The relationship between the qualifications of professional nurses and their perception of patient safety and quality of care in medical and surgical units in South Africa

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ABSTRACT

Background: Several international studies have been published on the importance of exploring and describing the perceptions of professional nurses to improve patient safety and quality of care. There is also a growing body of literature that has established the associations of qualifications on patient safety and quality of care. However, no comparable research has been conducted in South Africa, and little is known about the influence of personal characteristics, such as qualifications of the professional nurse, on his/her perception of patient safety and quality of care.

Objective: To investigate the perceptions of professional nurses regarding patient safety and quality of care as well as the relationship between the qualifications of professional nurses and these perceptions in medical and surgical units in public and private hospitals in South Africa.

Design: Cross-sectional survey of nurses.

Setting and participants: 1187 professional nurses (161 Baccalaureate degree and 956 diploma-prepared) working in medical and surgical units of 55 private hospitals and 7 public national referral hospitals in South Africa completed the survey.

Measurements: Perceptions of patient safety, quality of care and occurrence of adverse events, qualifications, age, job satisfaction, emotional exhaustion, experience, personal accomplishment and depersonalization.

Results: 54.1% (n = 87) of Baccalaureate professional nurses and 51.2% (n = 490) diploma nurses feel as if their mistakes are held against them. 37.9% (n = 61) of Baccalaureate professional nurses and 42.4% (n = 404) diploma nurses perceive important information to be lost during shift changes. 39.1% (n = 63) of Baccalaureate professional nurses and 38.6% (n = 369) diploma nurses feel that things “fall between the cracks” when transferring patients from one unit to another. 43.5% (n = 70) of Baccalaureate professional nurses and 48.7% (n = 465) diploma nurses feel that their hospital’s managements are not approachable. Almost half of professional nurses (49%

[n = 79] Baccalaureate and 44.4% [n = 418] diploma) do not have confidence in hospital management to resolve reported problems regarding patient care. 26.6% (n = 26.8) of Baccalaureate professional nurses and 25.5% (n = 237) of diploma professional nurses perceive the quality of care in their hospitals to have deteriorated. Both Baccalaureate and diploma professional nurses reported adverse events to occur a few times a year or less. Verbal abuse towards nurses is reported to occur once a month or less. Qualifications revealed no correlation with perceptions of patient safety and quality of care, though emotional exhaustion and depersonalization showed a small to medium negative correlation and personal accomplishment a small to medium positive correlation with these perceptions.

Conclusions: Supportive leadership and development of an environment in which professional nurses can freely report adverse events and hindering factors with regard to quality of care might benefit patients in terms of safety and better quality care.

Key words: Patient safety, quality of care, perceptions, baccalaureate, diploma, qualifications.

UITTREKSEL

Agtergrond: Vele internasionale studies rakende die belangrikheid om persepsies van professionele verpleegkundiges te ondersoek en te beskryf ten einde pasiëntveiligheid en kwaliteitsorg op te skerp, is al gepubliseer. Hierdie studies neem egter nie die Suid-Afrikaanse konteks in ag nie en hou ook nie tred met die invloed van persoonlike kenmerke van die professionele verpleegkundige, soos kwalifikasies of die professionele verpleegkundige se persepsies van pasiëntveiligheid en kwaliteitsorg nie.

Uitkoms: Om die persepsies van professionele verpleegkundiges rakende pasiëntveiligheid en kwaliteitsorg asook die verhouding tussen kwalifikasies van professionele verpleegkundiges en hierdie persepsies te ondersoek in die mediese en chirurgiese eenhede van publieke en privaathospitale in Suid-Afrika.

Ontwerp: Deursnitoorsig van verpleegkundiges.

Milieu en deelnemers: 1187 professionele verpleegkundiges (161 Baccalaureaat graad en 956 diploma-gekwalifiseer) wat in mediese en chirurgiese eenhede van 55 privaat en sewe publieke nasionale verwysingshospitale van Suid-Afrika werk, het die vraelys voltooi.

Mates: Persepsies van pasiëntveiligheid, kwaliteitsorg en voorkoms van teenstrydige voorvalle, kwalifikasies, ouderdom, werkstevredenheid, emosionele uitputting, ervaring, persoonlike prestasie en depersonifikasie.

Resultate: 54.1% (n = 87) Baccalaureaat professionele verpleegkundiges en 51.2% (n = 490) diploma professionele verpleegkundiges voel dat hulle foute teen hulle gehou word. 37.9% (n = 61) Baccalaureaat en 42.4% (n = 404) diploma professionele verpleegkundiges ervaar dat belangrike inligting tydens skofwisselings verlore raak. 39.1% (n = 63) Baccalaureaat en 38.6% (n = 369) diploma professionele verpleegkundiges is oortuig daarvan dat belangrike aksies agterweë gelaat word wanneer pasiënte tussen eenhede oorgeplaas word. 43.5% (n = 70) Baccalaureaat en 48.7% (n = 465) diploma professionele verpleegkundiges voel dat hospitaalbestuur nie

maklik genader kan word nie. Amper die helfte van professionele verpleegkundiges (49% [n = 79] Baccalaureaat en 44.4% [n = 418] diploma) het nie vertroue in die hospitaalbestuur om aangemelde probleme rakende pasiëntsorg op te neem nie. 26.6% (n = 26.8) Baccalaureaat en 25.5% (n = 237) diploma professionele verpleegkundiges ervaar dat die kwaliteitsorg in hulle hospitale tydens die laaste jaar agteruitgegaan het. Beide Baccalaureaat en diploma professionele verpleegkundiges het gerapporteer dat negatiewe gebeurtenisse een maal of minder per jaar voorkom alhoewel verbale mishandeling teenoor verpleegkundiges een maal ’n maand of minder voorkom. Kwalifikasies toon geen korrelasie met persepsies van pasiëntveiligheid en kwaliteitsorg nie, alhoewel emosionele uitputting en depersonifikasie ’n klein tot medium negatiewe korrelasie en persoonlike prestasie ’n klein tot medium positiewe korrelasie met hierdie persepsies toon.

Gevolgtrekkings: Ondersteunende leierskap en ontwikkeling van ’n omgewing waarin professionele verpleegkundiges vrylik nadelige voorvalle en hindernisse tot kwaliteitsorg kan rapporteer, mag pasiënte bevoordeel ten opsigte van veiligheid en verbeterde kwaliteitsorg.

Sleutelwoorde: Pasiëntveiligheid, kwaliteitsorg, persepsies, baccalaureaat, diploma, kwalifikasies.

LIST OF ACRONYMS

AHRQ:	Agency for Healthcare Research and Quality
AACN:	American Association of Colleges of Nursing
DOH:	Department of Health
FINE:	European Federation of Nurse Educators
ICN:	International Council of Nurses
NWU:	North-West University
SANC:	South African Nursing Council
SAQA:	South African Qualifications Authority
STTI:	Sigma Theta Tau International
UK:	United Kingdom
WHO:	World Health Organisation

CHAPTER 1 – OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Based on international literature, one can find a clear link between the qualifications of nurses and patient safety and quality of patient care (Aiken, Clarke, Cheung, Sloane, & Silber 2003:1621). This link, however, is not clearly discussed within the context of the health-care system of South Africa. Therefore, this research project aims to investigate the qualifications of professional nurses in relation to their perceptions of patient safety and quality of care.

This study forms part of an international collaborative research programme, Nurse Forecasting in Europe (RN4CAST), which aims to expand typical forecasting models with reference to the features of work environments, qualifications of the nurse workforce and the impact of these on nurse retention, productivity and patient outcomes. RN4CAST is a consortium of 15 partners in 11 European countries: Belgium, Finland, Germany, Greece, Ireland, Poland, Spain, Sweden, Switzerland, the Netherlands, the United Kingdom (UK); and three partners outside Europe: China, South Africa and Botswana (Sermeus, Bruyneel, Van den Heede, Luwis & Aiken, 2009:203).

Within the RN4CAST programme, this study focuses on the relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care in medical and surgical units of private and public hospitals in South Africa.

1.2 BACKGROUND

According to the Solidarity Research Institute (2009:19) South Africa has a nursing shortage. Only one professional nurse is available for every 434 persons in this country (South African Nursing Council [SANC], 2011:2). This is not a new problem. Gutierrez (1991:1) explained two decades ago that the shortage of nursing students and ultimately professional nurses is quantitative as well as qualitative in nature. Thus the

need is not only for greater numbers of professional nurses, but also for high quality professional nurses, nurses with a degree of excellence.

Although there has been an overall increase in the total number of nurses on the registers over the nine-year period from 2001 to 2010 in South Africa, there still is a shortage of qualified professional nurses (SANC, 2011:1). There is currently a shortage of more than 30 000 professional nurses in the public health-care sector alone (Solidarity Helping Hand, 2010:1). According to SANC (2011:1) the professional category of nurses has grown by 21.9% over the last nine years. The growth in this category is supplemented by persons completing the bridging programme that allows nurses in the Enrolled Nurse category to "upgrade" to the Professional Nurse category (SANC, 2011:1).

Disparities in the distribution of human resources between the private and public sectors – accompanied by acute shortages of staff in the public sector – present as a general rule and apply to most health professions (Van Rensburg, 2004:354). The private-public distortion in staff numbers is further exacerbated by the fact that only approximately 18% of the total population are dependent on a private sector lavishly staffed with health professionals (Van Rensburg, 2004:355). The public sector professional nurse thus often faces bigger problems with patient overload and staff-shortages.

Nurse understaffing is ranked by the public and by physicians as one of the greatest threats to patient safety in US hospitals (Aiken *et al.,* 2003:2116). This is also applicable in the South African context. Due to the named shortage in South Africa, professional nurses are often substituted by less qualified personnel in routine patient activities. However, Paulson (2004:307) found a direct correlation between adverse events such as prolonged waiting time and patients leaving without being seen when comparing triage performed by less qualified personnel rather than professional nurses. Kutney-Lee and Aiken (2008:1469) also suggest that nurses' education may be an important element in the length of stay of surgical patients with serious mental illness. To add, Aiken, Clarke and Sloane (2002:7) conclude from research that staff

qualifications directly impact on the process of care and patient outcomes. It is to this end that the American Association of Colleges of Nursing (AACN) recognises a Baccalaureate degree in nursing as the minimum educational requirement for professional nursing practice (AACN, 2000:1). This trend is also encouraged by the Honour Society of Nursing, Sigma Theta Tau International (STTI), as objectives were set to encourage diploma students to obtain a Baccalaureate degree in nursing (Warren, Mills & DeForge, 2005:1). Finally, working with the International Council of Nurses (ICN), the World Health Organisation compiled global standards for the initial education of professional nurses in which it is recognised that the provision of university-level education in countries is a goal for the future (WHO, 2009:11).

The nursing student in South Africa can receive training from different institutions, including public and private colleges, universities and universities of technology, thereafter qualifying either with a diploma or a Baccalaureate degree in nursing. There are three basic routes to follow in order to achieve registration with SANC as a professional nurse. According to SANC (2011:1) students either receive education from a university or college. This will lead to qualification with a Baccalaureate degree, a diploma, or a bridging course diploma.

Comparing the professional nurses who qualified with a Baccalaureate degree with those who finished with a diploma in 2010, the numbers provided by SANC (2011:1) reveal the following: 629 Baccalaureate degree professionals qualified at universities while 2337 diploma professionals qualified at other institutions (including both four-year courses and bridging courses).

According to Hsu and Hsieh (2009:2454) Baccalaureate degree nursing students receive basic nursing education and continue to build competency in practice settings after graduation. However, in South Africa, clinical competency is also gained throughout the nursing student's studies through clinical practice within the hospital and clinic setting as well as in simulation, a foundation upon which is built during years to follow in practice. Though disciplinary knowledge receives much attention in nursing studies, clinical training does not lack. This is confirmed by Bruce (2003:141) who

states that the development and transference of content and disciplinary knowledge through basic research and teaching is paramount to university education, although the belief remains among many professional nurses today that the practical experience of the diploma student is superior to the simulation-type learning used as tool in Baccalaureate studies. Schlairet and Pollock (2010:44) found that simulated clinical experience is as effective as traditional clinical experience in promoting students' knowledge acquisition. Furthermore, in South Africa, Baccalaureate training is not limited to simulated clinical experiences.

