patients.

### **3.10. DATA ANALYSIS**

#### **3.10.1. Data preparation**

Data analysis was conducted with the assistance of a statistician. The completed questionnaires were arranged in chronological order. This step assisted in tracking the questionnaires when entering the data into the Microsoft Excel program. Upon entering all the data into Microsoft Excel, it was cross-checked for accuracy and missing data. The

Statistical Package for the Social Science (SPSS), Version 23 was used for data analysis as well as cleaning, checking and validation of the data. The data was cleaned and coded based on the codes in the questionnaire Likert scales (Pallant, 2010:3). Furthermore, descriptive were employed in the study (Pallant, 2010:3).

### **3.10.2. Descriptive statistics**

Descriptive statistics analysis was used to describe and summarise demographic variables and the 12 safety dimensions using percentages and frequencies (Burns & Grove, 2011:373). Tables and graphs were used to present and summarise the responses from questionnaires in Chapter 4.

### **3.11. SUMMARY**

This chapter included a detailed discussion on the research methodology. The discussion included the following topics: the aim and objective of the study, study design, population and sampling, data collection tool, data collection method, validity and reliability, and data analysis. The next chapter discusses the study findings.

## CHAPTER 4

### FINDINGS/RESULTS

#### 4.1. INTRODUCTION

Chapter 3 described the methodology used in the study and the findings are presented in this chapter. The study findings are presented using tables and graphs. The chapter is divided into three sections: Section A consists of demographic data; Section B comprises descriptive statistics of nurses' perceptions on the 12 safety dimensions; and Section C presents additional descriptive statistics on the perceptions of patient safety culture and biographical data.

#### 4.2. SECTION A: DEMOGRAPHIC DATA

The response rate was 95% (n=112), which includes registered nurses (59%, n=66), enrolled nurses (37%, n=42), and enrolled nursing auxiliaries (4%, n=4). The descriptive statistics were used to analyse the demographic data. The demographic data include the questions relating to the following: 1) the participant's position in the hospital; 2) direct interaction or contact with patients; 3) period worked in current profession; 4) period worked in the hospital; 5) period worked in the current hospital unit; 6) hours worked per week; and 7) primary work area in the hospital. Descriptive statistical analysis was used for this section.

##### 4.2.1. Staff position

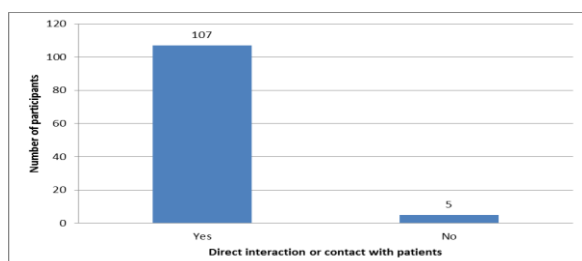
Most of the participants were registered nurses (58.9%, n=66), while 37.5% (n=47) were enrolled nurses and 3.6% (n=4) enrolled nurse auxiliaries (Table 4.1).

**Table 4.1: Staff positions**

| Participant's position in the hospital | Frequency  | Percentage  |
|--|------------|-------------|
| Registered nurses                      | 66         | 59%         |
| Enrolled nurses                        | 42         | 37%         |
| Enrolled nursing auxiliaries           | 4          | 4%          |
| <b>Total</b>                           | <b>112</b> | <b>100%</b> |

### 4.2.2. Direct interaction or contact with patients

Figure 4.1 shows that 96% (n=107) of the participants stated that they interacted directly with patients. The remaining 4% (n=4) of the participants indicated that they do not have direct contact with patients.



**Figure 4.1: Direct interaction or contact with patients**

### 4.2.3. Duration of working in current speciality or profession

Most of the nurses (43.8%, n=49) had worked in the current speciality for 1 to 5 years, while 22.3% (n=25) of the nurses had 6 to 10 years clinical experience. Those with more than 21 years' experience were 15.2% (n=17). The minority of the nurses (2.7%, n=3) have clinical experience of 16 to 20 years (Table 4.2).

**Table 4.2: Duration of working in current specialty or profession**

| Period           | Frequency  | Percentage  |
|------------------|------------|-------------|
| Less than 1 year | 7          | 6.3%        |
| 1 to 5 years     | 49         | 43.8%       |
| 6 to 10 years    | 25         | 22.3%       |
| 11 to 15 years   | 11         | 9.8%        |
| 16 to 20 years   | 3          | 2.7%        |
| 21 years or more | 17         | 15.2%       |
| <b>Total</b>     | <b>112</b> | <b>100%</b> |

#### 4.2.4. Duration of working in the hospital

Most nurses (48.2%, n=54) have been working at AZ Private Hospital between 1 to 5 years, followed by 17.0% (n=19) of the nurses with less than a year of work experience. Nurses that had worked at AZ Private Hospital for 6 to 10 years were 16.1% (n=18) while the rest of nurses (18.7%, n=21) had more than 11 years of work experience at AZ Private Hospital.

**Table 4.3: Duration of working in the hospital**

| Period           | Frequency  | Percentage  |
|------------------|------------|-------------|
| Less than 1 year | 19         | 17.0%       |
| 1 to 5 years     | 54         | 48.2%       |
| 6 to 10 years    | 18         | 16.1%       |
| 11 to 15 years   | 7          | 6.3%        |
| 16 to 20 years   | 7          | 6.3%        |
| 21 years or more | 7          | 6.3%        |
| <b>Total</b>     | <b>112</b> | <b>100%</b> |

#### 4.2.5. Duration of working in the current hospital work area/unit

The nurses who indicated that they have worked in the current hospital area/unit for 1 to 5 years were 49.1% (n=55). Nurses who have worked in their current unit for less than and those who had worked between 6 to 10 years were n=21 (18.8%). Nurses who have more than 21 years in their current departments were only n=49 (3.6%).

**Table 4.4: Duration of working in the current hospital work area/unit**

| Period           | Frequency  | Percentage  |
|------------------|------------|-------------|
| Less than 1 year | 21         | 18.8%       |
| 1 to 5 years     | 55         | 49.1%       |
| 6 to 10 years    | 21         | 18.8%       |
| 11 to 15 years   | 5          | 4.5%        |
| 16 to 20 years   | 6          | 5.4%        |
| 21 years or more | 4          | 3.6%        |
| <b>Total</b>     | <b>112</b> | <b>100%</b> |

#### 4.2.6. Number of hours worked per week

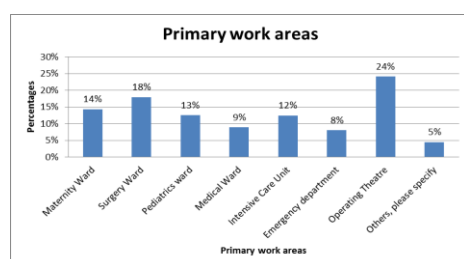
Most nurses (95.5%, n=107) indicated that they worked between 40 to 59 hours per week, followed by nurses who worked between 20 to 39 hours per week (3.6%, n=4). Only 0.9% (n=1) nurse worked between 60 to 79 hours per week.

**Table 4.5: Number of hours worked per week**

| Period                     | Frequency  | Percentage  |
|----------------------------|------------|-------------|
| 20 to 39 hours per week    | 4          | 3.56%       |
| 40 to 59 hours per week    | 107        | 95.5%       |
| 60 to 79 hours per week    | 1          | 0.9%        |
| 80 to 99 hours per week    | 0          | 0           |
| 100 hours per week or more | 0          | 0           |
| <b>Total</b>               | <b>112</b> | <b>100%</b> |

#### 4.2.7. Primary work area in the hospital

Most nurses (21.4%, n=24) work in the operating theatre, followed by 17.9% (n=20) of the nurses who work in the surgery ward. The lowest number of nurses (4.5%, n=5) work in the other non- clinical departments such as training and development, patient safety, and case management departments.



**Figure 4.2: Primary work areas**



### 4.3. SECTION B: DESCRIPTIVE STATISTICS OF NURSES' PERCEPTIONS OF PATIENT SAFETY CULTURE

The descriptive analysis includes data from Section B to H of the questionnaire. The nurses' perceptions were measured using 44 items in the questionnaire. The 44 survey items were grouped in either threes or fours to form a composite, which makes a dimension. The items were assessed using the five-point Likert scale of: never (1), rarely (2), sometimes (3), most of the times (4), and always (5) or strongly disagree (1), disagree (2), neither (3), agree (4), and strongly agree (5) (Sorra *et al.*, 2016:29-30). According to the AHRQ guidelines, the two highest scores, strongly agree (5) and agree (4) or most of the time (4) and always (5) are considered to be positive responses and are the only responses included in the analysis (Sorra *et al.*, 2016:29). Negatively worded items, such as "problems often occur in the exchange of information across hospital units", were reverse coded. A negative response to a negatively worded question is regarded as a positive response (Sorra *et al.*, 2016:29). The number of positive responses were divided by the total number of responses for each item to calculate the positive responses. The dimension score is the average percentage of positive responses. For example, the communication openness dimension scored an average positive score of 40% indicating positive opinion in that dimension.

The response rate of 70% and above indicated areas of strength for the hospital, while a response rate between 70% and 50% indicated areas requiring improvement. A response rate below 50% indicated an area of weakness (Suliman, 2015:55). The dimensions' results are shown in Table 4.6.

**Table 4.6: Nurses' perceptions of patient safety culture**

| Code        | Dimension and questionnaire item descriptions (N=112)  | N         | % Positive responses |
|-------------|--|-----------|----------------------|
| <b>CM1</b>  | <b>Communication openness</b>  | <b>45</b> | <b>40%</b>           |
| D2          | D2. Staff will freely speak up if they see something that may negatively affect patient care | 57        | 51%                  |
| D4          | D4. Staff feel free to question the decisions or actions of those with more authority        | 29        | 26%                  |
| D6          | D6. Staff are afraid to ask questions when something does not seem right                     | 48        | 43%                  |
| <b>CM2</b>  | <b>Handover and transition</b>   | <b>72</b> | <b>64%</b>           |
| F3          | F3. Things "fall between the cracks" when transferring patients from one unit to another     | 71        | 63%                  |
| F5          | F5. Important patient care information is often lost during shift changes                    | 78        | 70%                  |
| F7          | F7. Problems often occur in the exchange of information across hospital units                | 62        | 55%                  |
| F11         | F11. Shift changes are problematic for patients in this hospital                             | 76        | 68%                  |
| <b>AER1</b> | <b>Frequency of events reported</b>  | <b>56</b> | <b>50%</b>           |

|             |   |           |            |
|-------------|---|-----------|------------|
| E1          | E1. When a mistake is made, but is caught and corrected before affecting the patient, how often is this reported?         | 53        | 47%        |
| E2          | E2. When a mistake is made, but has no potential to harm the patient, how often is this reported?                         | 50        | 45%        |
| E3          | E3. When a mistake is made that could harm the patient, but does not, how often is this reported?                         | 64        | 57%        |
| <b>AER2</b> | <b>Non-punitive response to error</b>   | <b>65</b> | <b>58%</b> |
| B8          | B8. Staff feel like their mistakes are held against them  | 70        | 63%        |
| B12         | B12. When an event is reported, it feels like the person is being written up, not the problem                             | 55        | 49%        |
| B16         | B16. Staff worry that mistakes they make are kept in their staff file   | 69        | 62%        |
| <b>AER3</b> | <b>Feedback and communication about errors</b>  | <b>69</b> | <b>61%</b> |
| D1          | D1. We are given feedback about changes put into place based on event reports   | 53        | 47%        |
| D3          | D3. We are informed about errors that happen in this unit   | 81        | 72%        |
| D5          | D5. In this unit, we discuss ways to prevent errors from happening again  | 72        | 64%        |
| <b>OL1</b>  | <b>Organisational learning through continuous improvement</b>   | <b>89</b> | <b>80%</b> |
| B6          | B6. We are actively doing things to improve patient safety  | 106       | 95%        |
| B9          | B9. Mistakes have led to positive changes here  | 78        | 70%        |
| B13         | B13. After we make changes to improve patient safety, we evaluate their effectiveness                                     | 83        | 74%        |
| <b>OL2</b>  | <b>Overall perceptions of patient safety</b>  | <b>66</b> | <b>59%</b> |
| B10         | B10. It is just by chance that more serious mistakes don't happen around here   | 49        | 44%        |
| B15         | B15. Patient safety is never sacrificed to get more work done   | 52        | 46%        |
| B17         | B17. We have patient safety problems in this unit   | 68        | 61%        |
| B18         | B18. Our procedures and systems are good at preventing errors from happening  | 94        | 84%        |
| <b>MS1</b>  | <b>Management support for patient safety</b>  | <b>89</b> | <b>80%</b> |
| F1          | F1. Hospital management provides a work climate that promotes patient safety  | 95        | 85%        |
| F8          | F8. The actions of hospital management show that patient safety is a top priority   | 102       | 91%        |
| F9          | F9. Hospital management seems interested in patient safety only after an adverse event happens                            | 71        | 63%        |
| <b>MS2</b>  | <b>Staffing</b>   | <b>38</b> | <b>34%</b> |
| B2          | B2. We have enough staff to handle the workload   | 32        | 29%        |
| B5          | B5. Staff in this unit work longer hours than is best for patient care  | 43        | 38%        |
| B7          | B7. We use more agency/temporary staff than is best for patient care  | 53        | 47%        |
| B14         | B14. We work in "crisis mode" trying to do too much, too quickly  | 24        | 21%        |
| <b>MS3</b>  | <b>Supervisor/manager expectations &amp; actions promoting patient safety</b>   | <b>77</b> | <b>68%</b> |
| C1          | C1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures | 91        | 81%        |
| C2          | C2. My supervisor/manager seriously considers staff suggestions for improving patient safety                              | 72        | 64%        |
| C3          | C3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts         | 71        | 63%        |
| C4          | C4. My supervisor/manager overlooks patient safety problems that happen over and over                                     | 73        | 65%        |

|            |  |           |            |
|------------|--|-----------|------------|
| <b>TW1</b> | <b>Teamwork across units</b>   | <b>70</b> | <b>63%</b> |
| F2         | F2. Hospital units do not coordinate well with each other  | 59        | 53%        |
| F4         | F4. There is good cooperation among hospital units that need to work together                    | 85        | 76%        |
| F6         | F6. It is often unpleasant to work with staff from other hospital units                          | 61        | 54%        |
| F10        | F10. Hospital units work well together to provide the best care for patients                     | 75        | 67%        |
| <b>TW2</b> | <b>Teamwork within units</b>   | <b>81</b> | <b>73%</b> |
| B1         | B1. People support one another in this unit  | 97        | 87%        |
| B3         | B3. When a lot of work needs to be done quickly, we work together as a team to get the work done | 90        | 80%        |
| B4         | B4. In this unit, people treat each other with respect   | 79        | 71%        |
| B11        | B11. When one area in this unit gets really busy, others help out                                | 58        | 52%        |

#### 4.3.1. Communication

The communication component assessed the nurses' perceptions of communication openness and feedback as well as communication about errors. The six items were assessed using the 5-point Likert scale with 1=never, 2=rarely, 3=sometimes, 4=most of the times, and 5=always.

##### 4.3.1.1. Communication openness

Communication openness was measured using four items. The average positive response score of this dimension was 40% (n=45), and all positive responses for each item scored below 55%. Nurses who perceived that they could not speak freely on patient safety matters were 51% (n=57). Nurses who indicated that they are not comfortable with asking questions when things appeared to be incorrect were 43% (n=48). Only 26% (n=29) of the nurses felt free to question hospital management.

##### 4.3.1.2. Handover and transition

This dimension was measured on four negatively worded items, and reported an average positive response of 64%. This is considered to be an area requiring improvement. Most of the nurses (70%, n=78) indicated that they did not perceive that important information was lost during change of shifts, while 68% (n=76) of the nurses perceived that shift changes did not compromise patient safety. Nurses (63%, n=71) perceived that errors did not occur when patients were transferred from one department to the next, while a low number (55%, n=62) of nurses felt that patient information was not lost when they were transferred from one unit to the next.

### **4.3.2. Adverse events reporting and management**

The frequency of events reported, non-punitive responses to errors, as well as feedback and communication about error safety dimensions' results are reported below.

#### **4.3.2.1. Frequency of events reported**

This dimension includes three elements and scored an average positive response of 50% (n=56), which is categorised as an area requiring improvement. Only 57% (n=64) of the nurses perceived that errors have occurred but did not result in patient harm being reported. Forty-seven per cent (47%, n=53) of the nurses felt that near-miss events that could harm the patients were reported. Lastly, only 45% (n=50) of the nurses felt that events that had no potential to harm patients were reported.

#### **4.3.2.2. Non-punitive response to error**

This dimension was assessed using three items and showed an average positive response of 58% (n=65). All the items were negatively worded. The nurses' positive responses to the items were: 63% (n=70) of the nurses perceived that errors reported were used against them, 62% (n=69) of the nurses felt that errors they had reported were stored in staff files, 49% (n=55) of the nurses perceived that when errors are reported, it was the individual involved being reported rather than the problem.

#### **4.3.2.3. Feedback and communication about error**

The safety dimension of feedback and communication about error was measured by three items and scored an average positive response score of 61% (n=69). The participants were asked to rate their perceptions on feedback provided on events reported in their unit (72%, n=81), if they were involved in discussions to prevent events re-occurrence (64%, n=72) and if feedback is provided on interventions implemented following an event (57%, n=63).

### **4.3.3. Organisational learning**

Organisational learning through continuous improvement and overall perceptions of patient safety dimensions are discussed below.

#### **4.3.3.1. Organisational learning through continuous improvement**

This dimension was measured with three items. The average positive response of this dimension was 80% (n=89). This was one of the highest percentages of positive average responses. Most nurses (95%, n=106) felt that they were proactively preventing patient harm, while 74% (n=83) of the nurses felt that interventions implemented were tested for

improvement. Seventy per cent (70%, n=78) of the nurses felt improvement of services had resulted in the reduction of errors that have occurred.

#### **4.3.3.2. Overall perceptions of patient safety**

Four items were measured for this dimension, with two (A10, A17) negatively worded. The overall perceptions of the patient safety dimension reported an average score of 59% (n=66). Most the nurses (84%, n=94,) perceived that there were processes in place to prevent or minimise errors from occurring. The nurses who felt that there were no patient safety concerns in their departments were 61% (n=68). Nurses who perceived that patient safety was always prioritised and those who perceived that it was not by chance that serious errors did not occur as there were measures in place to prevent them from happening were 46% (n=58) and 44% (n=49), respectively.

#### **4.3.4. Management support**

The dimensions of management support for patient safety, staffing, and supervisor/manager expectations and actions promoting patient safety are discussed below.

##### **4.3.4.1. Management support for patient safety**

The dimension of management support for patient safety included three items and one (F9) was negatively worded. The dimension scored an average positive response of 80% (n=89). Most of the nurses (91%, n=102) perceived that hospital management prioritised patient safety, while 85% (n=95) of the nurses were of the opinion that hospital management ensured a working environment that supported patient safety. Sixty-three per cent (63%, n=71) of the nurses felt that hospital management was interested in improving patient safety in response to an event.

##### **4.3.4.2. Staffing**

The staffing dimension was assessed using four items and reported an average positive response of 34% (n=38). The negatively worded items were three (B5, B7, B14). The positive response scores for each item were as follows: “we use more agency/temporary staff than is best for patient care” (47%, n=53), “staff in this unit work longer hours than is best for patient care” (38%, n=43), “we have enough staff to handle the workload” (29%, n=32), and “we work in "crisis mode" trying to do too much, too quickly” (21%, n=24).

#### **4.3.4.3. Supervisor/manager expectations & actions promoting patient safety**

This dimension consisted of four items to be measured and two (C3, C4) were negatively worded. The average positive response score was 68% (n=77) and all the items scored above 70%. Most nurses (81%, n=91) indicated that their supervisors complimented them when patient safety was ensured during the provision of care, while 65% (n=73) of the nurses felt that their supervisors did not ignore patient safety concerns. Sixty-four per cent (64%, n=72) of the nurses perceived that their supervisors considered their recommendations to the improvement of patient safety and 63% (n=72) of the nurses felt that their supervisors ensured that patient safety was upheld even when the units were busy.

#### **4.3.5. Teamwork**

The teamwork component assessed teamwork across units and teamwork within units. The findings are discussed below.

##### **4.3.5.1. Teamwork across units**

The dimension of teamwork across units was measured on four items of which two (F2, F6) were negatively worded. The dimension scored an average positive response of 63% (n=70). Most nurses (76%, n=85) were of the opinion that there was good collaboration among the hospital units and 67% (n=75) of the nurses felt that hospital units worked effectively together to ensure patient safety. In addition, 54% (n=61) of the nurses were of the opinion that it was not unpleasant to work with members from other units and 53% (n=59) of the nurses perceived that hospital units coordinated patient care effectively.

##### **4.3.5.2. Teamwork within units**

This teamwork dimension was measured with four items. This dimension scored an average positive response of 73% (n=81). Nurses (87%, n=97) perceived that staff supported one another in their units and 80% (n=90) of the nurses indicated that when there was an activity to be done urgently, they assisted one another. Also, 71% (n=79) of the nurses felt that staff treated each other with respect and 52% (n=58) of nurses indicated that, when an area in the units was busy, others offered assistance.

#### **4.3.6. Number of events reported**

This section gives the number of adverse events reported in the past 12 months by the participants.