Aiken *et al.* (2003:1621) discovered that surgical patients cared for in hospitals in which higher proportions of direct-care professional nurses held Baccalaureate degrees, experienced a substantial survival advantage over those treated in hospitals in which fewer nurses held Baccalaureate degrees or higher. Similarly, surgical patients experiencing serious complications during hospitalization were significantly more likely to survive in hospitals with a higher proportion of nurses with a Baccalaureate education (Aiken *et al.*, 2003:1621). A 10% increase in the proportion of nurses holding a Baccalaureate degree was associated with a 5% decrease in both the likelihood of patients dying within 30 days of admission and the odds of failure to rescue (Aiken *et al.* 2003:1617). Furthermore, Aiken *et al.* (2003:1622) imply that altering the qualifications of hospital nurses by increasing the percentage of those earning a Baccalaureate degree would produce substantial decreases in mortality rates for surgical patients generally and for patients who develop complications. This relation between qualifications and patient safety and quality of care in South Africa is still to be investigated as the qualifications differ from country to country.

The Baccalaureate programme is, however, not accessible to all prospective nurses in South Africa. An average of 50-59% must be achieved at the end of Grade 12, in addition to university exemption (North-West University [NWU], 2011:38). For this reason, a Baccalaureate degree as the only approach in the health-care system of South Africa is not necessarily attainable – the shortage of nurses would only be exacerbated by this. A warning should be derived from the massive failure the American Nurses Association experienced in 1965 when a position paper stating that

the Baccalaureate degree should be the minimum educational preparation for entry into professional nursing practice and the associate degree should be the minimum preparation for entry into technical nursing practice was published (Senter, 2004:1) as this amplified the nursing shortage.

However, as mentioned earlier, the AACN now recognises a Baccalaureate degree in nursing as the minimum educational requirement for professional nursing practice (AACN, 2000:1). Furthermore, the European Federation of Nurse Educators (FINE) declared during the 19th annual meeting of the Florence Network that the title **nurse** should only be used by professionals with graduate or higher education (Costa, 2011:2). This correlates with the wider Bologna template in which it is stated that nursing should become a graduate profession (European University Association, 2007:11). Thus, with time, this aim should not be disregarded as a possible future for nursing in South Africa.

In defence of other qualifications, the conventional thought is held that nurses' experience is more important than their educational levels (Hickam, Severance, Feldstein, Ray, Gorman, Schuldheis, Hersh, Krages & Helfand, 2003:10). However, Aiken *et al.* (2003:1620) contradicted this belief by stating that nurses' years of experience were not found to be a significant predictor of mortality or failure to rescue. Following this, years of experience will thus not cancel out prior educational advantage.

Cline, Rosenberg, Kovner and Brewer (2011:673) claim that in order to improve patient safety and quality of care, the perspectives of bedside professional nurses must be explored and understood. This is confirmed by Hansen, Williams and Singer (2011:598) who state that investigating different perceptions within a hospital setting could implicate target areas for improved patient outcomes.

Ramanujam, Abrahamson and Anderson (2008:148) state that nurse education has a direct, negative influence on the perception of patient safety. According to Hansen *et al.* (2011:607) hospital staff perceptions of safety are associated with clinical outcomes among patients. This is considered to be due to perceptions being related to insight into what patient safety entails (Hansen *et al.,* 2011:600). Hasson and Arnetz (2010:11)

confirm that nursing staff who had insight into what kind of activities would have been suitable gave low ratings to the actual activities offered when compared with individuals (patients) who had less insight into these activities. Following this, perceptions can indicate the measure of insight the professional nurse has regarding patient safety and quality of care and also impact on clinical outcomes of patients.

The question, however, remains whether different personal characteristics of professional nurses, such as qualifications, influence perceptions of patient safety and quality of care. Thus, an investigation needs to be done regarding what the perceptions of professional nurses are related to patient safety and quality of care and also whether qualifications impact on perceptions of patient safety and quality of care in South Africa.

1.3 PROBLEM STATEMENT

There exists a severe shortage of nurses in South Africa. The shortage, however, is not only one of numerical value, but also qualitative in nature. The patient safety and quality of care are thus endangered, not only due to the limited amount of professional nurses, but also due to limitations in the quality of nursing care rendered.

Staff qualifications directly impact on patient safety and quality of care. In South Africa, the professional nurse can either be diploma or Baccalaureate degree prepared. In most first-world countries the Baccalaureate degree is the minimum requirement for nursing practice.

Professional nurses' perceptions of patient safety and quality of care can reveal important information regarding patient outcomes and improve patient safety and quality of care. Furthermore, perceptions of the professional nurse could be explored to reveal knowledge deficits. As certain personal characteristics, such as qualifications, could influence perceptions of patient safety and quality of care, investigation of these factors could prove valuable.

The above-mentioned leads to the following research questions:

- What are the perceptions of patient safety and quality of care of the professional nurse with a diploma in nursing in South Africa?
- What are the perceptions of patient safety and quality of care of the professional nurse with a Baccalaureate degree in nursing in South Africa?
- Does a relationship exist between the qualifications of professional nurses and perceptions of patient safety and quality of care in medical and surgical units in public and private hospitals in South Africa?

1.4 AIM AND OBJECTIVES

The aim of this study was to investigate the relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care in medical and surgical units in public and private hospitals in South Africa. In order to achieve this aim the following objectives were identified:

- To describe diploma-prepared professional nurses' perceptions of patient safety and quality of care in medical and surgical units in public and private hospitals in South Africa.
- To describe Baccalaureate degree-prepared professional nurses' perceptions of patient safety and quality of care in medical and surgical units in public and private hospitals in South Africa.
- To determine whether there is a relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care in medical and surgical units in public and private hospitals in South Africa.

1.5 HYPOTHESIS

(Ho1): There is no significant relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care.

(Ha1): There is a significant relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care.

1.6 RESEARCHER'S ASSUMPTIONS

According to Burns and Grove (2009:40) assumptions are statements that are taken for granted or are considered true, even though they have not been scientifically tested. The following assumptions are thus seen as truth for the researcher.

1.6.1 Meta-theoretical assumptions

Meta-theoretical assumptions contain non-epistemic statements that cannot be tested (Mouton & Marais, 1994:192).

1.6.1.1 The world

The researcher sees the world through a Christian perspective, thus a God-created planet and place for man to live in temporarily and rule over creation as is stated in Genesis 1:28 "God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth'" (Bible, 1999). This implies that man should strive to utilize all given resources (acting as stewards of the Creator) for the greater good and benefit of the global population, as this would be acting within the instruction of God as given in Matthew 22:39 "You shall love your neighbour as yourself" (Bible, 1999). In this research, this assumption leads the researcher to believe that people (also nurses) should give their best in utilizing given resources (also the means to an education) to deliver the best possible service to the community, patient safe service of quality.

1.6.1.2 Man

Man is seen as a biological, psychological and social being created by God, thus made with a body, soul and spirit. In the context of this research, however, more focus is laid upon the physical body of the patient when considering aspects of patient safety and quality of care, though some aspects of the soul and spirit (e.g. emotions, sensitivity to patient beliefs) might be taken into account. **Man** within the context of this research is mostly referred to as nurses or patients.

1.6.1.3 Health

Health is seen as a continuum of functioning. Following this, ill health would be non-functioning in some or all aspects of being while optimal health would be considered optimal functioning in some or all aspects of being. Again, it is mostly physical health that is considered in the context of patient safety. Health also would be considered optimal functioning as a professional nurse. Thus healthy professional nursing would include safe and quality care rendered within the health-care system.

1.6.1.4 Nursing

Nursing is seen both as a profession and as a calling. Elements of nursing as given by Kozier *et al.* (2004:7-8) are accepted by the researcher. Nursing is caring, it is an art, a science, it is client-centred, holistic, adaptive, concerned with health promotion, health maintenance and health restoration.

Matthew 7:12 states the following: "So in everything, do to others what you would have them do to you, for this sums up the Law and the Prophets" (Bible, 1999). Therefore, in everyday practice, the professional nurse is called to provide the best possible service he/she can. This calls for a focus on patient safety and quality of care.

1.6.2 Theoretical assumptions

The South African Department of Health's (DOH) core standards for health establishments give guidelines for patient safety and quality of care (DOH, 2011:5). Some of these core standards are used as theoretical grounding for this study as these relate to the basic requirements needed for optimal patient safety and quality of care. These core standards (DOH, 2011:5) include the following:

- Patients receive care and treatment that follow nursing protocols, meet their basic needs and contribute to their recovery.
- Doctors, nurses and other health professionals constantly work to improve the care they provide through proper support systems.

- Clinical risk identification and analysis take place in every ward to prevent patient safety incidents.
- Patients with special needs or at high risk, such as pregnant mothers, children, the mentally ill or the elderly, receive special attention.
- Safety protocols are in place to protect patients undergoing high risk procedures such as surgery, blood transfusion or resuscitation.
- Adverse events or patient safety incidents are promptly identified and managed to minimise patient harm and suffering.
- An Infection Prevention and Control Programme is in place to reduce health care associated infections.
- Standard precautions are applied to prevent health care associated infections.

Following this, a professional nurse aiming to provide safe and quality care should adhere to the named core standards.

1.6.3 Concept clarification

Concepts of importance to the study will be briefly discussed.

1.6.3.1 Qualifications

SANC (2010:v) defines a qualification as a planned combination of learning outcomes with a defined purpose that is intended to provide qualifying learners with applied competence and a basis for further learning. The South African Qualifications Authority (SAQA, 2011:3) adds that it is the formal recognition of the achievement of the required number and range of credits and other requirements determined by the relevant bodies. A qualification thus is the recognition that a certain achievement was reached by means of compliance with specific requirements or standards.

Two specific qualifications are discussed within this study, namely the Baccalaureate degree in nursing and the diploma in nursing. According to Harvey (2004a:1) a Baccalaureate degree is the first-level higher education award while a diploma is a

generic term for a formal document (certificate) that acknowledges that a named individual has achieved a stated higher education award (Harvey, 2004b:1).

1.6.3.2 Patient safety

According to Hassen (2010:1) patient safety is focused on the prevention of error in health-care settings. Patient safety was operationalised by seven questions derived from the AHRQ (Agency for Healthcare Research and Quality) safety culture questionnaire to measure the safety culture in the selected nursing units (Sermeus, *et al*., 2011:4). These questions were answered on a 5-point scale ranging from strongly disagree to strongly agree. The following were included in the survey:

- Staff feel as if their mistakes are held against them.
- Important patient care information is often lost during shift changes.
- Things "fall between the cracks" when transferring patients from one unit to another.
- Staff feel free to question the decisions or actions of those in authority.
- In this unit, we discuss ways to prevent errors from happening again.
- We are given feedback about changes put into place based on event reports.
- The actions of hospital management show that patient safety is a top priority.

In this study, patient safety includes prevention of harm to the patient.

1.6.3.3 Quality of care

Campbell, Roland and Buetow (2000:1611) mention that there are two principal dimensions of quality of care for individual patients; access and effectiveness. Quality of care could therefore be measured as to whether care is received and whether that care leads to required results. The definition of quality depends on the values and norms of the community or context it is defined in.

In this study, the following measures of quality of care were included: Nurses' reports of the quality of nursing care on their unit and changes in the quality of nursing care over the last year; readiness of patients for discharge; confidence in hospital management to

resolve reported problems in quality of care; and an estimate of the frequency of a variety of adverse events involving themselves and their patients (Sermeus *et al*., 2011:5).

1.6.3.4 Perceptions

According to the Oxford English Dictionary (2011:1) perception is the way in which something is regarded, understood, or interpreted or intuitive understanding and insight. The Merriam-Webster Dictionary (2011:1) describes perception as a mental image. Thus, perceptions held by a person are the basis of how a person sees and understands a concept and what is included in the mental image when cognitively referring to that same concept. The above-mentioned measures on patient safety and quality of care reflect the perceptions of professional nurses working in the sampled medical and surgical units in public and private hospitals in South Africa.