**Table 4.7: Number of events reported**

| Variable                                    | Value                      | Frequency  | Percentages |
|---|----------------------------|------------|-------------|
| Number of events reported in past 12 months | No events reported         | 27         | 24.1%       |
|   | 1 to 2 events reported     | 47         | 42.0%       |
|   | 3 to 5 events reported     | 24         | 21.4%       |
|   | 6 to 10 events reported    | 9          | 8.0%        |
|   | 11 to 20 events reported   | 0          | 0.0%        |
|   | 21 or more events reported | 5          | 4.5%        |
| <b>Total</b>                                |                            | <b>112</b> | <b>100%</b> |

Table 4.7 shows the number of events reported in the last 12 months. The total response rate for this question was 100% (n=112). Most nurses (42%, n=47) reported one to two events in the last 12 months, followed by 24.1% (n=27) of the nurses who reported no events in the last month. This is followed by 21.4% (n=24) of the nurses who reported three to five events in the past and, lastly, only 4.5% (n=5) of the nurses reported 21 events or more.

#### 4.3.7. Patient safety grade

The participants were asked to rate the patient safety grade in the hospital. The distribution among the options was 52.7% (n = 59) for very good, 28.6% (n = 32) for acceptable, 17% (n=19) for excellent, and 1% (n=2) for poor. See Table 4.8 for the summary.

**Table 4.8: Patient safety grade**

| Variable             | Value      | Frequency  | Percentages |
|----------------------|------------|------------|-------------|
| Patient safety grade | Excellent  | 19         | 17.0%       |
|                      | Very good  | 59         | 52.7%       |
|                      | Acceptable | 32         | 28.6%       |
|                      | Poor       | 2          | 1.8%        |
| <b>Total</b>         |            | <b>112</b> | <b>100%</b> |

## 4.4. SECTION C: ADDITIONAL DESCRIPTIVE STATISTICS ON THE PERCEPTIONS OF PATIENT SAFETY CULTURE AND BIOGRAPHICAL DATA

The additional descriptive analysis was conducted to identify the perception of different categories of nurses' perceptions of patient safety in their primary work area. Furthermore, the analysis was used to describe the number of events reported and the patient safety grade in each primary work area.

#### 4.4.1. Perceived patient safety dimensions and primary work areas

Table 4.9: Perceived patient safety dimensions and primary work areas

| Patient Safety Dimensions                           | Others |     | Medical |     | Emergency |     | Paediatrics |     | Maternity |     | Surgery |     | Operating Theatre |     | Intensive Care Unit |     | Total |     |
|---|--------|-----|---------|-----|-----------|-----|-------------|-----|-----------|-----|---------|-----|-------------------|-----|---------------------|-----|-------|-----|
| Communication openness                              | 3      | 67% | 5       | 47% | 6         | 71% | 7           | 48% | 4         | 25% | 8       | 42% | 10                | 42% | 2                   | 14% | 45    | 40% |
| Handover & transition                               | 3      | 65% | 8       | 80% | 6         | 75% | 10          | 73% | 10        | 59% | 12      | 61% | 14                | 58% | 9                   | 61% | 72    | 64% |
| Frequency of events reported                        | 3      | 60% | 4       | 37% | 4         | 54% | 8           | 60% | 7         | 44% | 11      | 53% | 14                | 60% | 6                   | 40% | 56    | 50% |
| Non-punitive responses to error                     | 3      | 67% | 4       | 43% | 6         | 75% | 6           | 45% | 9         | 56% | 12      | 62% | 13                | 56% | 10                  | 71% | 65    | 58% |
| Feedback & communication                            | 4      | 80% | 7       | 73% | 6         | 75% | 10          | 69% | 11        | 69% | 14      | 70% | 11                | 44% | 6                   | 43% | 69    | 61% |
| Organisational learning through continuous learning | 5      | 93% | 8       | 80% | 7         | 88% | 11          | 81% | 13        | 83% | 17      | 85% | 17                | 72% | 10                  | 74% | 89    | 79% |
| Overall perceptions of patient safety               | 3      | 55% | 7       | 65% | 5         | 66% | 7           | 52% | 10        | 63% | 11      | 56% | 15                | 60% | 8                   | 59% | 66    | 59% |
| Management support for patient safety               | 3      | 67% | 10      | 97% | 6         | 79% | 12          | 83% | 12        | 77% | 16      | 80% | 19                | 81% | 11                  | 76% | 89    | 80% |
| Supervisor/Manager expectations                     | 3      | 60% | 8       | 80% | 7         | 81% | 11          | 79% | 12        | 72% | 14      | 68% | 17                | 69% | 7                   | 48% | 77    | 69% |
| Teamwork across units                               | 3      | 55% | 8       | 75% | 6         | 69% | 10          | 68% | 10        | 63% | 13      | 64% | 14                | 59% | 8                   | 55% | 70    | 63% |
| Teamwork within units                               | 5      | 90% | 8       | 83% | 7         | 81% | 11          | 79% | 11        | 67% | 16      | 80% | 17                | 69% | 8                   | 54% | 81    | 72% |

##### 4.4.1.1. Communication openness

The average positive response score of this dimension was 40% (n=45). The results indicate that nurses working in the emergency centre reported the highest average positive response of 71% (n=6), while nurses in ICU perceived the lowest average positive response of 14% (n=2). The medical ward, paediatric ward, operating theatre and maternity ward showed an average positive response of below 50%. Nurses working in non-clinical departments reported an average positive response of 67% (n=3).

##### 4.4.1.2. Handover and transition

The handover and transition dimension showed an average positive response of 64% (n=72). Nurses working in the medical ward, emergency centre and paediatric ward had favourable attitudes toward this dimension with a high average positive responses of 80% (n=8), 75% (n=6) and 73% (n=10) respectively. Nurses working in non-clinical departments, surgical ward, maternity ward, ICU, and operating theatre – perceived the handover and transition dimension to require improvement with scores ranging between 65%- 58%.



#### **4.4.1.3. Frequency of events reported**

This dimension scored an average positive response of 50% (n=56). Nurses working in the paediatric ward, operating theatre and other departments reported the highest average positive scores of 60% (n=8). The lowest scoring departments were ICU and the medical ward scoring average positive responses of 40% (n=6) and 37% (n=4) respectively.

#### **4.4.1.4. Non-punitive response to error**

The dimension of non-punitive response to error showed an average positive response of 58% (n=65). The majority of nurses in ICU and the emergency centre perceived a non-punitive to error environment, with average positive responses of 75% (n=6) and 71% (n=10) respectively. However the rest of the departments in the hospital perceived a punitive response to error, with average positive scores ranging between 67% (n=3) and 43% (n=4) in the medial ward.

#### **4.4.1.5. Feedback and communication**

The safety dimension of feedback and communication about error scored an average positive response of 61% (n=69). Nurses from non-clinical departments, the emergency centre and the medical ward reported high average positive responses of 80% (n=4), 75% (n=6), and 73% (n=7) respectively. Nurses from the operating theatre and ICU reported the lowest positive responses of 44% (n=11) and 43% (n=6) respectively.

#### **4.4.1.6. Organisational learning through continuous learning**

This dimension scored an average positive response of 79% (n=89). Most departments scored an average positive response of above 70%. The highest scoring departments are “other” departments and the emergency centre with average scores of 93% (n=5) and 88% (n=7) respectively.

#### **4.4.1.7. Overall perceptions of patient safety**

Overall perceptions of the patient safety dimension scored an average positive score of 59% (n=66). The emergency centre had the highest average positive score of 66% (n=5) followed by the medical ward with an average positive score of 65% (n=7), while the paediatric ward had the lowest score of 52% (n=7).

#### **4.4.1.8. Management support for patient safety**

This dimension scored an average positive response score of 88% (n=89). The result shows that nurses working in clinical departments perceived hospital management to support

patient safety initiatives, as all the clinical departments had an average positive response score of above 75%. However, nurses working in other departments scored an average positive response of 67%, indicating an area requiring improvement.

#### **4.4.1.9. Staffing**

This dimension scored the lowest average positive response of 34% (n=38). The emergency centre scored the highest average positive response of 44% (n=4), followed by the paediatric ward with an average positive response of 43% (n=6). ICU scored the lowest average positive response with 20% (n=3).

#### **4.4.1.10. Supervisor/manager expectations and actions promoting patient safety**

This dimension scored an average positive response of 69% (n=77). The emergency centre scored an average positive response of 81% (n=7), followed by the medical ward with 80% (n=8) and the paediatric ward with 79% (n=11). ICU scored the lowest positive response of 48% (n=7).

#### **4.4.1.11. Teamwork across units**

Teamwork across units scored an average positive response of 63% (n=70). The medical ward reported the highest average positive score of 75% (n=8), followed by the emergency centre with 69% (n=6). The paediatric ward had an average positive score of 68% (n=10). The rest of the departments reported scores ranging from 64% (n=13) to 55% (n=8).

#### **4.4.1.12. Teamwork within units**

This dimension had an average positive score of 78% (n=72). Nurses from “other” departments reported the highest average scores of 90% (n=5), followed by nurses from the medical ward (83%, n=8). Nurses from the emergency centre reported an average positive response of 81% (N=7), while nurses from ICU reported the lowest average score of 54% (n=8).

#### **4.4.2. Staff position with number of events reported**

**Table 4.10: Crosstab of staff positions with number of events reported**

| Staff Position | No. of events reported | Frequency | % within staff position | % within number of events reported |
|----------------|------------------------|-----------|-------------------------|------------------------------------|
|                | No events reported     | 16        | 24.2%                   | 59.3%                              |

|                                   |                    |            |               |               |
|-----------------------------------|--------------------|------------|---------------|---------------|
| <b>Registered Nurse</b>           | 1 -2 events        | 21         | 31.8%         | 44.7%         |
|                                   | 3-5 events         | 18         | 27.3%         | 75.0%         |
|                                   | 6-10 events        | 7          | 10.6%         | 77.8%         |
|                                   | >21 events         | 4          | 6.1%          | 80.0%         |
|                                   | <b>Total</b>       | <b>66</b>  | <b>100.0%</b> | <b>58.9%</b>  |
| <b>Enrolled Nurse</b>             | No events reported | 9          | 21.4%         | 33.3%         |
|                                   | 1 -2 events        | 24         | 57.1%         | 51.1%         |
|                                   | 3-5 events         | 6          | 14.3%         | 25.0%         |
|                                   | 6-10 events        | 2          | 4.8%          | 22.2%         |
|                                   | >21 events         | 1          | 2.4%          | 20.0%         |
|                                   | <b>Total</b>       | <b>42</b>  | <b>100.0%</b> | <b>37.5%</b>  |
| <b>Enrolled Nurse Auxiliaries</b> | No events reported | 2          | 50.0%         | 7.4%          |
|                                   | 1 -2 events        | 2          | 50.0%         | 4.3%          |
|                                   | 3-5 events         | 0          | 0.0%          | 0.0%          |
|                                   | 6-10 events        | 0          | 0.0%          | 0.0%          |
|                                   | >21 events         | 0          | 0.0%          | 0.0%          |
|                                   | <b>Total</b>       | <b>4</b>   | <b>100.0%</b> | <b>3.6%</b>   |
|                                   | <b>Total</b>       | <b>112</b> | <b>100.0%</b> | <b>100.0%</b> |

Table 4.10 represents the nursing categories responses to the number of events reported for the last 12 months. The results show that 58.9% (n=66) of registered nurses responded to the question about the number of events reported. The majority of the registered nurses (31.8%, n=21) reported 1-2 events in the past 12 months, followed by 27.3% (n=18) who reported 3-5 events. Nurses who did not report any events were 24.2% (n=16) while nurses who who reported 6-10 events were 10.6% (n=7). Lastly 6.1% (n=4) reported more than 21 events.