1.6.4 Methodological assumptions

The Botes model for research in nursing was applied for this research. This model introduces three orders of activities of nursing (Botes, 1995:6), the first being nursing practice, the second the theory of nursing and the third the paradigmatic perspective.

The first order, nursing practice, is the primary source of research topics (Botes, 1995:6). In this research, different qualifications lead to different actions taken by professional nurses within practice. This might be related to perceptions. Perceptions, again, might reveal important information about patient safety and quality of care.

The second order, nursing theory, includes the process of research in which statements are ordered and structured in such a way as will add to the understanding of the practice (Botes, 1995:7). In this research, this includes setting of hypotheses and testing of those hypotheses in order to come to a usable conclusion in understanding the relationship between qualifications and perceptions of patient safety and quality of care.

Lastly, the third order, the paradigmatic perspective, implies a connection to a compilation of beliefs on the meta-theoretical level (Botes, 1995:7). These beliefs that were discussed previously impact on the researchers approach to the research at hand.

1.7 RESEARCH DESIGN

The research design is cross-sectional with descriptive, explanatory and contextual research strategies. This study is quantitative in nature for the following reasons (Brink, 2006:11):

- It focuses on a small number of concepts (patient safety, quality of care and qualifications).
- There is a preconceived idea about how the concepts are interrelated (hypotheses were formulated).
- Formal instruments were used to collect information.
- The information was collected under conditions of control.
- Statistical procedures were used in analyses.

According to Burns and Grove (2009:695) cross-sectional designs are used to examine groups of subjects in various stages of development simultaneously with the intent of inferring trends over time. This study's design could qualify as cross-sectional because the data-collection occurred simultaneously while professional nurses taking part in the study differed in age and years of experience. These developmental differences were then later correlated to differences in perceptions of professional nurses regarding patient safety and quality of care.

Different strategies are added to the research, namely descriptive, explanatory and contextual. The study is descriptive in that it is used to identify a phenomenon of interest, identify variables within the phenomenon, develop definitions of the variables and describe variables in a study situation (Burns & Grove, 2005:696). The phenomenon of interest is the relationship between the different variables, namely qualifications as independent variable and perceptions of patient safety and quality of care as dependent variable. Descriptive studies are also called observational, because

you observe the subjects without otherwise intervening (Hopkins, 2008:2). Here, observation was made regarding the perceptions of nurses with different qualifications of patient safety and quality of care.

Closely related to the descriptive element is a hypothesis of how the different concepts, namely patient safety, quality of care and qualifications, are interrelated. This correlates with the definition for explanation as is given by Burns and Grove (2009:13), saying that explanation clarifies the relationships among phenomena and clarifies why certain events occur.

All the above-mentioned elements are implemented with reference to medical and surgical units of public and private hospitals in South African, thus it is also contextual.

1.8 RESEARCH METHOD

According to Welman, Kruger and Mitchell (2005:10) quantitative research uses structured methods to evaluate objective data.

1.8.1 Data collection

The researcher used data as collected by using the RN4CAST survey: the survey contains 118 questions divided into four sections that are related firstly to the practice environment of nurses, burnout, job satisfaction, intention to leave and most recent shift. Secondly nurse-perceived patient safety and quality of care, as well as incidence of adverse events are included. Thirdly, questions of nurse staffing levels (number & education) are included and lastly, a demographics section completes the survey (Sermeus *et al*., 2011:5). The sections on nurse-perceived patient safety and quality of care as well as demographics were completed by 1187 professional nurses working in medical and surgical units. A total of 1117 (60 missing) professional nurses completed the question regarding their qualifications and were included in this study, of which 161 have a Baccalaureate degree in nursing and 956 have a diploma.

Seven items derived from the AHRQ safety culture questionnaire are a part of the survey concentrating on professional nurses' perceptions of patient safety in their units (Sermeus *et al.*, 2011:5). These seven items, in the form of a Likert scale ranging from one (strongly disagree) to five (strongly agree) includes het following statements: "Staff feel as if their mistakes are held against them;" "Important patient care information is often lost during shift changes;" "Things 'fall between the cracks' when transferring patients from one unit to another;" "Staff feel free to question the decisions or actions of those in authority;" "In this unit, we discuss ways to prevent errors from happening again;" "We are given feedback about changes put into place based on event reports" and "The actions of hospital management show that patient safety is top priority."

Perceptions of quality of care were measured using five questions namely, "In general, how would you describe the quality of nursing care delivered to patients on your unit?" which ranged on a scale from 1 (poor) to 4 (excellent); "How confident are you that your patients are able to manage their care when discharged?" which ranged on a scale from 1 (not confident at all) to 4 (very confident); "How confident are your that hospital management will act to resolve problems in patient care that you report?" which ranged on the same scale as the second question; "Please give your unit an overall grade on patient safety." Which ranged on a scale from 1 (failing) to 5 (excellent); and lastly "In the past year would you say the quality of patient care in your hospital has …" which could be answered by 1 (deteriorated), 2 (remained the same) or 3 (improved).

Furthermore, responses from nurses reported incidences of adverse events as determined by a seven-point Likert scale ranging from zero (never) to six (every day) were included in the study.

According to McCaston (2005:7) secondary data analysis is the analysis of data or information either gathered by someone else or for some purpose other than the one currently being considered, or often a combination of the two. In this research study, data was collected for the purpose it is being used for, but it was gathered by someone other than the researcher. Thus, this research could qualify as secondary data analysis, though, because the supervisors of the researcher were directly involved in

the data-collection process, it could be argued that primary data analysis was performed. For the article, primary data analysis was assumed because the supervisors themselves were acknowledged as co-authors, thereby rendering obsolete the argument for secondary data analysis, although issues regarding secondary data analysis are described here for the sake of completeness as the researcher was not involved in the data collection, thereby attributing the whole research study the secondary data analysis trait.

As mentioned by Boslaugh (2011:7) the researcher experienced the major advantage of economy while working with secondary data – the costs were minimized and so also the time spent on data-collection. Furthermore secondary data analysis is ideal for researchers who prefer testing hypotheses using existing data sets (Boslaugh, 2011:7), which is relevant to this research. This goes hand in hand with the advantage of the breadth of data that is available (Boslaugh, 2011:8). The researcher thus has access to all the needed data as already collected.

1.8.2 Population and sampling

The population of choice was professional nurses (both Baccalaureate degree and diploma prepared) working in medical and surgical units in the public and private hospitals of South Africa. SA is divided into nine geographical provinces: Gauteng, North-West, Free State, Limpopo, Mpumulanga, KwaZulu-Natal, Eastern Cape, Northern Cape and Western Cape. Six of the nine provinces, namely Gauteng, North West, Free State, KwaZulu-Natal, Eastern Cape and Western Cape were included in the study, as most national referral hospitals in the public sector and hospitals in the private sector are located within these provinces (Klopper, Coetzee, Pretorius & Bester, 2012:4). The three largest private hospital groups were invited to participate in the study, of which two hospital groups gave permission to participate. Included in the study were 55 (n = 83) private hospitals (hospitals with a bed capacity of 100 beds or more) and 7 (n = 14) national referral hospitals in the public sector (Coetzee et al, 2012).

1.8.3 Data analysis

Data analysis entails categorising, ordering, manipulating and summarising the data and describing them in meaningful terms (Brink, 2006:170). According to Levine, Stephan, Krehbiel and Berenson (2011:32) statistics is the branch of mathematics that transforms numbers into useful information for decision-makers. The researcher therefore makes use of statistical analysis in this study.

Data for the RN4CAST programme was captured via the computer programme EPIDATA 3.1 (Lauritsen 2008) and analysed using SPSS 16.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics, utilizing frequencies, means and standard deviations, was used to report on demographics and perceptions of patient safety and quality of care while medians were utilized in reporting on perceptions of adverse events. Descriptive statistics allow the researcher to organize the data in ways that give meaning and insight and to examine a phenomenon from a variety of angles (Burns & Grove, 2009:470). According to Burns and Grove (2009:477) this is the starting point of analysis in any study in which the data is numerical. Thus descriptive statistics such as age, years of experience, full time or part-time employment and qualifications of professional nurses, patient safety, quality of care and adverse events will be encountered in this study.

Correlational analysis as another sub-category of statistical analysis identifies relationships between or among variables (Burns & Grove, 2009:478). P values (statistical significance derived from t-tests) and effect size (practical significance) of relationships between perceptions of patient safety, quality of care and qualifications of professional nurses were used to obtain insight into this relationship. According to Whitley and Ball (2002:223) the p value measures how likely it is that any observed difference between groups is due to chance. Values close to 0 (zero) indicate that the observed difference is unlikely to be due to chance, whereas a *P* value close to 1 suggests there is no difference between groups other than that due to random variation (Whitley & Ball, 2003:223). According to Durlak (2009:918) the effect size gives an indication of the magnitude and direction of the difference between two groups or the

relationship between two variables. Ellis (2010:1) explains that the effect size is conventionally interpreted as small if it is bigger or equal to 0.10, medium if it is bigger or equal to 0.30, or large if it is bigger or equal to 0.50.

Furthermore a Mann-Whitney test was done to distinguish between the perceptions of adverse events of professional nurses with different qualifications. The Spearman rank correlation coefficient or Spearman rho was calculated to indicate the strength and direction of the relationship between perceptions of professional nurses and different influencing factors, including age, satisfaction with nursing as career, years of experience, emotional exhaustion, personal accomplishment and depersonalization.

Cronbach alpha tests were done to determine reliability. Cronbach alpha tests are done to assure internal consistency of items in a scale - indicating to what measure a certain construct is tested consistently (Gliem & Gliem, 2008:85). Constructs included in the survey and used in the study include emotional exhaustion, personal accomplishment and depersonalization. According to Gliem and Gliem (2008:85) the closer the Cronbach alpha coefficient is to one, the greater the internal consistency of the items. Though the aim for the Cronbach alpha for a survey should be eight, seven is seen as acceptable.

1.9 RIGOUR

According to McCaston (2005:8) the following needs to be considered when assuring rigour for a secondary data analysis:

- Consider the original purpose of the data collection. As data collected through RN4CAST was intended for research purposes, bias was greatly minimized. No manipulation of results for specific outcomes was possible.
- Were the methods of collection sound? Data collection was done by voluntary consent, thus no coercion could have led to altered information. Furthermore, stratified random sampling was applied as mentioned earlier, thus bias was again minimized. Added to this, an audit trail was created for future replication.

- What was the date of publication? The data was collected within the past two years and are thus still relevant for today.
- Who is the intended audience? As the questionnaire was planned to be analysed by researchers, the data is not too elementary or too general for the intended purpose.
- What is the coverage of the report or document? The RN4CAST questionnaire is used by different countries belonging to the consortium, and adapted to fully relate to given contexts.
- Is it a primary or secondary source? Being a primary source, the questionnaires holds new relevant information that was not previously manipulated or changed in order to change outcome results.

Though being used according to the above-mentioned criteria, the information used for this secondary data analyses is rigorous. Boslaugh (2011:10) mentions a major disadvantage of secondary data analysis in that the researcher cannot be certain of how the data was gathered. However, as the supervisors of the researcher planned and were involved in the gathering of data, any questions the researcher had regarding data collection was easily addressed, whereby rigour was protected.

According to Burns and Grove (2009:726) the validity of the design represents the strength of a design to produce accurate results. As all measures were taken to carefully ensure rigour which is striving for excellence in research through the use of discipline, scrupulous adherence to detail and strict accuracy (Burns & Grove, 2009:720), one could conclude that the validity of the study was therewith protected.

Reliability of the instrument used is deduced from the reliability of instruments used to compile the RN4CAST survey, such as the AHRQ safety culture questionnaire. Furthermore, Cronbach Alpha tests were performed to ensure reliability of the instrument in the South African context. Furthermore the instrument was compiled by a panel of researchers that are experts in the field.

1.10 ETHICAL CONSIDERATIONS

Ethical approval was granted by the North-West University (Certificate no: NWU-0015-08-S1) and the provincial departments of health applicable to this research under the umbrella of the wider RN4CAST programme in South Africa. In the public sector, ethical clearance was received at national, provincial and at district level for each of the individual hospitals while ethical committees of the two private hospital groups granted approval in the private sector (Klopper *et al.*, 2012:7).

According to Grinyer (2009:1) codes of ethical conduct suggest that consent obtained from participants at the point of data collection should not be 'once-and-for-all' and renewed consent is necessary for secondary analysis. Although secondary analysis is relevant in this research, participants were informed about the RN4CAST programme, with an explanation that the information gathered would be used by multiple researchers, implying secondary analysis already at the point of data collection. Informed consent for secondary analysis in this case was thus in line with the primary purpose of the data collection and obtained at the point of collection. Furthermore, the questionnaires were filled in anonymously, thus no inference could be made after the fact as to information pertaining to a specific individual.

Furthermore, the need for renewed consent is of greater concern in the secondary analysis of qualitative data than that of quantitative data (Grinyer, 2009:1). It is not always clear if renewed consent is needed for quantitative data. Although this might be needed, it remains implied as discussed above. Added to this, it would be impossible to trace participants as questionnaires were completed anonymously. This contributes to the ethics of this research study, as participants' confidentiality could not be breached in any way. Thus the researcher concludes that this research does not overstep ethical considerations in any way.

1.11 CLASSIFICATION OF CHAPTERS

This study is presented in article format. This inevitably leads to some repetition within the dissertation, as the article (Chapter 3) is presented as a free-standing entity. Classification of chapters is as follows:

Chapter 1: Overview of the study

Chapter 2: Literature Review

Chapter 3: Research Article: Nurse qualifications and perceptions of patient safety and quality of care in South Africa.

Chapter 4: Evaluation of the study, limitations and recommendations for patient safety and quality of care, nursing practice, nursing research, nursing education and policy.

1.12 SUMMARY

In this chapter, a background was given in order to shed some light on the need for understanding professional nurses' perceptions of patient safety and quality of care and the relationship between the qualifications of the professional nurse and these perceptions. The aim and objectives of the research were discussed, hypotheses stated, the researcher's assumptions mentioned and the research design and research method discussed. Rigour regarding secondary data analysis was examined, ethical considerations discussed and lastly classification of chapters of the proposed research was given.

In the next chapter, a literature study was conducted in order to better understand the elements of the study, namely qualifications, patient safety, quality of care, perceptions and the relationship between the qualifications of the professional nurse and patient safety and quality of care.

ANNEXURE I

RN4CAST QUESTIONNAIRE: SECTIONS RELEVANT TO THIS STUDY

9. Please mark the response that best describes <u>how frequently</u> you have each feeling in relation to your current job in this hospital.

	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1. I feel emotionally drained from my work.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. I feel used up at the end of the workday.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
3. I feel fatigued when I get up in the morning and have to face another day on the job	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
4. I can easily understand how my patients feel about things.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
5. I feel I treat some patients as if they were impersonal objects.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
6. Working with people all day is really a strain for me.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
7. I deal very effectively with the problems of my patients.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
8. I feel burned-out from my work.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
9. I feel I'm positively influencing other people's lives.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
10. I've become more insensitive toward people since I took this job.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
11. I worry that this job is hardening me emotionally.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
12. I feel very energetic.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
13. I feel frustrated by my job.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
14. I feel I'm working too hard on my job.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
15. I don't really care what happens to some patients.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
16. Working directly with people puts too much stress on me.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
17. I can easily create a relaxed atmosphere with my patients.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
18. I accomplish many worthwhile things in this job.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
19. I feel exhilarated after working closely with my patients.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
20. I feel like I'm at the end of my rope.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
21. In my work, I deal with emotional problems very calmly.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
22. I feel patients blame me for some of their problems.	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐

B. QUALITY AND SAFETY

1. In general, how would you describe the quality of nursing care delivered to patients on your unit/ward?
[1]☐ Poor [2]☐ Fair [3]☐ Good [4]☐ Excellent

2. How confident are you that your patients are able to manage their care when discharged?
[1]☐ Not at all confident [2]☐ Somewhat confident [3]☐ Confident [4]☐ Very confident

3. How confident are you that hospital management will act to resolve problems in patient care that you report?
[1]☐ Not at all confident [2]☐ Somewhat confident [3]☐ Confident [4]☐ Very confident

4. Please give your unit/ward an overall grade on patient safety.
[1]☐ Failing [2]☐ Poor [3]☐ Acceptable [4]☐ Very good [5]☐ Excellent

5. In the past year would you say the quality of patient care in your hospital has …
[1]☐ Deteriorated [2]☐ Remained the same [3]☐ Improved

6. The following questions ask for your opinion about patient safety issues in your employment setting.

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
1. Staff feel like their mistakes are held against them.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐
2. Important patient care information is often lost during shift changes.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐
3. Things "fall between the cracks" when transferring patients from one unit to another.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐
4. Staff feel free to question the decisions or actions of those in authority.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐
5. In this unit, we discuss ways to prevent errors from happening again.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐
6. We are given feedback about changes put into place based on event reports.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐
7. The actions of hospital management show that patient safety is a top priority.	[1]☐	[2]☐	[3]☐	[4]☐	[5]☐

7. How often would you say each of the following incidents occurs involving you or your patients?

	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day
1. Patient received wrong medication, time, or dose	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. Pressure ulcers after admission	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
3. Patient falls with injury	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
4. Healthcare-associated infection:							
1. Urinary tract infections	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. Bloodstream infections	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
3. Pneumonia	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
5. Complaints from patients or their families	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
6. Verbal abuse toward nurses							
1. By patients and/or families	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. By staff	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
7. Physical abuse toward nurses							
1. By patients and/or families	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
2. By staff	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
8. Work related physical injuries to nurses	0 ☐	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐

D. ABOUT YOU

1. What is your gender?
[1]☐ Female [2]☐ Male

2. What is your age? Years: ☐☐

3a. Did you receive your basic nursing education in the country where you currently work as a professional nurse?
[1]☐ Yes [2]☐ No

b. **If no, in what country did you receive your basic nursing education? Country:** ☐

4. Not including the country where you currently work, list the last three countries, if any, (and years) where you have worked as a professional nurse.

Country|Years: ☐ **Country|Years:** ☐ **Country|Years:** ☐

5. What was your age when you first became a professional nurse (completed your training)? Years: ☐☐

6. Do you have a baccalaureate degree in nursing?
[1]☐ Yes [2]☐ No

7. How satisfied are you with your choice of nursing as a career?
[1]☐ Very dissatisfied [2]☐ A little dissatisfied [3]☐ Moderately satisfied [4]☐ Very satisfied

8. Are you working in this hospital full time?
[1]☐ Yes [2]☐ No

9. How many years have you worked as a registered nurse …

a. in your career **Years:** ☐☐

b. in this hospital **Years:** ☐☐

10. Please write the name/number of the ward/unit that you work in (e.g Ward 1A or Ward C):_____

11. Do you have an additional qualification in critical care nursing? If yes, please indicate the type.
[1]☐ Masters degree [2]☐ Diploma

Thank you for taking the time to complete and return this survey.

ANNEXURE II

ETHICAL APPROVAL CERTIFICATE: NORTH-WEST UNIVERSITY

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE BOPHIRIMA
NOORDWES-UNIVERSITEIT

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Ethics Committee
Tel +27 18 299 4849
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Email Ethics@nwu.ac.za

Prof H Klopper

11 July 2008

Dear Prof Klopper

ETHICS APPROVAL OF PROJECT

The North-West University Ethics Committee (NWU-EC) hereby approves your project as indicated below. This implies that the NWU-EC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics number below.

Project title: Leadership and policy development improving the quality of nursing in South Africa through nursing staffing and patient safety

Ethics number:

N	W	U	-	0	0	1	5		-	0	8	-	S	1
Institution				Project number						Year			Status	

(Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation)

Approval date: 11 July 2008 **Expiry date**: 10 July 2013

Special conditions of the approval (if any): None

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The project leader (principle investigator) must report in the prescribed format to the NWU-EC:
  - annually (or as otherwise requested) on the progress of the project,
  - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-EC. Would there be deviation from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-EC and new approval received before or on the expiry date.
- In the interest of ethical responsibility the NWU-EC reserves the right to:
  - request access to any information or data at any time during the course or after completion of the project;
  - withdraw or postpone approval if:
    - any unethical principles or practices of the project are revealed or suspected,
    - it becomes apparent that any relevant information was withheld from the NWU-EC or that information has been false or misrepresented,
    - the required annual report and reporting of adverse events was not done timely and accurately,
    - new institutional rules, national legislation or international conventions deem it necessary.

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

Yours sincerely

Prof **MWJ** Lowes
(chair *NWU Ethics Committee*)

CHAPTER 2 – LITERATURE REVIEW

2.1 INTRODUCTION

Burns and Grove (2009:92) define a literature review as an organized written presentation of what has been published on a topic by scholars and includes a presentation of research conducted in the selected field of study. The literature review thus gives scientific background to the study.

In this study, the qualifications of professional nurses are brought into relation with the perceptions of patient safety and quality of care within medical and surgical units in public and private hospitals in South Africa. This might give an indication on whether there exists a difference in considerations of patient safety and quality of care of professional nurses with a Baccalaureate degree in nursing and that of professional nurses with a diploma in nursing.

For this reason, inquiry is made regarding the definition of the above-mentioned qualifications within South Africa, what patient safety and quality of care entail, what perceptions are and how these concepts are interrelated.

2.2 SEARCH STRATEGY

Literature was accessed by means of EBSCOHost, ScienceDirect and Sabinet (Sabinet is specifically used for government publications). Google Scholar was used additionally to obtain more articles on the difference between the qualifications, as well as the influence of the different qualifications on patient safety and quality of care.

The Baccalaureate degree in nursing and the diploma in nursing are ill-defined within the South African context. Literature relating to this, specifically scholarly literature, is not available and information is mostly derived from government publications. However, copious amounts of literature are available on patient safety, quality of care and perceptions on these concepts. Literature referring to the qualifications of the nurse in relation to the safety and quality of care is again limited.

2.3 DISCUSSION OF ELEMENTS OF THE STUDY

Qualifications, patient safety, quality of care, perceptions and the relationship between qualifications and patient safety and quality of care are discussed as elements of the study.

2.3.1 QUALIFICATIONS

SANC (2010:v) defines a qualification as a planned combination of learning outcomes with a defined purpose that is intended to provide qualifying learners with applied competence and a basis for further learning. SAQA (2011a:3) adds that it is the formal recognition of the achievement of the required number and range of credits and other requirements determined by the relevant bodies. A qualification thus is the recognition that a certain achievement had been reached by means of compliance with specific requirements or standards.

A nursing student in South Africa can receive training from universities, universities of technology, private colleges and public colleges. This will lead to a qualification such as a Baccalaureate degree, diploma, or bridging course diploma. According to Harvey (2004a:1) a Baccalaureate degree is the first-level higher education award while a diploma is a generic term for a formal document (certificate) that acknowledges that a named individual has achieved a stated higher education award (Harvey, 2004b:1). According to the University of South Africa (UNISA, 2012:1) a bridging course diploma further trains enrolled nurses to become professional nurses.

According to Government Notice No. R.425 (1985:4) the curriculum for studies to become a professional nurse, either diploma or Baccalaureate prepared, should include the following subjects:

- Fundamental Nursing Science, ethos and professional practice - at least one (1) academic year.
- General Nursing Science - at least three (3) academic years.
- Psychiatric Nursing Science - at least two (2) academic years.

- Midwifery - at least two (2) academic years.
- Community Nursing Science - at least two (2) academic years.
- Biological and natural sciences - at least two and a half (2½) academic years.
- Pharmacology - at least half (½) an academic year.
- Social Sciences - at least two (2) academic years.