The number of enrolled nurses who responded to this question were 37.5% (n=42). The majority of enrolled nurses (57.1%, n=24) reported between one to two events, followed by 21.4% (n=9) who did not report any events. Only 2.4% (n=1) reported more than 21 events in last 12 months. The number of enrolled nurse auxiliaries who reported 1-2 events were (50%, n=2), equal to the number (50%, n=2) of nurses who did not report any event in past 12 months. The results also show that the majority of registered nurses (59.3%, n=16), enrolled nurses (33.3%, n=9) and enrolled nurse auxiliaries (7.4%, n=2) did not report events in the past 12 months.

#### 4.4.3. Primary work areas with the number of events reported

Table 4.11: Crosstab of primary work areas with number of events reported

| Primary work areas       | Number of events reported | Frequency | % within hospital unit | % within number of events reported |
|--------------------------|---------------------------|-----------|------------------------|------------------------------------|
| <b>Medical</b>           | No events reported        | 2         | 20.0%                  | 7.4%                               |
|                          | 1 -2 events               | 5         | 50.0%                  | 10.6%                              |
|                          | 3-5 events                | 2         | 20.0%                  | 8.3%                               |
|                          | 6-10 events               | 1         | 10.0%                  | 11.1%                              |
|                          | >21 events                | 0         | 0.0%                   | 0.0%                               |
|                          | <b>Total</b>              | <b>10</b> | <b>100.0%</b>          | <b>8.9%</b>                        |
| <b>Emergency</b>         | No events reported        | 2         | 22.2%                  | 7.4%                               |
|                          | 1 -2 events               | 3         | 33.3%                  | 6.4%                               |
|                          | 3-5 events                | 1         | 11.1%                  | 4.2%                               |
|                          | 6-10 events               | 1         | 11.1%                  | 11.1%                              |
|                          | >21 events                | 2         | 22.2%                  | 40.0%                              |
|                          | <b>Total</b>              | <b>9</b>  | <b>100.0%</b>          | <b>8.0%</b>                        |
| <b>Paediatrics</b>       | No events reported        | 3         | 21.4%                  | 11.1%                              |
|                          | 1 -2 events               | 9         | 64.3%                  | 19.1%                              |
|                          | 3-5 events                | 2         | 14.3%                  | 8.3%                               |
|                          | 6-10 events               | 0         | 0.0%                   | 0.0%                               |
|                          | >21 events                | 0         | 0.0%                   | 0.0%                               |
|                          | <b>Total</b>              | <b>14</b> | <b>100.0%</b>          | <b>12.5%</b>                       |
| <b>Maternity</b>         | No events reported        | 8         | 50.0%                  | 29.6%                              |
|                          | 1 -2 events               | 3         | 18.8%                  | 6.4%                               |
|                          | 3-5 events                | 4         | 25.0%                  | 16.7%                              |
|                          | 6-10 events               | 1         | 6.3%                   | 11.1%                              |
|                          | >21 events                | 0         | 0.0%                   | 0.0%                               |
|                          | <b>Total</b>              | <b>16</b> | <b>100.0%</b>          | <b>14.3%</b>                       |
| <b>Surgery</b>           | No events reported        | 3         | 15.0%                  | 11.1%                              |
|                          | 1 -2 events               | 8         | 40.0%                  | 17.0%                              |
|                          | 3-5 events                | 5         | 25.0%                  | 20.8%                              |
|                          | 6-10 events               | 3         | 15.0%                  | 33.3%                              |
|                          | >21 events                | 1         | 5.0%                   | 20.0%                              |
|                          | <b>Total</b>              | <b>20</b> | <b>100.0%</b>          | <b>17.9%</b>                       |
| <b>Operating Theatre</b> | No events reported        | 4         | 16.7%                  | 14.8%                              |
|                          | 1 -2 events               | 12        | 50.0%                  | 25.5%                              |

|                            |                    |           |               |              |
|----------------------------|--------------------|-----------|---------------|--------------|
|                            | 3-5 events         | 5         | 20.8%         | 20.8%        |
|                            | 6-10 events        | 2         | 8.3%          | 22.2%        |
|                            | >21 events         | 1         | 4.2%          | 20.0%        |
|                            | <b>Total</b>       | <b>24</b> | <b>100.0%</b> | <b>21.4%</b> |
| <b>Intensive Care Unit</b> | No events reported | 3         | 21.4%         | 11.1%        |
|                            | 1 -2 events        | 6         | 42.9%         | 12.8%        |
|                            | 3-5 events         | 4         | 28.6%         | 16.7%        |
|                            | 6-10 events        | 1         | 7.1%          | 11.1%        |
|                            | >21 events         | 0         | 0.0%          | 0.0%         |
|                            | <b>Total</b>       | <b>14</b> | <b>100.0%</b> | <b>12.5%</b> |
| <b>Others</b>              | No events reported | 2         | 40.0%         | 7.4%         |
|                            | 1 -2 events        | 1         | 20.0%         | 2.1%         |
|                            | 3-5 events         | 1         | 20.0%         | 4.2%         |
|                            | 6-10 events        | 0         | 0.0%          | 0.0%         |
|                            | >21 events         | 1         | 20.0%         | 20.0%        |
|                            | <b>Total</b>       | <b>5</b>  | <b>100.0%</b> | <b>4.5%</b>  |

Tab 4.11 indicates the number of events reported in the last 12 months by nurses in each primary work area. Twenty-four nurses (21.4%, n=24) from the operating theatre responded to the question about the total number of events reported in the past 12 months. Half of the nurses (50%, n= 12) reported 1-2 events, while n=5 (20.8%) of the nurses reported between 3-5 events. Four nurses (16.7%, n=4) did not report any events. Twenty nurses (17.9%, n=20) working in the surgical ward responded to this question. Eight nurses reported between 1-2 events (40%, n=8), while 20.8% (n=5) reported 3-5 events. Only one nurse (n=1, 5.0%) indicated that she has reported more than 21 events in the past 12 months.

The total number of nurses from the maternity ward who responded to this question were 14.3% (n=16). However, half of the nurses (50%, n=8) indicated that they did not report any event in the past 12 months. The nurses who reported 3-5 events were four (n=4, 25%) while those who reported 1-2 events were three (n=3, 18.8%).

ICU and the paediatric ward had an equal number of nurses who responded to this question. A high number of nurses (n=9, 19.1%) from the paediatric ward reported 1-2 events, while only six nurses (n=6, 12.8%) from ICU reported the similar amount. Both departments have three nurses (n=3, 11.1%) who did not report any event.

The emergency department had a response rate of 8.0% (n=9) to the question about the number of events reported. It is worth noting that two nurses (n=2, 22.2%) reported more than 21 events, while two nurses (n=2, 22.2%) reported between 6-20 and 3-5 events. Five

nurses (n=5, 4.5%) working in non-clinical settings responded to this question. However, two nurses (n=2, 40.0%) indicated that they did not report any events, with the rest of the nurses (n=3, 21.4%) having reported 1-2 events, 3-5 events, and more than 21 events.

#### 4.4.4. Staff position with patient safety grade

Table 4.12: Crosstab of staff position with the patient safety grade

| Staff Position             | Patient safety grade | Frequency  | % within staff position | % within patient safety grade |
|----------------------------|----------------------|------------|-------------------------|-------------------------------|
| Registered Nurse           | excellent            | 8          | 12.1%                   | 42.1%                         |
|                            | very good            | 37         | 56.1%                   | 62.7%                         |
|                            | acceptable           | 20         | 30.3%                   | 62.5%                         |
|                            | poor                 | 1          | 1.5%                    | 50.0%                         |
|                            | <b>Total</b>         | <b>66</b>  | <b>100.0%</b>           | <b>58.9%</b>                  |
| Enrolled Nurse             | excellent            | 11         | 26.2%                   | 57.9%                         |
|                            | very good            | 21         | 50.0%                   | 35.6%                         |
|                            | acceptable           | 10         | 23.8%                   | 31.3%                         |
|                            | poor                 | 0          | 0.0%                    | 0.0%                          |
|                            | <b>Total</b>         | <b>42</b>  | <b>100.0%</b>           | <b>37.5%</b>                  |
| Enrolled Nurse Auxiliaries | excellent            | 0          | 0.0%                    | 0.0%                          |
|                            | very good            | 1          | 25.0%                   | 1.7%                          |
|                            | acceptable           | 2          | 50.0%                   | 6.3%                          |
|                            | poor                 | 1          | 25.0%                   | 50.0%                         |
|                            | <b>Total</b>         | <b>4</b>   | <b>100.0%</b>           | <b>3.6%</b>                   |
|                            | <b>Total</b>         | <b>112</b> | <b>100.0%</b>           | <b>100.0%</b>                 |

Table 4.12 shows the nursing categories responses to the patient safety grade. The results showed that 56.1% (n=37) of the registered nurses perceived that the patient safety grade to be very good, followed by 30.3% (n=20) who perceived the patient safety grade to be acceptable. Eight nurses (n=8, 12.1%) reported an excellent patient safety grade. Lastly, 1.5% (n=1) perceived a poor patient grade in the hospital. The majority of the enrolled nurses (50%, n=21) perceived a very good patient safety grade, followed by 26.2% (n=11) who perceived an excellent patient safety grade. Lastly, 23.8% (n=10) perceived an acceptable patient safety grade. Half of enrolled nurse auxiliaries (50%, n=2) perceived an acceptable patient safety grade, followed by two enrolled nurse auxiliaries who perceived an acceptable and poor patient safety grade.

Overall, the majority of the registered nurses (62.7% and 62.5%) perceived a very good and acceptable patient safety grade respectively, while the majority of enrolled nurses (57.9%,

n= 11) perceived an excellent patient safety grade in the hospital. Two nurses (a registered nurse and an enrolled nurse auxiliary) perceived a poor patient safety grade.