On completion of studies for preparation of professional nursing, SANC requires the following as set out in the Government Notice No. R.425 (1985:5). The graduate -

- shows respect for the dignity and uniqueness of man in his social-cultural and religious context and approaches and understands him as a psychological, physical and social being within this context;
- is skilled in the diagnosing of individual, family, group and community health problems and in the planning and implementing of therapeutic action and nursing care for the health service consumers at any point along the health/illness continuum at all stages of the life-cycle and evaluation thereof;
- is able to direct and control the interaction with health-service consumers in such a way that sympathetic and empathic interaction takes place;
- is able to maintain the ethical and moral codes of the profession and practice within the prescriptions of the relevant laws;
- endorses the principle that a comprehensive health service is essential to raise the standard of health of the total population and in practice contributes to the promotion of such a service, bearing in mind factors from within and outside the borders of the country which are a threat to health;
- is able to collaborate within the nursing and multi-disciplinary team in terms of the principle of interdependence and co-operation in attaining a common goal;
- is able to delineate personal practice according to personal knowledge and skill, practice it independently and accept responsibility therefore;
- is able to evaluate personal practice continuously and accept responsibility for continuing professional and personal development;
- evinces an enquiring and scientific approach to the problems of practice and is prepared to initiate and/or to accept change;

- is able to manage a health-service unit effectively;
- is able to provide effective clinical training within the health service unit;
- is acquainted with the extent and importance of the environmental health services and knows the professional role and responsibilities in respect of the services and personal professional actions where the services are not available;
- is able to promote community involvement at any point along the health/illness continuum at all stages of the life-cycle;
- has the cognitive, psychomotor and affective skills to serve as a basis for effective practice and for continuing education.

Though Bruce (2003:141) hints that university education focuses more on transference of disciplinary knowledge through basic research and teaching, the difference between the Baccalaureate degree and diploma in nursing is not clear-cut. In order to obtain a grasp of the differences and correlations between the Baccalaureate degree and diploma, the exit level outcomes as set out by SAQA were compared. Though some of this information might have been outdated by the time of use, all relevant qualifications as described by SAGA were included for the sake of comprehensiveness. Four bridging diplomas offered in South Africa were analysed, eight four-year diplomas and six Baccalaureate degrees. This was an all-inclusive sample – all nursing qualifications as set out by SAQA were included in this comparison. Coinciding roles were then attributed to different exit level outcomes so as to attain measurability between qualifications. These exit level outcomes with attributed roles are set out in table 2.1.

Nursingcrib (2011:1) sets out six roles that should be fulfilled by the graduate as professional nurse. These roles include the managerial role, educational role, provider role, research role, advocacy role and change agent role (Nursingcrib, 2011:1). The roles of a nurse as explained by Uys (2004:22) correlates with those given, with the exception of the change agent role being replaced by the role of communicator. McMurray (1992:7) also mentions six roles, of which the sixth is that of ensuring quality of health care practices. These three roles that did not correlate (change agent, communicator and quality controller) were combined as the professional role.

TABLE 2.1: Comparison of exit level outcomes of different qualifications and roles represented

EXIT LEVEL OUTCOMES	ROLES
Bridging Diploma: Nursing **Henrietta Stockdale Nursing College**	
• Delivery of quality comprehensive nursing care to individuals, groups and/or communities as member of the health team.	Provider
• Practice as an autonomous clinical specialist.	Professional
• Demonstrate insight in the scope of professional nursing practice.	Professional
• Ethical decision-making and moral discussion.	Professional
• Performance as a preceptor/facilitator regarding the education of other health care workers by means of direct contract sessions.	Educational
• Participation of settings of standards for health care delivery.	Managerial
• Practice her/his administrative and research role as a registered nurse. (SAQA, 2011b:2).	Research
Bridging Diploma: **Nursing Netcare Training**	
• Identify and solve problems in which responses display that responsible decisions using critical and creative	Professional

thinking have been made.	
• Working effectively with others as a member of a team, group, organisation, community.	Professional
• Organising and managing oneself and one's activities responsibly and effectively.	Professional
• Collecting, analysing, organising and critically evaluating information.	Research
• Communication effectively using visual, mathematical and/or language skills in the modes of oral and/or written persuasion.	Professional
• Using science and technology effectively and critically, showing responsibility towards the environment and health of others.	Provider
• Demonstrating an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.	Professional
• Contributing to the full personal development of each learner and the social and economic development of the society at large. (SAQA, 2011c:2).	Educational
Bridging Diploma: Nursing General **St Mary's Hospital Nursing School**	
• Provide and manage general nursing care based on a scientific approach of assessment, planning, implementation and evaluation.	Provider

• Document and report accurately all relevant information on the situation and nursing care of individuals and families to facilitate continuity of care and to contribute to the body of knowledge of the profession.	Provider
• Respond efficiently to emergency and disaster situations to save lives and prevent disaster situations.	Provider
• Conduct research and utilise findings to improve nursing care to individuals, families and communities.	Research
• Assume autonomy, responsibility and accountability in the effective management of nursing care to individuals and families in all settings to ensure quality of care.	Professional
• Maintain professional excellence, credibility and competence through continuing education for professional growth and development.	Professional
• Advocate for the rights of individuals, families and communities and for the continued provision of general nursing care in the country (SAQA, 2011d:2).	Advocacy
Bridging Diploma: Nursing General **Victoria Hospital Wynberg**	
• Provide, manage and facilitate comprehensive health and basic nursing care using the scientific approach in the context of primary and secondary health care to individuals, families and communities.	Provider
• Respond efficiently and effectively to an emergency and disaster situation to save lives and prevent disability.	Provider
• Maximise and manage the utilisation of resources to improve the quality of health, nursing care and services.	Managerial

• Interact effectively with all multi-disciplinary health team members as well as communities to which they are exposed, to facilitate the promotion of health and the dissemination of information.	Professional
• Assume responsibility and accountability for the nursing care of individuals, families and communities in all settings to ensure quality of care, within the multidisciplinary team.	Professional
• Maintain competency through continuing education for professional growth and development.	Educational
• Advocate for the rights of individuals, families and communities and for the continued provision and development of comprehensive quality health care.	Advocacy
• Advocate for the rights and responsibilities of providers, including occupational health and safety within practice settings (SAQA, 2011e:2).	Advocacy
Diploma: General Nursing **Healthnicon SA**	
• Provide, manage and facilitate comprehensive health and nursing practice (general nursing care) based on the scientific approach of assessment, planning, implementation and evaluation in the context of the primary health care approach to individuals, families and communities.	Provider
• Analyse, document, report and accurately utilise all relevant information on the situation, and nursing care of individuals, families and communities, to facilitate continuity of care.	Provider
• Respond efficiently and effectively to emergency and disaster situations to save lives and prevent disability.	Provider

• Manage and maximise the utilisation of resources to improve the quality of health, nursing care and service.	Managerial
• Establish and maintain ethical partnerships with other health care professionals, to provide for collaborative planning and implementation of integrated health services.	Professional
• Assume autonomy, responsibility and accountability for the effective management of the nursing of individuals, families and communities in all settings to ensure quality of care within the multi-disciplinary team. Identify and explore new roles for nurses within the multi-disciplinary team.	Professional
• Maintain professional excellence, credibility and competence through continuing education for professional growth and development.	Educational
• Advocate for the rights of individuals, families and communities and for the continued provision and development of comprehensive quality nursing and health care in the country.	Advocacy
• Advocate for the rights and responsibilities of providers, including occupational health and safety within the practice setting to promote the safety of clients/patients and providers. (SAQA, 2011f:2).	Advocacy
Diploma: General Nursing **University of the Free State**	
• Providing, managing and facilitating comprehensive health, nursing and midwifery practice.	Provider
• Analysing documents, reporting accurately and utilising all relevant situational information regarding nursing care of individuals, families, groups and communities.	Provider

• Respond efficiently to emergency and disaster situations to save lives and prevent disability.	Provider
• Manage and maximise the utilisation of resources to improve the quality of health, nursing care and services.	Managerial
• Establish and maintain ethical partnerships with other health care professionals.	Professional
• Assume autonomy responsibility and accountability for the effective management of nursing.	Professional
• Maintain professional excellence, credibility and competence.	Professional
• Advocate for the rights and responsibilities of individuals, families, communities and health care providers.	Advocacy
• Solve health-related problems of individuals, groups, families and communities.	Provider
• Communicate effectively within the health care environment.	Professional
• Utilise technology appropriately in health care and service delivery.	Provider
• Record, report and analyse data to render quality health care.	Provider
• Demonstrate planning and implementation of disaster plans.	Managerial
• Participate in promoting appropriate utilisation of human and other resources within the health care system.	Managerial
• Establish inter-professional and intersectoral relationships to promote health care.	Professional

• Implement nursing care management activities according to the Standards of Practice and Scope of Practice. (SAQA, 2011g:2).	Managerial
Diploma: General Nursing Science **Gold Fields Nursing College**	
• Meeting the basic human needs and demands of the individual, families and communities; maintaining a holistic approach in patient care, independently and professionally.	Provider
• Establishing and maintaining ethical partnership, responsibility and communication to provide for collaborative planning, problem solving and implementation of integrated health service.	Professional
• Advocating for the rights of health care consumers, nurses and the communities in health care settings.	Advocacy
• Displaying and supervising cultural sensitivity when providing health care.	Professional
• Maintaining professional excellence credibility and competence through continuing education for personal and professional growth and development.	Professional
• Responding competently and efficiently in disaster and emergency situations. (SAQA, 2011h:2).	Provider
Diploma: Nursing **University of the Free State**	
• Apply the scientific approach by demonstrating skills in the diagnosing of health needs/problems of individuals/family/community, planning, implementing and evaluation of nursing care rendered.	Provider

• Appreciate and demonstrate the attitudes, norms and values of the profession.	Professional
• Function effectively within the legal/ethical parameters of the nursing profession.	Professional
• Implement therapeutic and preventative general nursing interventions, based on knowledge and skills developed from the relevant basic sciences.	Provider
• Establish and maintain a co-operative and therapeutic relationship with the individual, family and the community.	Provider
• Create a safe and adequate environment in which nursing and other health care can take place effectively.	Provider
• Act as a patient advocate.	Advocacy
• Create an environment conducive to learning and establish learning opportunities for nursing students and staff according to needs identified.	Educational
• Provide appropriate patient education to promote, maintain and restore wellness.	Educational
• Apply the principles of research and management in the nursing unit to create a safe environment for patients and function within the multidisciplinary team.	Research
• Create awareness of the social, cultural implications in the provision of comprehensive health care in the Republic of South Africa.	Professional

• Make rational decisions for which he/she can take responsibility and can account for. (SAQA, 2011i:2).	Professional
Diploma: Nursing Science: General **Life Healthcare Group**	
• Manage the health needs/problems of the individual, family and community throughout life span within an ethical-legal framework system.	Provider
• Apply therapeutic communication skills.	Provider
• Work effectively in a team, group, organization and community.	Professional
• Collect, organise, analyse and critically evaluate information.	Research
• Utilize equipment and technology safely, ethically, economically and creatively.	Managerial
• Administer medication safely.	Provider
• Demonstrate knowledge of community development strategies towards health promotion and disease prevention.	Provider
• Demonstrate an understanding of National Health Policies.	Professional
• Evaluate the different health care systems in the delivery of primary health care.	Managerial
• Manage health-care facilities.	Managerial

• Demonstrate knowledge pertaining to occupational health and safety.	Provider
• Collaborate with support groups and manage needs/problems of special groups in the community.	Provider
• Understand the world as a set of related systems by recognizing that the problem-solving context does not exist in isolation.	Professional
• Be culturally and aesthetically sensitive across a range of social context.	Professional
• Demonstrate the knowledge and understanding of health education principles.	Educational
• Participates in research.	Research
• Participates in clinical teaching. (SAQA, 2011j:2).	Educational
Diploma: Nursing: General: Psychiatry: Community and Midwifery **Gauteng Department of Health Nursing Education & Training**	
• Identify, analyse, formulate and solve convergent and divergent problems of living, of individual and societal kinds, creatively and innovatively.	Provider
• Think contextually, i.e. reflect on learning from individual experience and academic disciplines in relation to political, social, cultural, technological and economic realities, locally and globally.	Professional
• Relate learning gained from individual experience to knowledge encountered in an academic environment and vice versa.	Professional

• Solve problems by means of exploring and critically evaluating abstract and personal situations.	Provider
• Solve problems by generating alternative strategies for dealing with those problems.	Provider
• Deliver quality comprehensive nursing care to individuals, groups and/or communities as a member of the health care team by use of relevant information, scientific findings and technology.	Provider
• Practice as an autonomous clinical generalist.	Professional
• Ethical decision-making and moral discussion.	Professional
• Performance as a leader, role model, expert and/or consultant regarding nursing care. (SAQA, 2011k:2).	Professional
Diploma: Nursing Science: General: Psychiatry: Community and Midwifery **Henrietta Stockdale Nursing College**	
• Have the competency to apply the scientific process of nursing to address the health care needs of individuals, families and communities.	Provider
• Work effectively in a team.	Professional
• Creatively implement the advocacy role.	Advocacy
• Implement and put into practice basic management skills.	Managerial
• Engage and utilise research to improve the quality of care.	Research

• Show skills in inter-sectoral collaboration for the benefit of health care.	Professional
• Gaining entry into a professional career path in nursing.	Professional
• Utilise the scientific process of nursing in comprehensive management of the individual, families and communities.	Provider
• Management of human and material resources.	Managerial
• Take on leadership roles in teams.	Professional
• Implement skills in inter-sectoral collaboration to improve the quality of life of communities (SAQA, 2011l:2).	Professional
Diploma: Nursing: General: Psychiatry: Community: Midwifery **Mmabatho College of Nursing**	
• Utilize the scientific process of nursing in the provision and facilitation of nursing care to individuals (throughout the life-span), families, groups and communities	Provider
• Apply the Primary Health Care Approach and principles in the provision and facilitation of nursing and health care to individuals, families, groups and communities with special emphasis on:	Provider
➢ Initiating and maintaining intersectoral collaboration in community settings	Professional
➢ Initiating and participating in community development activities in partnership and collaboration with communities, groups and relevant stakeholders	Professional

➢ Demonstrating effective communicable skills	Professional
➢ Rendering nursing and health care within legal parameters, including South African Nursing Council regulations for the practice of psychiatric and community health nursing, human rights law, the South African Constitution and general law.	Professional
➢ Demonstrating independence, responsibility and accountability in the provision, facilitation and management of health and nursing care in collaboration with individuals, families, groups and communities with psychiatric and community health-related problems and/or needs.	Professional
➢ Effectively managing a health unit (psychiatric and community settings)	Managerial
➢ Acting as an agent for change in the delivery of health care	Professional
➢ Demonstrating sound knowledge of labour law as well as skills for promoting sound labour relations	Professional
➢ Acting as the patients' and/or clients' advocate in matters affecting health and illness	Advocacy
➢ Collaborating with the multidisciplinary health team in provision, and facilitation of health and nursing with the primary Health Care approach	Professional
➢ Managing cultural diversity both in working with others and in the provision and facilitation of nursing care (SAQA, 2011n:2).	Professional

Bachelor of Nursing Science **University of Johannesburg**	
• Effectively assess, analyse, interpret, diagnose, prioritize, manage, implement, evaluate and report comprehensive nursing and health needs and problems based on the relevant knowledge frameworks	Provider
• Effectively practise as a member of the health team and leader of the nursing team	Professional
• Participate as an autonomous, competent, responsible, professionally accountable, reflective member of the health and nursing team within the legal-ethical framework of nursing in South Africa.	Professional
• Participate as a member of a research team based on related knowledge frameworks and research methodology.	Research
• Demonstrate facilitative interpersonal communication knowledge, skills and attitudes with individuals, groups and communities. Use technology and information technology effectively in the assessment, diagnoses, planning, implementation and evaluation of health/nursing problems of individuals, groups and communities.	Provider
• Understand and solve health problems, health indicators and risk factors by taking social, economic, legal, ethical, environmental, cultural and demographic influences into account.	Professional
• Explore and reflect on a variety of learning and problem-solving strategies and develop an attitude for life-long learning	Educational
• Explore and identify nursing/health trends and problems in society to empower people for the promotion of their health.	Provider

• Demonstrate cultural sensitivity in the promotion of health of the individual, group and community	Professional
• Develop self-knowledge and skills for the management of own career	Professional
• Develop and demonstrate entrepreneurial skills in career management and empowerment of the individual, group and community health promotion (SAQA, 2011o:2).	Provider
Bachelor of Nursing Science **University of Pretoria**	
• Demonstrate secularity characteristics, related to nursing, at baccalaureate level, with reference to scientific inquiry into phenomena related to the art and science of nursing within critical practice settings.	Provider
• Demonstrate the ability to obtain, organise, analyse, evaluate and manage scientific data, review scientific literature and identify researchable problems in the nursing practice.	Research
• After thorough, analytical and critically evaluative reasoning and creative thinking, demonstrate the ability to effectively utilize the scientific and technological aids and recourses, as well as innovation, which underlie the scientific approach to nursing care.	Provider
• This implies an inquiring approach the science and technology. Furthermore it implies a willingness to initiations/or accept innovation and change and to show responsibility towards the environment and the health of others whilst considering such changes and innovation.	Managerial
• Critically analyse the extent and importance of environmental health issues in South Africa.	Professional

• Demonstrate the ability to analyze and apply nursing theory to clinical practice settings.	Professional
• Exhibit a commitment to continuing education and professional development.	Educational
• Comprehensively assess human responses to health problems	Provider
• Diagnose actual health needs and health problems, as well as perceived threats from potential health problems, based on sound databases.	Provider
• Plan and prioritize scientifically-based nursing care (nursing regime)	Provider
• Record and communicate planned and implementing nursing care or referrals (SAQA, 2011p:2).	Provider
Bachelor of Nursing Science: General: Psychiatric: Community Nursing: Midwifery **University of the Western Cape**	
• Apply fundamental and specialist knowledge and skills to meet health divergent health needs.	Provider
• Promote health throughout the life-span	Provider
• Assess within a multi-disciplinary context, the health of individuals, families and communities	Provider
• Plan and prioritize short-term, intermediate and long-term intervention strategies to address health needs and health issues at all levels.	Provider
• Implement health-care strategies to address health and health care issues.	Provider

• Evaluate the effectiveness of the intervention strategies and communicate the process and outcomes.	Provider
• Apply the scientific process in addressing health related problems. This should occur within a professional ethical framework, reflect human rights issues and take account of policy relevant to the socio-political milieu.	Professional
• Interpret policy and act as a change agent through formulating policy. This will improve the quality of nursing care and health of the people, and demonstrate the indirect advocacy function at local and National levels.	Managerial Advocacy
• Understand national trends in demography and epidemiology of the disease and compare these with international trends (SAQA, 2011q:2).	Research
Bachelor of Nursing **North West University**	
• Managerial role: Achieve the objectives of the health care facility by means of the utilization of management activities of planning, organizing, directing and controlling, within the context of the national health's mission, philosophy and policy.	Managerial
• Educational role: Provide learning and teaching opportunities for individuals, family, community, health professionals and students, through the use of creative teaching and learning strategies, for optimal health of customers.	Educational
• Provider's role: Provide comprehensive health service to the individuals, families and communities within the national health philosophy and mission by applying primary health care approach.	Provider

• Professional role: Assume autonomy, responsibility and accountability for the effective management of nursing to individuals, families and communities in all settings, to ensure quality of care within the multi-disciplinary team.	Professional
• Advocacy role: Advocacy for the rights of individuals, families, groups and community and health cat providers, including occupational health and safety within the health service setting.	Advocacy
• Research role: Conduct research and utilize research to improve nursing and health care to individuals, families and communities, and to contribute to the body of knowledge of the profession, as well as to health – related issues. (SAQA, 2011r:2).	Research
Bachelor of Nursing **University of Stellenbosch**	
• Effective apply health science and technology and demonstrate responsible behaviour for the wellbeing of health service customers and their environment	Provider
• Demonstrate and understand of health service delivery within an appropriate model	Provider
• Demonstrate, as a health service provider, responsible participation in the promotion of the quality of life of the local community, the South African population and the global community.	Professional
• Demonstrate sensitivity to the cultural, religious and ethnic diversities and their influences on the health care consumer's perception of health and illness.	Professional
• Work effectively with other members of the health-care team and with groups in the community	Professional

• Communicate effectively with health service consumers and colleagues, using visual verbal, non-verbal and written skills.	Professional
• Identify, and find solutions to health-related problems through responsible decision-making and the use of critical thinking	Provider
• Be capable of organizing and managing all nursing activities effectively and responsibly.	Managerial
• Collect, analyse, organize and critically evaluate information.	Research
• Reflect on and explore a variety of strategies to promote effective self-directed learning. (SAQA, 2011s:2).	Educational
Bachelor of Nursing **University of Cape Town**	
• Demonstrate self-confidence, flexibility and self-awareness, involving an ability to recognise own attributes, skills, values and interests and to assess self, seek feedback actively and give feedback constructively.	Professional
• Evidence skill in transformational leadership.	Managerial
• Demonstrate a commitment to life-long learning and research.	Educational
• Identify, assess, formulate and solve problems.	Provider
• Collect, analyse, organise, critically evaluate and appropriately apply information.	Research

• Communicate effectively.	Professional
• Participate as responsible citizens in the life of local, national and global communities.	Professional
• Demonstrate a willingness and the ability to express own opinion, to defend a position as well as to plan a course of action.	Professional
• Demonstrate professional competence, including the knowledge, attitudes and skills needed to secure peer and professional recognition.	Professional
• Work in a dynamic and collaborative relationship with peers, health-team colleagues, and members of the public (SAQA, 2011t:2).	Professional

After attribution of roles to exit level outcomes of different educational facilities as provided by SAQA, percentages were obtained by calculating the portion of diploma and Baccalaureate courses respectively that had exit level outcomes correlating with a specific role in order to build an understanding of the focus of different educational backgrounds on different roles. These percentages of role foci of Baccalaureate and diploma education are reported in Table 2.2 while percentages of Baccalaureate degrees' versus diplomas' focus on different roles are illustrated by means of Figure 2.1 and Figure 2.2 respectively.

All educational institutions included in the study and training Baccalaureate degree professional nurses have exit level outcomes correlating with the provider role, professional role and research role. Five out of six educational institutions delivering Baccalaureate degree professional nurses have exit level outcomes focussing on the educational role and the managerial role. Only two of these educational facilities have exit level outcomes that directly inferred the advocacy role of the professional nurse.

All included educational institutions training diploma professional nurses have exit level outcomes designated to the provider role and the professional role. Eight out of the twelve educational institutions training diploma professional nurses have exit level outcomes that indicate the advocacy role while seven have exit level outcomes indicating the managerial role. Only half of these educational institutions (six institutions) have exit level outcomes specifically indicating the educational and research role.

TABLE 2.2: Role foci of qualifications

Roles	Percentage of qualifications exhibiting relevant roles	
	Diploma in Nursing	**Baccalaureate in Nursing**
Provider role	100%	100%
Professional role	100%	100%
Educational role	50%	83%
Managerial role	58%	83%
Research role	50%	100%
Advocacy role	67%	33%