#### 4.4.5. Patient safety grade with primary work area

Table 4.13: Crosstab of patient safety grade with primary work area

| Overall grade on patient safety | Primary work areas  | Frequency | % within patient safety grade | % within units in primary work areas |
|---------------------------------|---------------------|-----------|-------------------------------|--------------------------------------|
| <b>Excellent</b>                | Medical             | 1         | 5.3%                          | 10.0%                                |
|                                 | Emergency           | 2         | 10.5%                         | 22.2%                                |
|                                 | Paediatrics         | 4         | 21.1%                         | 28.6%                                |
|                                 | Maternity           | 5         | 26.3%                         | 31.3%                                |
|                                 | Surgery             | 3         | 15.8%                         | 15.0%                                |
|                                 | Operating Theatre   | 4         | 21.1%                         | 16.7%                                |
|                                 | Intensive Care Unit | 0         | 0.0%                          | 0.0%                                 |
|                                 | Others              | 0         | 0.0%                          | 0.0%                                 |
|                                 | <b>Total</b>        | <b>19</b> | <b>100.0%</b>                 | <b>17.0%</b>                         |
| <b>Very good</b>                | Medical             | 9         | 15.3%                         | 90.0%                                |
|                                 | Emergency           | 4         | 6.8%                          | 44.4%                                |
|                                 | Paediatrics         | 7         | 11.9%                         | 50.0%                                |
|                                 | Maternity           | 4         | 6.8%                          | 25.0%                                |
|                                 | Surgery             | 13        | 22.0%                         | 65.0%                                |
|                                 | Operating Theatre   | 10        | 16.9%                         | 41.7%                                |
|                                 | Intensive Care Unit | 8         | 13.6%                         | 57.1%                                |
|                                 | Others              | 4         | 6.8%                          | 80.0%                                |
|                                 | <b>Total</b>        | <b>59</b> | <b>100.0%</b>                 | <b>52.7%</b>                         |
| <b>Acceptable</b>               | Medical             | 0         | 0.0%                          | 0.0%                                 |
|                                 | Emergency           | 3         | 9.4%                          | 33.3%                                |
|                                 | Paediatrics         | 2         | 6.3%                          | 14.3%                                |
|                                 | Maternity           | 7         | 21.9%                         | 43.8%                                |
|                                 | Surgery             | 4         | 12.5%                         | 20.0%                                |
|                                 | Operating Theatre   | 10        | 31.3%                         | 41.7%                                |
|                                 | Intensive Care Unit | 5         | 15.6%                         | 35.7%                                |
|                                 | Others              | 1         | 3.1%                          | 20.0%                                |
|                                 | <b>Total</b>        | <b>32</b> | <b>100.0%</b>                 | <b>28.6%</b>                         |
| <b>Poor</b>                     | Medical             | 0         | 0.0%                          | 0.0%                                 |
|                                 | Emergency           | 0         | 0.0%                          | 0.0%                                 |
|                                 | Paediatrics         | 1         | 50.0%                         | 7.1%                                 |
|                                 | Maternity           | 0         | 0.0%                          | 0.0%                                 |

|              |                     |            |               |               |
|--------------|---------------------|------------|---------------|---------------|
|              | Surgery             | 0          | 0.0%          | 0.0%          |
|              | Operating Theatre   | 0          | 0.0%          | 0.0%          |
|              | Intensive Care Unit | 1          | 50.0%         | 7.1%          |
|              | Others              | 0          | 0.0%          | 0.0%          |
|              | <b>Total</b>        | <b>2</b>   | <b>100.0%</b> | <b>1.8%</b>   |
| <b>Total</b> |                     | <b>112</b> | <b>100.0%</b> | <b>100.0%</b> |

Table 4.13 presents the results of the patient safety grade with the nurses' primary work area. The results show that the excellent patient safety grade option was rated at 17% (n=19). The majority of the nurses (26.3%, n=5) who perceived an excellent patient safety grade are from the maternity ward, followed by nurses (21.1%, n=4) from the paediatric ward. No nurses from ICU perceived an excellent patient safety grade. A very good patient safety grade was rated at 52.7% (n=59), which was the highest score. The majority of those nurses (22.2%, n=13) were from the surgical ward, and the minority of those nurses (6.8%, n=4) were from the maternity ward and "other" departments.

An acceptable patient safety grade was rated at 28.6% (n=32). The nurses (31.3%, n=10) who perceived an acceptable patient safety grade were working in the operating theatre, followed by 21.9% (n=7) of the nurses from the maternity ward. Surgical ward did not have any nurse that reported an acceptable patient safety grade. Interestingly, a poor patient safety grade was perceived by two nurses (n=2, 50%) from ICU and the paediatric ward.

The results also indicate the nurses' rating of the patient safety grade per primary work area. The distribution of the patient safety grade in ICU was 0% excellent (n=0), 51.7% very good (n=8), 35.7% acceptable (n=5) and 7.1% poor (n=1). The operating theatre's nurses rated the following: 16.7% excellent (n=4), 41.7% very good (n=10), 41.7% acceptable (n=10) and 0% poor (n=0). Nurses in the paediatric ward rated the following: 28.6 % excellent (n=4), 50.0% very good (n=7), 14.3% acceptable (n=2) and 7.1% poor (n=1).

#### 4.5. SUMMARY

This chapter presented the findings and data analysis of the study results. The chapter included a section on demographic information, descriptive statistics on the nurses' perceptions on patient safety culture, and the descriptive statistics on biographical data with perceived safety dimensions. Finally, the results are presented and discussed along with the conclusions in the next chapter.



## CHAPTER 5

### DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1. INTRODUCTION

Chapter 4 reported the findings of the study. This chapter discusses the findings of the study in relation to the study objectives, as well as the study recommendations and limitations.

#### 5.2. DISCUSSION

The study aimed to explore nurses' perceptions on the factors that influence patient safety culture in a Namibian private healthcare setting. The objectives of the study were to: 1) determine the nurses' perceptions on how communication, adverse event reporting, teamwork, management support and organisational learning contribute to the patient safety culture, and 2) identify factors that require improvement to strengthen patient safety culture.

Suliman (2015:55) states that the response rate of 70% and above indicates an area of strength, while a response rate between 70% and 50% indicates an area requiring improvement. A response rate below 50% indicates an area of weakness. The study findings identified perceived areas of strength in AZ Private Hospital to be management support (80%), organisational learning (80%) and teamwork within units (72%). The areas for potential improvement are supervisor expectations and action promoting patient safety (68%), handover and transition (64%), teamwork across units (63%), feedback and communication about errors (61%), and overall perceptions of patient safety (59%). The results show staffing (34%), communication openness (40%) and frequency of adverse events (50%) as areas of weakness. The study findings in relation to the study objectives are discussed below.

##### **5.2.1. Objective 1: Nurses' perceptions on how communication influences patient safety culture**

This objective was aimed at determining the nurses' perceptions, using the HSOPSC™ questionnaire, on the factors related to communication that influence patient safety culture. The two safety dimensions related to communication, as summarised in Figure 2.1 Section 2.1, are communication openness as well as handover and transition. The findings from the two safety dimensions are discussed below.

### 5.2.1.1. Communication openness

This dimension assessed the ability of nurses to communicate comfortably about patient safety matters (Sorra *et al.*, 2016:3). The communication openness safety dimension scored an average positive response of 40%. Nurses from ICU reported the lowest average positive response (14%, n=2) among all the departments in the hospital. Such low scoring results in a critical unit should be addressed promptly as patient harm is more likely to occur in ICU. The low average positive response rate indicates that nurses feel uncomfortable to discuss issues compromising patient safety. The results indicate an area of weakness for the hospital, which requires prioritisation in order to improve patient safety.

Aboshaiqah (2010:114) found similar results where Saudi Arabian nurses scored the communication openness dimension an average positive response of 36%. Similarly, Yilmaz and Goris (2015:598); Wami *et al.* (2016:5), Khater *et al.* (2015:87) and Suliman (2015:56) reported low average positive responses in their patient safety culture assessments. Communication openness is a critical factor in building and maintaining a positive patient safety culture. Moreover, effective communication between healthcare professionals is essential for the provision of safe and quality healthcare (Aboshaiqah, 2010:114). Nursing managers are recommended to strengthen a non-punitive culture towards error in the hospital in order to improve communication openness (Suliman, 2015:72).

### 5.2.1.2. Handover and transitions

This dimension assessed whether information about patient care is not lost during exchange between healthcare professionals (Sorra *et al.*, 2016:3). The handover and transitions dimension reported an overall positive response of 64%, an area requiring improvement in AZ Private Hospital. Moreover, nurses from ICU, the operating theatre and the surgical ward perceived concerning issues occurring during handover that can result in patient harm. The result indicates that some of the nurses at AZ Private Hospital perceived that the exchange of patient information among nurses can compromise patient safety. Effective handover communication minimises the risk of patient harm when accurate and complete patient information is communicated between nurses (Lee *et al.*, 2016:5). Implementing a standardised process and allowing a question and answer opportunity during handover promoted patient safety culture in the hospital (Aboshaiqah, 2010:69).

### **5.2.2. Objective 2: Nurses' perceptions on how adverse event reporting and management contributes to patient safety culture**

Objective 2 focused on determining the nurses' perceptions on how adverse event reporting and management influenced patient safety culture. The findings of three safety dimensions – the frequency of events reported, non-punitive responses to errors, and feedback and communication about errors – are discussed below.

#### **5.2.2.1. Frequency of events reported**

This dimension assesses the frequency of adverse and near-miss events reported by the nurses in the hospital (Sorra *et al.*, 2016:3). The participants in this study scored the frequency of events reported an average positive response of 50%, an area for potential improvement. The finding suggests that less effort is made to report adverse or near-miss events, which can be attributed to various factors. Richter (2013:13) stated that improving event reporting could reduce actual and potential patient harm by identifying concerning trends and sharing results with the staff. This can facilitate change in perceptions of staff towards event reporting. Furthermore, reactive responses to reported events can be used to identify root causes while proactive response to reported events can prevent re-occurrence, eventually improving the patient safety culture (Richter, 2013:13).

#### **5.2.2.2. Non-punitive responses to errors**

This dimension assesses the degree to which nurses experience punitive responses from management following the reporting of adverse events (Sorra *et al.*, 2016:3). The overall positive response to this dimension is 58%. This result is considered an area for potential improvement. The findings are congruent with previous studies' findings (Suliman, 2015:72; Aboshaiqah, 2010:110; Chen & Li, 2010:7; Yilmaz & Goris, 2015:598). The results indicate the presence of a punitive response to error reporting, which can be a hindrance to event reporting. Healthcare organisations with a blame culture usually have a low number of reported events, as staff might be reluctant to report errors. Patient safety can be negatively influenced since adverse events might go unreported and would most likely happen again (Aboshaiqah, 2010:110; Suliman, 2015:72; Yilmaz & Goris, 2015: 598).

This finding is supported by the number of nurses who reported the events in the past 12 months. Most nurses (66%) indicated that they either did not report an event or reported one to two events in the last 12 months. Similar findings were reported by Barrow (2012:30) and Suliman (2015:60). The low number of reported events in the last 12 months by nurses who participated in this study could be attributed to fear of punishment involved in reporting

errors. Creating a just and fair culture that fosters learning from adverse events that were reported, could improve reporting of events, resulting in positive patient outcomes (Barrow, 2012:30).

### **5.2.2.3. Feedback and communication about errors**

This dimension assesses the degree to which nurses felt informed about the events occurring in the hospital (Sorra *et al.*, 2016:3). The overall positive response for feedback and communication about errors is 62%, a potential area for improvement. Majority of nurses (80%, n=4) from non-clinical departments perceived to be provided with feedback on error that have been report. However, nurses from operating theatre (44%, n=11) and ICU (43%, n=6) perceived to be provided with feedback on error that have been reported.