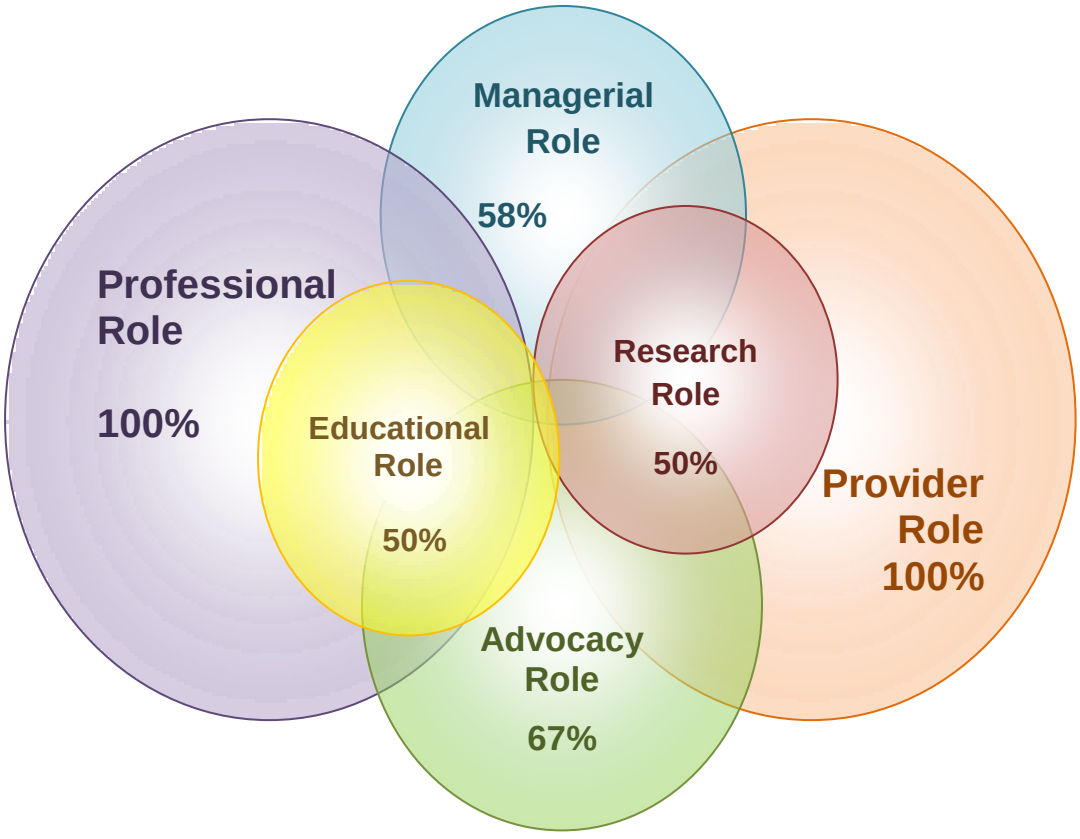

Figure 2.1: Schematic depiction of roles as focused on in Diploma Education

Although both diploma and degree prepared professional nurses appear to receive education focussed on the provider and professional role, the Baccalaureate degree education includes a greater focus on the educational, managerial and research roles than diploma education, while diploma education seems to place a greater emphasis on the advocacy role. The reason for the discrepancy in focus of the educational role could, however be explained by health education given to patients being the natural outflow of quality nursing. This role could thus be imbedded into the provider role. This same reasoning could be applied to the discrepancy in the advocacy role, as being an advocate for a patient is a component of the professional role and naturally occurs within the cooperation with multi-disciplinary team members. However, the managerial and research roles are not naturally hidden or implied components of other roles.

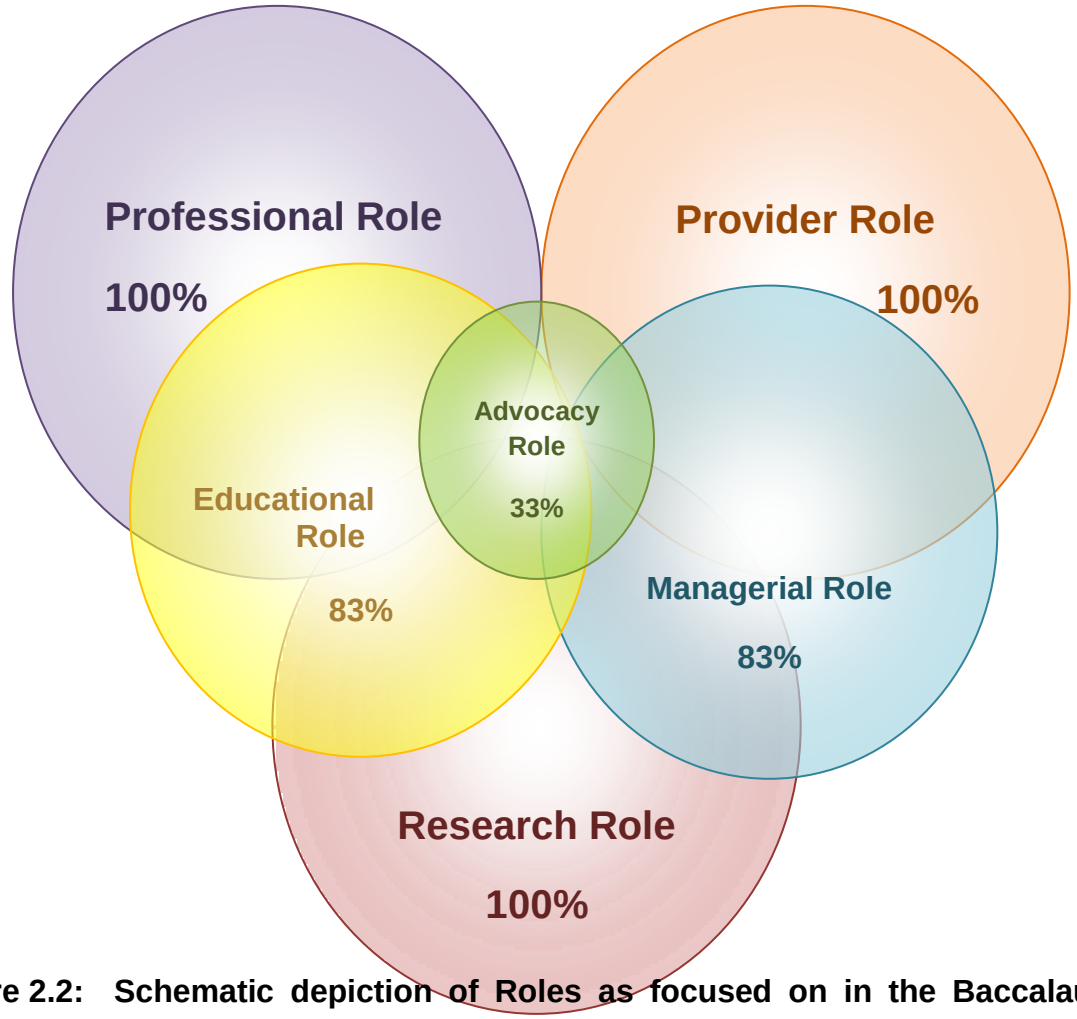

Figure 2.2: Schematic depiction of Roles as focused on in the Baccalaureate Degree Education

Adding to the differences in role foci of educational backgrounds, there is a large dissimilarity between the numbers per qualification produced in one year. 629 Baccalaureate degree qualified professionals were produced by universities while 2337 diploma-qualified professionals were produced by other institutions (including both four-year courses and bridging courses) in 2010 according to numbers provided by SANC(2011b:1).

To summarise, professional nurses in South Africa can register either with a Baccalaureate degree or a diploma in nursing. These qualifications differ in approach.

2.3.2 PATIENT SAFETY

According to Hassen (2010:1) patient safety is focused on the prevention of error in health-care settings. Following this, safety is a very wide concept, as errors can occur at so many instances in health-care. This is confirmed by WHO (2011:2) stating that every point in the process of care-giving contains a certain degree of inherent "unsafety". Stewart and Usher (2010:3153) acknowledge that improvement of health care is complex and even more so in a developing country. South Africa hence faces even greater challenges in providing safe care to patients.

Van Gaal, Schoonhoven, Vloet, Mintjies, Borm, Koopmans and Van Achterberg (2010:1119) define an adverse event as an unintended injury that results in prolonged stay, disability at the time of discharge or death and is caused by health-care management rather than by the patient's underlying disease process. Up to 70% of adverse events are preventable (Bucknall, 2011:2). Adverse events may result from problems in practice, products, procedures or systems (WHO, 2011:3). Thus patient safety improvements demand a complex system-wide effort, involving a wide range of actions in performance improvement, environmental safety and risk management, including infection control, safe use of medicines, equipment safety, safe clinical practice and safe environment of care (WHO, 2011:3). In order to ensure patient safety, the professional nurse should therefore have thorough knowledge of and insight into all the areas of danger such as those mentioned.

Tingle (2011:694) quotes the WHO in saying that almost one in ten patients is harmed while receiving health care in well-funded and technologically advanced hospital settings. The picture is less clear and likely to be worse in under-developed countries where infrastructures are less optimal (Tingle, 2011:694). The WHO (2008) estimates that tens of millions of patients worldwide suffer disabling injuries or death every year due to unsafe medical practices and care. The majority of adverse events fall into three categories: falls, clinical care, and medications (Tingle, 2011:694). While falls and medication-errors could be considered self-explanatory, clinical care are set out by Tingle (2011:295) as lack of awareness of current treatments and care protocols, breakdown in communication between health-care providers, lack of appreciation of the co-ordination needed to ensure appropriate care and lack of understanding of the constraints under which health-care providers work.

Hughes (2008:3) identifies the root causes of harm or adverse events as latent failure, active failure, organizational system failure and technical failure. Latent failure is seen to be removed from the practitioner and involves decisions that affect the organizational policies, procedures and allocation of resource (Hughes, 2008:3). Active failure occurs during direct contact with the patient while organizational system failure are indirect failures involving management, organizational culture, protocols or processes, transfer of knowledge and external factors (Hughes, 2008:3). Lastly, technical failure refers to indirect failure of facilities or external resources (Hughes, 2008:3). In this study, harm threatening patient safety is thus considered either active failure or organizational system failure, as either of these could be caused specifically by the professional nurse.

Hughes (2008:3) confirms that in order to ensure patient safety, emphasis should be placed on preventing errors, learning from errors that do occur and building a culture of safety that involves health-care professionals, organizations and patients. Therefore, even though the professional nurse is not exclusively accountable for the safety of patients, he/she plays an integral role. Odom-Forren (2011:216) comments that many mishaps are caused by the failure of health-care personnel to comply with standards of care and an intentional deviation from these standards. These deviations are often

practised enough to become routine and acceptable (Odom-Forren, 2011:216). Thus, quality of services rendered should be strictly adhered to.

According to Hughes (2008:3) the most critical contribution of nursing to patient safety, in any setting, is the ability to co-ordinate and integrate the multiple aspects of quality within the care directly provided by nursing, and across the care delivered by others in the setting. Hughes (2008:4) continues to explore this ability by identifying "richer staffing" as a determining factor for fewer complications and lower mortality. Hence, professional nurses with a greater ability to co-ordinate and integrate aspects of quality will bring about greater patient safety.

Related to this are the findings of Feng, Acord, Cheng, Zeng and Song (2011:250) suggesting that different nursing professionals may perceive a safe environment differently even though they work in the same organization or the same unit. This disparity between perceptions is related to information imbalances (Feng *et al.*, 2011:250). This can be interpreted as confirmation that not only the abilities of the professional nurse have an impact on patient safety, but also the information input that he/she received.

Hickam, Sevrance, Feldstein, Ray, Gorman, Schuldheis, Hersh, Krages and Helfand (2003:9) make a more explicit statement in saying that higher levels of prior training are associated with lower error. Butterly (2011:11) confirms this, stating that having more informed practitioners is the key to patient safety. She furthers this argument by implying that improved methods of education can contribute to enhanced safety (Buterly, 2011:11). This is confirmed by Bloch (2005:97) who refers to well-designed research showing concrete evidence of the effects of nursing educational levels on patient outcomes, including safety.

Gantt and Webb-Corbett (2010:49) state that new graduate nurses must enter the clinical arena prepared to exhibit practices that maintain patient safety. Hence, the newly-qualified professional nurse enters directly from being a student to taking on the

responsibility for patients' safety. This emphasizes the need for adequate education as preparation for this tremendous responsibility.

To conclude, in order to ensure the optimal level of patient safety, error in care giving must be avoided. The professional nurse plays an integral role in ensuring patient safety. Not only do the abilities of the individual professional nurse impact on patient safety, but also the education he/she received.

2.3.3 QUALITY OF CARE

Donabedian (2005:692) states that the definition of quality may be almost anything anyone wishes it to be, although it is, ordinarily, a reflection of values and goals current in the medical care system and in the larger society of which it is a part. The difficulty in defining quality care is caused by the relative and contextual nature of the concept. The definition of quality depends on the values and norms of the community or context it is defined in.

Quality is conceptualized as an optimal balance between possibilities realized and a framework of norms and values. This definition hinges on the earlier definition as given by Donabedian (2005:692) and elaborates with the further expectation that possibilities should be realized. What, however, should these possibilities entail? Campbell, Roland and Buetow (2000:1) mention that there are two principal dimensions of quality of care for individual patients, viz. access and effectiveness. The possibilities could therefore be described as whether care is received and whether that care leads to required results.

Havens, Vasey, Gittell and Lin (2010:927) state that nurses play a vital role in promoting quality care in hospitals because of their unique 24/7 functions that include serving as safety sentinels and co-ordinating care activities across providers and departments. This is confirmed by Bisognano (2010:84) who indicates nurses as crucial to the closing quality of care gaps.