The results indicated the need for AZ Private Hospital to strengthen the involvement of nurses in the management of reported events as well as informing them about improvement interventions. Moreover, priority needs to be given to high risk departments such as ICU, operating theatre, maternity ward and paediatric ward. Provision of feedback to the individual who reported an error is regarded as significant, as it acts as an encouragement to report more events (Richter, 2013:17). The study findings are consistent with the study by Ammouri *et al.* (2015:7), which assessed Oman nurses' perceptions on the patient safety culture. The study recommended informing staff about errors as well as implementing recommendations suggested by staff that could improve the culture of patient safety (Ammouri *et al.*, 2015:7).

### **5.2.3. Objective 3: Nurses' perceptions on how organisational learning contributes to patient safety culture**

This objective was focused on establishing how organisational learning influenced patient safety culture. To address the objective two dimensions, namely organisational learning through continuous improvement and overall perceptions of patient safety, are discussed.

#### **5.2.3.1. Organisational learning through continuous improvement**

This dimension addresses learning from events that have occurred to prevent re-occurrence (Sorra *et al.*, 2016:3). Organisational learning through continuous improvement scored an overall positive response of 80%, an area of strength in AZ Private Hospital. The high overall scores are consistent with previous studies' findings (Chen & Li, 2010:7; Ammouri *et al.*, 2015:5; Barrow, 2012:28; Aboshaiqah, 2010:109; Wami *et al.*, 2016:5). This result suggests that nurses perceived hospital management as continuously implementing measures to improve patient safety by learning from events that have occurred. Organisational learning

plays a critical part in developing, promoting and sustaining a patient safety culture. Improving patient safety requires the healthcare organisation to have a learning culture at all levels of care. Continuous organisational and individual learning often results in organisational culture characterised by fairness, accountability and openness (Aboshaiqah, 2010:113).

#### **5.2.3.2. Overall perceptions of patient safety**

The dimension of overall perceptions of patient safety focuses on assessing systems and processes targeted to minimise patient harm. The dimension scored an average positive response of 59%. This perception is supported by overall patient safety grade scores in the study. The results indicated that 53% of the nurses scored overall patient safety as “very good”, followed by 28% of the nurses that rated the safety grade as “acceptable”. Seventeen per cent (17%) of the nurses rated the patient safety grade as “excellent”. Only 2% of nurses rated the safety grade as “poor”. Nurses (59%, n=8) from ICU reported a positive perception towards processes and systems in place to prevent patient harm, while none of the ICU nurses perceived an excellent patient safety grade.

This result is consistent with other studies that assessed patient safety culture (Chen & Li, 2010:7; Ammouri *et al.*, 2015:5; Barrow, 2012:28; Yilmaz & Goris, 2015:598; Wami *et al.*, 2016:5; Khater *et al.*, 2015:87). The results suggest that, although learning from events is taking place in the hospital, nurses still perceived that there were areas for improvement in terms of sustaining a safe environment for the patients. Hospital management needs to involve ICU nurses in patient safety initiatives and allowing them to make decisions on safety related issues.

#### **5.2.4. Objective 4: Nurses’ perceptions on how management support contributes to patient safety culture**

This objective was to determine how management support influences patient safety culture. The findings about the dimensions of management support, staffing, and supervisor/manager expectations and actions promoting patient safety are discussed below.

##### **5.2.4.1. Management support**

The dimension of management support scored an average positive response of 80%. This dimension achieved the highest average positive response among all the dimensions. This result suggests that nurses perceived that hospital management supports patient safety by ensuring a working environment that promotes patient safety. Leadership commitment

towards patient safety in the hospital is very important, as this ensures the availability of required resources (Hamdan & Saleem, 2013:173). Moreover, hospital management can support patient safety by strengthening communication openness, providing training to staff on hospital event management systems, strengthening clinical risk management systems, and providing adequate resources (Bodur & Filiz, 2010:8).

Although AZ Private Hospital management implemented various initiatives promoting patient safety, consideration should be given to promoting a culture of non-punitive responses to errors within the hospital. This can be achieved by

- Creating patient safety sub-committees at unit level to promote staff accountability,
- Strengthening the sharing of lessons learnt from reported events, and
- Involving staff in strategising ways to prevent or minimise re-occurrence.

#### **5.2.4.2. Staffing**

The staffing dimension scored the lowest among the 12 safety dimensions, with 34% of overall positive responses from the nurses who took part in the study. This is an area that requires prioritisation by AZ Private Hospital in order to improve the patient safety culture. The findings indicate that nurses perceived staffing to be a hindrance in ensuring patient safety, which can be attributed to the high workload on the nurses or nursing staff shortage. The perception of poor staffing was also reported in previous studies by Chen and Li (2010:7), Ammouri *et al.* (2015:5), Barrow (2012:28), Yilmaz and Goris (2015:598), Wami *et al.* (2016:5), and Khater *et al.* (2015:87). Nursing staff shortage, coupled with high workload, can have a negative influence on the quality of care provided to the patients, communication among team members, and the frequency of adverse events reported (Bodur & Filiz, 2010:7; Khater *et al.*, 2015:87).

Improving nurses' working environment could lead to positive patient outcomes. Adequate nursing staff in the unit is a necessity for ensuring patient safety. Therefore, hospital management is encouraged to implement safer systems for patient care, where there is difficulty in providing adequate staffing (Aboshaiqah, 2010:66).

#### **5.2.4.3. Supervisor/manager expectations and actions promoting patient safety**

The perceptions of nurses on the supervisor's involvement in patient safety issues at unit level were scored an average positive response of 68%. Nurses n=7 (81%) from emergency

centre reported high positive perception towards supervisor's support on safety initiatives, while nurses (48%, N=7) from ICU had a low positive perception on support received at unit level.

The results indicate that nurses' perception of supervisors' attitudes towards patient safety could still be improved. There might be some areas where the unit supervisors are not performing well to improve patient safety. Aboshaiqah (2013:118) supports this suggestion by stating that supervisors are usually in direct contact with nurses while providing healthcare, thus allowing them an opportunity to discuss patient safety issues with the nurses in a clinical setting (Aboshaiqah, 2010:118). Additionally, providing nurses with an opportunity to make recommendations on improvement initiatives, promotes the ability of nurses to share ideas and raise concerns freely. Consequently, this action might improve the nurses' perceptions on communication openness.

#### **5.2.5. Objective 5: Nurses' perceptions on how teamwork contributes to patient safety culture**

This objective sought to determine how teamwork influenced patient safety culture. The study findings about teamwork across units and teamwork within units are discussed below.

##### **5.2.5.1. Teamwork across units**

Teamwork across units assesses the working relationships among staff working in different units across the hospital. The nurses who participated in the study scored an average positive response of 63% and this result fell within an area for potential improvement. Nurses from operating theatre (59%, n=14) and ICU (55%, n=8) perceived a low positive perception on teamwork across units.

Ammouri *et al.* (2015:5), Barrow (2012:29) and Wami *et al.* (2016:5) also found that average positive response for teamwork across units fell within an area for potential improvement. This indicates that nurses perceived that there were instances where they found it difficult to work with nurses from other departments, including poor coordination of activities, which compromised patient safety (Khater *et al.*, 2015:87).

Lack of coordination between different units might increase risk of harm to the patient. Hospitals can improve teamwork across units by strengthening and standardising healthcare processes and systems that involve movement of patients or patient information from unit to the next (Richter, 2013:28).

### **5.2.5.2. Teamwork within units**

Teamwork within units had an average positive score of 72%, which is an area of strength. Although, AZ Private Hospital the majority of nurses had a positive perception on teamwork within units, only 54% (n=8) of nurses from ICU had reported a positive perception on teamwork within units. Teamwork is an essential part of improving patient safety culture in the hospital (Khater *et al.*, 2015:88). Planned and standardised healthcare processes and systems strengthen teamwork among co-workers, resulting in fewer adverse events occurring (Aboshaiqah, 2010:118). Hospital management need to do the root cause analysis of poor teamwork within ICU and implement measures in places based on the root cause analysis.

### **5.2.6. Objective 6: Identify factors that require improvement to strengthen patient safety culture**

This objective was focused on identifying factors that required improvement in order to improve patient safety culture. The decision was based on the dimensions with low overall positive responses. The dimensions are staffing (n=38, 34%), communication openness (n=45, 40%), and the frequency with which adverse events are reported (n=56, 50%). ICU is a specialised unit which requires provision of safe and quality nursing care. Hospital management need to prioritise addressing the following safety dimension in ICU, communication openness, frequency of adverse events, feedback and communication about error, supervisor expectation, teamwork within and across units.

AZ Private Hospital should consider starting with these factors to promote and sustain a strong patient safety culture. The hospital should consider employing more nurses or implementing strategies that would minimise nurses' workload. Strengthening communication openness creates an environment where staff can freely express themselves in matters related to patient safety (Suliman, 2015:72). The frequency with which adverse events are reported could be improved by ensuring that staff are provided with feedback on events that have occurred as well as interventions that have been implemented as a result (Richter, 2013:31).

## **5.3. LIMITATIONS OF THE STUDY**

Study limitations refer to the restrictions that can have negative implications on the study findings (Grove, Burns & Gray, 2013:598). The study only included one private hospital; therefore, study findings cannot be applied to the general population. Nurses are the gatekeepers of healthcare service delivery. However, the inclusion of only nurses in the



study is a limitation. There is need to assess other healthcare providers' perceptions on patient safety culture in order to include their responses in the findings, which would be used for improving the safety culture.

## **5.4. CONCLUSIONS**

The study findings met the research objectives in terms of how different factors influenced patient safety culture and by identifying which factors required improvement in order to improve patient safety. Inferential statistics were able to provide findings on how different safety dimensions interacted with each other to impact patient safety. The study findings identified areas of strengths and weaknesses in AZ Private Hospital. Additionally, the study findings revealed the relationship between some of the safety dimensions and how they impacted one another. Although most of the findings could be supported by similar studies that assessed the patient safety culture using the HSOPSC™ questionnaire, a few unexpected results/findings were also reported.

## **5.5. RECOMMENDATIONS**

### **5.5.1. Recommendation 1: Communication**

Findings indicate that nurses are not comfortable to discuss matters affecting patient safety in AZ Private Hospital. Hospital management needs to strengthen communication by creating platforms at unit level where staff can freely express themselves on patient safety matters. Emphasis should also be placed on sharing lessons learned from reported events, and providing staff opportunities to make recommendations on possible interventions to improve patient safety.

### **5.5.2. Recommendation 2: Adverse events reporting and management**

In order for the hospital to increase the frequency with which adverse events are reported, a non-punitive response to errors needs to be promoted throughout the hospital. This could be done by educating staff on the importance of the hospital's adverse events management system to patient safety. Emphasis should be placed on educating staff and improving systems and processes rather than punishing individuals. Additionally, hospital management should identify other possible barriers to reporting events and address them. Staff should be involved in addressing the barriers identified, to promote a sense of accountability.

### **5.5.3. Recommendation 3: Organisational learning**

Hospital management should ensure that lessons learnt from reported events are shared with staff members by implementing a lessons learnt platform within the hospital. The platform can be created for staff members from different units to share lessons learnt and best practices with others.

### **5.5.4. Recommendation 4: Management support**

Hospital management should focus on addressing areas that have scored the lowest in the assessment and involve the staff in identifying possible solutions to minimise the identified gaps. Staff should be provided with feedback on quality improvement initiatives aimed at improving patient safety culture. Hospital management could also focus on providing a comfortable working environment for the staff, as it could reduce staff turnover.

### **5.5.5. Recommendation 5: Teamwork**

Cross-team collaborative care promotes patient safety. Hospital management can consider arranging hospital events where staff from different units can regularly come together in order to improve working relationships. Hospital management could arrange training workshops focused on workplace etiquette and the importance of creating and maintaining good working relationships with colleagues.

### **5.5.6. Recommendations for future research**

Areas recommended for future research are:

- Assessment of patient safety culture involving more Namibian private as well as public hospitals could give a better understanding of where to start with patient safety improvement.
- Determining barriers, as experienced by nurses, to reporting adverse events could provide in-depth knowledge on specific hindrance factors.

## **5.6. DISSEMINATION**

The research findings will be shared with AZ Private Hospital management and areas requiring improvement would be highlighted. Research articles would be submitted to peer-review journals for publication and to the the Agency for healthcare research and quality database.

## 5.7. CONCLUSION

Assessing patient safety culture is the first step towards improving patient safety in a healthcare organisation. The study identified perceived areas of strength within the hospital to be organisational learning through continuous improvement, teamwork within units, and management support for patient safety. Although hospital management for patient safety was perceived to be an area of strength, the study found that there was still a low frequency of adverse events reported. This indicates the need to explore further the factors that influence the frequency of adverse event reporting in AZ Private Hospital.

The study findings also revealed the perceived areas of weakness as staffing, communication openness, and the frequency with which adverse events were reported. The areas identified can be used as the starting point to improve the patient safety culture in AZ Private Hospital. The study provided in-depth and new knowledge on the perceptions of nurses regarding the factors that influence patient safety culture in a Namibian private healthcare setting.

In conclusion, improving patient safety culture requires strengthening communication in all aspects of care. Hospital management should consider improving communication at all levels of the hierarchy in the hospital, by standardising processes to communicate safety issues and creating platforms for nurses to contribute towards preventative measures. Cross-team and collaborative care promote patient safety and thus healthcare administrators should invest in promoting working relationships. Improving patient safety culture requires the involvement of nurses in strategising and implementing patient safety measures to reduce harm.

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## APPENDICES

### Appendix 1: Ethical approval from Stellenbosch University



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#### Approved with Stipulations New Application

16-May-2017  
Erastus, Aina AN

Ethics Reference #: S17/04/085

Title: **The perceptions of nurses on the factors that influence patient safety culture in a Namibian private health sector setting.**

Dear Mrs Aina Erastus,

The New Application received on 03-May-2017, was reviewed by members of Health Research Ethics Committee 2 via Expedited review procedures on 16-May-2017.

Please note the following information about your approved research protocol:

Protocol Approval Period: 16-May-2017 -15-May-2018

The Stipulations of your ethics approval are as follows:

1. In the synopsis, you state that; *"the problem is that no study has been conducted on assessing the nurses' perceptions on patient safety culture in Namibia. A scientific study will add value to the body of knowledge on patient safety"* - This statement is a repeat and does not truly differentiate between the rationale and the problem statement. Please revise both the rationale and the problem statement accordingly.

Please remember to use your **protocol number** (S17/04/085) on any documents or correspondence with the HREC concerning your research protocol.

Please note that the 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 a template of the progress report is obtainable on [www.sun.ac.za/rds](http://www.sun.ac.za/rds) and should be submitted to the Committee before the year has expired. 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.

Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372

Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes

2004 (Department of Health).

**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. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health ([healthres@pgwc.gov.za](mailto:healthres@pgwc.gov.za) Tel: +27 21 483 9907) and Dr Helene Visser at City Health ([Helene.Visser@capetown.gov.za](mailto:Helene.Visser@capetown.gov.za) Tel: +27 21 400 3981). 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 documents please visit: [www.sun.ac.za/rds](http://www.sun.ac.za/rds)

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

**Included Documents:**

Investigator Declaration V4.2 Mrs. Aina N. Erastus.pdf

CV Aina Erastus one page summary March 2017.pdf

Expedited Review Cover Letter - Aina Erastus.pdf

AINA ERASTUS synopsis patient safety culture ETHICS.pdf

Invest declar Superv Dr Lourens.pdf

General Checklist(Eng)\_V2.1 April 2016.pdf

HREC Application A Erastus.pdf

Research Proposal -Aina Erastus - 19752695.pdf

CV Guin Lourens one page summary March 2017.pdf

Sincerely,

Francis Masiye

HREC Coordinator

Health Research Ethics Committee 2

## Appendix 2: Permission obtained from Ministry of Health and Social Services



### REPUBLIC OF NAMIBIA

#### *Ministry of Health and Social Services*

Private Bag 13198  
Windhoek  
Namibia

Ministerial Building  
Harvey Street  
Windhoek

Tel: 061 - 203 2562  
Fax: 061 - 222558  
E-mail: [hnangombe@gmail.com](mailto:hnangombe@gmail.com)

#### OFFICE OF THE PERMANENT SECRETARY

Ref: 17/3/3 AE

Enquiries: Dr. H. Nangombe

Date: 20 July 2017

Ms. Aina Erastus  
University of Stellenbosch  
South Africa

Dear Ms. Erastus

**Re: The perception of nurses on the factors that influence patient safety culture in a Namibian private health care setting.**

1. Reference is made to your application to conduct the above-mentioned study.
2. The proposal has been evaluated and found to have merit.
3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**
  - 3.1 The data to be collected must only be used for academic purpose;
  - 3.2 No other data should be collected other than the data stated in the proposal;
  - 3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

A handwritten signature in black ink, appearing to be 'BC' or similar, located at the bottom right of the letter.

- 3.4 A quarterly report to be submitted to the Ministry's Research Unit;
- 3.5 Preliminary findings to be submitted upon completion of the study;
- 3.6 Final report to be submitted upon completion of the study;
- 3.7 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely,

  
**Andreas Mwoombola (D)**  
Permanent Secretary



### Appendix 3: Permission obtained from institutions

|  |   |
|--|---|
| <p>21 July 2017</p> <p>Ms Aina Erastus<br/>PO Box 22534<br/>Windhoek<br/>Namibia<br/>9000</p> <p>e-mail: <a href="mailto:ainameke@icloud.com">ainameke@icloud.com</a></p> <p>Dear Ms Erastus</p> <p><b>PERMISSION TO CONDUCT RESEARCH AT MEDICLINIC WINDHOEK</b></p> <p>Your research proposal entitled <i>"The perceptions of nurses on the factors that influence patient safety culture in a Namibian private health sector setting"</i> refers.</p> <p>It is in order for you to conduct your research at Mediclinic Windhoek, and I wish you success with this project.</p> <p>Yours sincerely</p> <p><br/><b>DR ESTELLE COUSTAS</b><br/>Nursing Executive</p> | <p><b>MEDICLINIC</b> </p> <p>MEDICLINIC OFFICES<br/>STRAND ROAD<br/>STELLENBOSCH<br/>7600</p> <p>PO BOX 456<br/>STELLENBOSCH<br/>7599</p> <p>T +27 21 809 6500<br/>F +27 21 809 6756<br/>ETHICS LINE 0800 005 336<br/><a href="http://www.mediclinic.co.za">www.mediclinic.co.za</a></p> |
|  | <p></p> <p>MEDICLINIC (PTY) LTD<br/>REG. NO. 1066/008216/07</p>  |

## **Appendix 4: Participant information leaflet and declaration of consent by investigator and participant**

### **Participant information leaflet**

**TITLE OF THE RESEARCH PROJECT:** The perceptions of nurses on the factors that influence patient safety culture in a Namibian private health sector setting.

**PRINCIPAL INVESTIGATOR:** Aina Ndilimeke Erastus

**ADDRESS:** Faculty of Medicine and Health Sciences, Department of Nursing and Midwifery, University of Stellenbosch, South Africa.

**CONTACT NUMBER:** +264 812406366

**EMAIL ADDRESS:** ainameke@icloud.com

Dear Participant

My name is Aina Erastus and I am a Quality Improvement Advisor at IntraHealth International. I would like to invite you to participate in a research project that aims to investigate the perceptions of nurses on the factors that influence patient safety culture in a Namibian private health sector setting. The purpose of the study is to identify the factors which influence the patient safety factors in a private healthcare setting and to make recommendations on systems or processes that need improvement, in terms of developing and maintaining a safety culture. Your participation in the study will provide information that might be used to improve patient safety culture in your hospital, thus ensuring positive patient outcomes. Your responses will remain confidential and anonymous. Only group statistics, not individual responses, will be prepared and reported.

Please take some time to read the information presented here, which will explain the details of this project and contact me if you require further explanation or clarification of any aspect of the study. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part. It should take approximately 10 to 15 minutes to complete.

This study has been approved by the **Health Research Ethics Committee (HREC)** at **Stellenbosch University** and will be conducted according to accepted and applicable

National and International ethical guidelines and principles, including those of the international Declaration of Helsinki October 2008.

If you agree to participate in this project, please sign the attached Declaration of Consent before completing the questionnaire. The questionnaire can be completed once all the necessary the information about the study has been provided. Please be advised that you may also complete the questionnaire at the time convenient to you. The signed Declaration of Consent and the completed questionnaire are to be sealed in the provided envelope, thereafter placed in the drop box written "Hospital Survey on Patient Safety Culture" provided in your department.

Thank you in advance for your participation in this important effort.

Sincerely yours

Aina Erastus

## Declaration by participant

By signing below, I ..... agree to take part in a research study entitled **the perceptions of nurses on the factors that influence the patient safety culture in a private healthcare setting**.

I declare that:

- I have read the attached information leaflet and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) ..... On (*date*) ..... 2017.

.....

**Signature of participant**



## Appendix 5: Instrument

### Hospital survey on patient safety culture

#### **SECTION A: Background Information**

This information will help in the analysis of the survey results.

**1. What is your staff position in this hospital? Select ONE answer that best describes your staff position.**

- ☐ a. Registered Nurse
- ☐ b. Enrolled Nurse
- ☐ c. Enrolled nursing auxiliaries

**2. In your staff position, do you typically have direct interaction or contact with patients?**

- ☐ a. YES, I typically have direct interaction or contact with patients.
- ☐ b. NO, I typically do NOT have direct interaction or contact with patients.

**3. How long have you worked in your current specialty or profession?**

- ☐ a. Less than 1 year                      ☐ d. 11 to 15 years
- ☐ b. 1 to 5 years                              ☐ e. 16 to 20 years
- ☐ c. 6 to 10 years                            ☐ f. 21 years or more

**4. How long have you worked in this hospital?**

- ☐ a. Less than 1 year                      ☐ d. 11 to 15 years
- ☐ b. 1 to 5 years                              ☐ e. 16 to 20 years
- ☐ c. 6 to 10 years                            ☐ f. 21 years or more

**5. How long have you worked in your current hospital work area/unit?**

- ☐ a. Less than 1 year                      ☐ d. 11 to 15 years
- ☐ b. 1 to 5 years                              ☐ e. 16 to 20 years
- ☐ c. 6 to 10 years                            ☐ f. 21 years or more

**6. Typically, how many hours per week do you work in this hospital?**

- ☐ a. Less than 20 hours per week                      ☐ d. 60 to 79 hours per week
- ☐ b. 20 to 39 hours per week                              ☐ e. 80 to 99 hours per week
- ☐ c. 40 to 59 hours per week                            ☐ f. 100 hours per week or more

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

- ☐ a. Maternity Ward
- ☐ b. Surgery Ward

- ☐ c. Paediatrics ward  
☐ d. Medical Ward  
☐ e. Intensive Care Unit  
☐ f. Emergency department  
☐ g. Operating Theatre  
☐ h. Others, please specify: \_\_\_\_\_

### **SECTION B: 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.

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

| Think about your hospital work area/unit...   | Strongly<br>Disagree<br>▼             | Disagree<br>▼                         | Neither<br>▼                          | Agree<br>▼                            | Strongly<br>Agree<br>▼                |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. People support one another in this unit .....  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 2. We have enough staff to handle the workload .....  | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 3. When a lot of work needs to be done quickly, we work together as a team to get the work done ..... | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 4. In this unit, people treat each other with respect .....   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 5. Staff in this unit work longer hours than is best for patient care .....                           | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 6. We are actively doing things to improve patient safety .....                                       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 7. We use more agency/temporary staff than is best for patient care .....                             | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 8. Staff feel like their mistakes are held against them .....   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 9. Mistakes have led to positive changes here .....   | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 10. It is just by chance that more serious mistakes don't happen around here .....                    | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 11. When one area in this unit gets really busy, others help out .....                                | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 12. When an event is reported, it feels like the person is being written up, not the problem .....    | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |

- |  |                                       |                                       |                                       |                                       |                                       |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 13. After we make changes to improve patient safety, we evaluate their effectiveness ..... | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 14. We work in "crisis mode" trying to do too much, too quickly.....                       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 15. Patient safety is never sacrificed to get more work done.....                          | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 16. Staff worry that mistakes they make are kept in their personnel file .....             | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 17. We have patient safety problems in this unit.....                                      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 18. Our procedures and systems are good at preventing errors from happening.....           | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |

### **SECTION C: 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.**

- |  | <b>Strongly<br/>Disagree</b><br>▼     | <b>Disagree</b><br>▼                  | <b>Neither</b><br>▼                   | <b>Agree</b><br>▼                     | <b>Strongly<br/>Agree</b><br>▼        |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. My supervisor/manager says a good word when he/she sees a job done according to established patient safety procedures ..... | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 2. My supervisor/manager seriously considers staff suggestions for improving patient safety .....                              | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 3. Whenever pressure builds up, my supervisor/manager wants us to work faster, even if it means taking shortcuts .....         | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 4. My supervisor/manager overlooks patient safety problems that happen over and over.....                                      | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |

### **SECTION D: Communications**

**How often do the following things happen in your work area/unit?**

- | <b>Think about your hospital work area/unit...</b>                            | <b>Never</b><br>▼                     | <b>Rarely</b><br>▼                    | <b>Some-<br/>times</b><br>▼           | <b>Most of<br/>the time</b><br>▼      | <b>Always</b><br>▼                    |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. We are given feedback about changes put into place based on event re       | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 2. Staff will freely speak up if they see something that may negatively affec | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 3. We are informed about errors that happen in this unit.....                 | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 4. Staff feel free to question the decisions or actions of those with more au | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 5.....In this unit, we discuss ways to prevent errors from happening again    | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |
| 6... Staff are afraid to ask questions when something does not seem right     | <input type="checkbox"/> <sub>1</sub> | <input type="checkbox"/> <sub>2</sub> | <input type="checkbox"/> <sub>3</sub> | <input type="checkbox"/> <sub>4</sub> | <input type="checkbox"/> <sub>5</sub> |

### **SECTION E: Frequency of Events Reported**

**In your hospital work area/unit, when the following mistakes happen, *how often* are they reported?**

|  | Never<br>▼                 | Rarely<br>▼                | Some-<br>times<br>▼        | Most of<br>the time<br>▼   | Always<br>▼                |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. When a mistake is made, but is <u>caught and corrected before affecting the patient</u> , how often is this reported? ..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 2. When a mistake is made, but has <u>no potential to harm the patient</u> , how often is this reported? .....                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 3. When a mistake is made that <u>could harm the patient</u> , but does not, how often is this reported? .....                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

## **SECTION F: Your Hospital**

Please indicate your agreement or disagreement with the following statements about your hospital.

| Think about your hospital...   | Strongly<br>Disagree<br>▼  | Disagree<br>▼              | Neither<br>▼               | Agree<br>▼                 | Strongly<br>Agree<br>▼     |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. Hospital management provides a work climate that promotes patient safety .....                  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 2. Hospital units do not coordinate well with each other .....                                     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 3. Things "fall between the cracks" when transferring patients from one unit to another .....      | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 4. There is good cooperation among hospital units that need to work together .....                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 5. Important patient care information is often lost during shift changes...                        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 6. It is often unpleasant to work with staff from other hospital units .....                       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 7. Problems often occur in the exchange of information across hospital units .....                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 8. The actions of hospital management show that patient safety is a top priority.....              | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 9. Hospital management seems interested in patient safety only after an adverse event happens..... | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 10. Hospital units work well together to provide the best care for patients.....                   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| 11. Shift changes are problematic for patients in this hospital.....                               | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

## **SECTION G: Number of Events Reported**

**In the past 12 months**, how many event reports have you filled out and submitted?

- |  |  |
|--|--|
| <input type="checkbox"/> a. No event reports     | <input type="checkbox"/> d. 6 to 10 event reports    |
| <input type="checkbox"/> b. 1 to 2 event reports | <input type="checkbox"/> e. 11 to 20 event reports   |
| <input type="checkbox"/> c. 3 to 5 event reports | <input type="checkbox"/> f. 21 event reports or more |

## **SECTION H: Patient Safety Grade**

Please give your work area/unit in this hospital an overall grade on patient safety.

|                          |                          |                          |                          |                          |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

|           |           |            |          |          |
|-----------|-----------|------------|----------|----------|
| <b>A</b>  | <b>B</b>  | <b>C</b>   | <b>D</b> | <b>E</b> |
| Excellent | Very Good | Acceptable | Poor     | Failing  |

***THANK YOU FOR COMPLETING THIS SURVEY.***

## Appendix 6: Permission for use of an instrument

RE: Hospital Surveys on Patient Safety Culture - Namibia, Africa: \*ref#24-83325

Yesterday at 12:29 PM

From [SafetyCultureSurveys@westat.com](mailto:SafetyCultureSurveys@westat.com) >

[Hide](#)

To [ainameke@icloud.com](mailto:ainameke@icloud.com) >

Cc [safetyculturesurveys@westat.com](mailto:safetyculturesurveys@westat.com) >

Dear Aina Erastus,

Thank you for the information about your use of the Surveys on Patient Safety Culture™. We in the Patient Safety Culture Surveys Support Group at Westat ([SafetyCultureSurveys@westat.com](mailto:SafetyCultureSurveys@westat.com)) have been authorized to respond on behalf of the Agency for Healthcare Research and Quality (AHRQ) by Ms. Randie Siegel, Associate Director, Office of Communications and Knowledge Transfer, Publishing and Electronic Dissemination. Our group, as the Safety Culture Surveys support contractor, handles the majority of permissions for these tools and their related documents in English, notifies AHRQ of requests for permission to translate these documents, and maintains an electronic community for International users.

Based on your description of your project, AHRQ grants you permission to use the Hospital survey in English for your graduate research at University of Stellenbosch in South Africa. We understand that this research will be carried out at Mediclinic in Namibia. AHRQ requests that you note on the survey forms that the form is "reprinted/translated with permission from the Agency for Healthcare Research and Quality (an Agency of the United States Department of Health and Human Services); Rockville, Maryland USA." In any publication of the results of the survey, such as a thesis, internal report to the hospital, or professional journal article, please include a proper source citation.

The AHRQ Web site for the patient safety culture surveys is <http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/index.html>. The survey form and related materials can be found at this site. Be sure to read the Survey User's Guide for the appropriate survey, especially the sections on modifying or translating the survey. For technical questions, please contact us. We can also put you in touch with other non-U.S. users of the survey (go to "International Users of the Surveys on Patient Safety Culture" for more information).

If you have questions about permissions issues, or if you are interested in permissions to use or translate other AHRQ tools or documents, please feel free to contact Ms. Siegel or David Lewin, Manager of Copyrights & Permissions, Office of Communications and Knowledge Transfer.

Sincerely,  
Miranda

Miranda Baxter | AHRQ Surveys on Patient Safety Culture™ Technical Assistance  
Westat | 1700 Research Blvd | Rockville, MD 20850  
phone: 1-888-324-9749 | fax: 1-888-852-8277 | email: [SafetyCultureSurveys@westat.com](mailto:SafetyCultureSurveys@westat.com)

## Appendix 7: Declarations by the statistician

**Tawanda Cleopas Vera**  
[achokolat@gmail.com](mailto:achokolat@gmail.com)  
+264 81 349 4916  
123 John Meinert Street  
Windhoek West

3 November 2017

### TO WHOM IT MAY CONCERN

**RE:** PROOF OF TECHNICAL CARE FOR THE THESIS ON *THE PERCEPTIONS OF NURSES ON THE FACTORS THAT INFLUENCE PATIENT SAFETY CULTURE IN A NAMIBIAN PRIVATE HEALTHCARE SETTING*

This letter serves to confirm that the undersigned,

**Tawanda Cleopas Vera**

Assisted with the technical care of the thesis on chapters related to Methodology, Presentation, Analysis and Interpretation of Data.

### SIGNED



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**Tawanda Cleopas Vera**  
BSc(UZ), MScFE(WQU)

## Appendix 8: Declarations by language and technical editors

P O Box 55303

Rocky Crest

Windhoek

Namibia

30 November 2017

### TO WHOM IT MAY CONCERN

#### **RE: LANGUAGE AND TECHNICAL EDITING**

This serves to confirm that I have rendered language and technical editing services to **Aina Ndilimeke Erastus** for her thesis: “The perceptions of nurses on the factors that influence patient safety culture in a Namibian private healthcare setting” in my capacity as an independent editor.

I have looked at spelling, grammar, style and sentence flow as well as formatting of the document.



Yours sincerely

Nkazana S. Mwanandimai (Mrs)

Associate Member # NKA001

Professional Editors' Guild (SA)



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**DECLARATION BY EDITOR**

62 Peeksa Street

Die Boord

Stellenbosch

7600

13 February 2018

**To whom It may concern**

RE: Editing of thesis

This letter serves as confirmation that I, Selene Delpont, edited the Master's thesis of Aina Ndilimeke Erastus: "The perceptions of nurses on factors that influence patient safety culture in a Namibian private healthcare setting". I edited the language, formatting, and references.

Sincerely,

Selene Delpont



Freelance editor