The outcome of medical care, in terms of recovery, restoration of function and of survival has frequently been used as an indicator of the quality of care (Donabedian, 2005:693). This focuses on whether the care rendered had the required results. Though, because quality is also dependant on values and norms of the community, the patient's perceptions should be included in quality measures, as is mentioned by Shen, Chiu, Lee, Hu and Chang (2011:354). Cooperberg, Birkmeyer and Litwin (2009:141) agree that it is in fact patients who should define which outcomes are critical and whether these outcomes have been achieved.

This, however, being bound to individuals, brings about difficulties of measurement, as the view of quality nursing care of nurses and patients do not always correlate (Shen *et al.*, 2011:355). Gormley (2011:35) found that the nurse's perceptions of quality of care were mostly directly related to perceptions of the hospital environment. Burhans and Alligood (2010:1689) further define the nurse's lived meaning of quality nursing care for practising nurses as meeting human needs through caring, empathetic, respectful interactions within which responsibility, intentionality and advocacy form an essential, integral foundation. Paraphrased by professional nurses, quality interaction thus entails caring for the patient, appreciating the patient's experience and taking into account dignity and self-determination of the patient (Burhans & Alligood, 2010:1696). To paraphrase Burhans and Alligood (2010:1696), quality interaction should take place on the basis of ensuring no omissions are made, wanting to give the best and protecting the patients.

This exploration of what quality care entails correlates with that of Glasper (2010:453) who states that in order to justify that trust from the public, nurses must make the care of people their first concern, treating them as individuals and respecting their dignity. Furthermore working with others to protect and promote the health and well-being of those in their care, providing a high standard of practice and care at all times, being open and honest and acting with integrity should also be included (Glasper, 2010:453)

On the other hand, Glasper (2010:457) provides three basic questions by which the patient measures quality of care. These include whether the patient feels safe, whether

the treatment or care is effective and what his/her experience of health care was like (Glasper, 2010:457). Shen *et al.* (2011:350) provide patients' lack of knowledge and technical competence as a reason as to why they usually do not complain about nursing care quality when it is not adequately provided.

Due to the near impossibility of taking into account each patient's perception of quality of health care, most health care quality improvement efforts target measures of health care structures, processes, and/or outcomes (Cooperberg *et al.*, 2009:411). Structural measures examine relatively fixed aspects of health care delivery such as human resources while process measures examine specific actions in clinical-patient encounters, and outcome measures comprise quality of life endpoints as well as morbidity and mortality (Cooperberg *et al.*, 2009:411). For instance, the American Nurses' Association sees nursing hours per patient, staffing levels, patient turnover, patient falls, hospital-acquired infections, pressure ulcer rate, pain assessment and nurse satisfaction and education as indicators for quality care (Foulkes, 2011:40). Considering improvement of quality of care, the professional nurse would thus focus greatly on process measures as this would be the measures she/he would have the ability to adjust. Process measures could thus be seen as the effect caused directly by the actions of the professional nurse.

Murphy (2007:873) compiled six facilitating and three hindering factors in rendering quality of care as identified by professional nurses. The facilitating factors included an ethos of promoting independence and autonomy; a positive environment; person centred, holistic care; knowledgeable, skilled staff; personal attention and adequate multi-disciplinary resources (Murphy, 2007:873). The three factors which hindered quality care were: a lack of time and patient choice, resistance to change and being bound by routine. Shen *et al.* (2011:349) add shortages of nurses, strong government regulations, poor economic situations and high patient expectations to hindering factors and positive professional relationships and competency of skill of individual health care providers as facilitating factors. For purposes of this study, emphasis is placed on the necessity of competent staff in ensuring quality of care.

Combining the definitions given, quality of care could thus be defined as the goals of access and effectiveness met in compliance with the norms and values of the context thereof. The professional nurse is a cornerstone in the delivery of quality health care. Personal traits of the professional nurse that influence the outflow of quality care include knowledge basis and skills.

2.3.4 PERCEPTIONS

According to the Oxford Dictionary (2011:1) perception is the way in which something is regarded, understood, or interpreted or intuitive understanding and insight. The Merriam-Webster Dictionary (2011:1) describes perception as a mental image. Thus, perceptions held by a person involve how a person sees and understands a concept and what is included in the mental image when cognitively referring to that same concept.

Cline, Rosenberg, Kovner and Brewer (2011:673) hold the understanding that the perspective of bedside professional nurses is important to better define quality nursing care, guide quality improvement initiatives, enhance nursing education, and ensure that the complexity of nursing care are captured in any future measures and indicators of quality care.

According to Hasson and Arnetz (2010:9) different groups of individuals' perceptions of quality of care differ even though these groups might experience similar aspects of care as being important. Thus it could be inferred that the perceptions of patient safety and quality of care of professional nurses with different qualifications would differ even though some overlapping might occur in these perceptions. Differences in perceptions can offer important information for organizations in identifying potential areas for improvement (Hasson & Arnetz, 2010:5). This is confirmed by Hansen, Williams and Singer (2011:598) who state that different perceptions of the organization's safety climate among groups within the hospital could suggest domains of safety climate or work roles to target in efforts to strengthen an organization's safety climate and potentially improve important patient outcomes.

Hasson and Arnetz (2010:9) found that patients in hospital critical care units rated quality of care higher than the nurses. It is proposed that the nursing staff had insight into what kind of activities would have been suitable and therefore gave low ratings to the actual activities offered (Hasson & Arnetz, 2010:11). Thus, individuals with greater insight in what quality of care entails seem to perceive quality of care rendered as less optimal than those individuals with less insight.

Hansen *et al.* (2011:600) also propose the possibility that perceptions of safety are related to insight of the individual. Furthermore, hospital staff perceptions of safety are associated with clinical outcome among patients (Hansen *et al.*, 2011:607). Thus, as perceptions of safety relate to insight into what safety should entail and insight leads to better clinical outcome for patients, perceptions could be seen as predictors of patient safety outcomes. Therefore it is important to understand factors that influence professional nurses' perceptions of patient safety and quality of care, as this will in turn impact on patient safety and quality of care rendered by those professional nurses.

Many extraneous factors can influence the professional nurse's perception of patient safety and quality of care. Ginsburg, Norton, Casebeer and Lewis (2005:1011) reiterate that declines in perceptions of safety may reflect real deteriorations in this area or it may reflect perceptual shifts. The process of making clear distinctions on why perceptions of quality of care and patient safety vary is complicated by the wide array of factors that could impact on this variable.

Ramanujam, Abrahamson and Anderson (2008:148) identified five significant paths from nurses' characteristics that decrease perception of patient safety. Firstly, nurse education has a direct, negative influence on the perception of patient safety (Ramanujam *et al.,* 2008:148). Furthermore, Ramanujam *et al.* (2008:148) found that full-time employment status had a direct, negative influence on the perception of patient safety. Nurses' experience, full-time employment status and work volume positively influence the perception of work demands, which positively influences the perception of exhaustion which, in turn, increases depersonalization, thus decreasing nurses' perception of patient safety (Ramanujam *et al.*, 2008:148). Fourthly, the perception of

personal control positively influences a nurse's perception of patient safety and lastly emotional and interpersonal exhaustion are increased by low levels of personal control, thus positively influencing nurses' depersonalization and decreasing their perception of patient safety (Ramanujam *et al.*, 2008:148). Figure 2.3 depicts the influences on nurses' perception of patient safety.

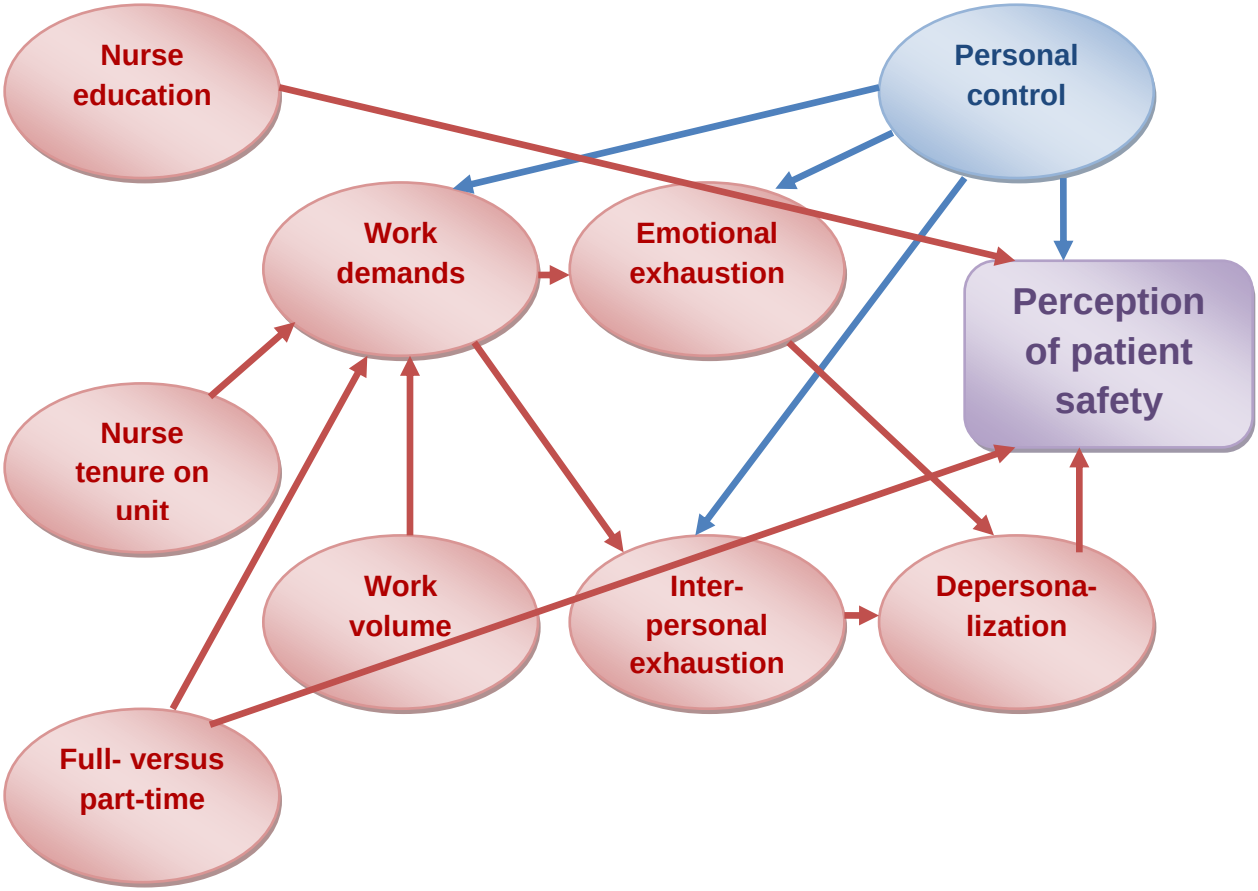

Figure 2.3 Influences on nurses' perception of patient safety (adapted from Ramanujam *et al.*, 2008:147)

In another study by Ma, Lee, Yang and Chang (2009:185) professional nurses who intended to maintain their current job were found to perceive a higher quality of patient care than those who intended to leave. Intention to leave could, however, be related to factors included in the abovementioned model, such as interpersonal and emotional

exhaustion, work volume, work demands, etc. Thus, the given model was seen as sufficient for the study at hand.

Focussing on qualifications of the professional nurse as applicable to this study nurse education demonstrated a direct, negative relationship to the perception of patient safety (Ramanujam *et al.*, 2008:145). Ramanujam *et al.* (2008:145) explain that nurses who were highly educated perceived their hospital units to be less safe for patients, perhaps related to the heightened awareness that comes from advanced education. This again confirms earlier discussion on perceptions being related to insight.

These findings by Ramanujam *et al.* (2008:145) are, however, refuted by Wagner, Capezuti and Rice (2009:188) who found that level of education did not impact significantly on perceptions of safety from respondents in the United States and Canada. Therefore, it is deduced that qualifications' impact on perceptions differs in different contexts. Thus it is of importance to investigate the difference (if any) between the perceptions of patient safety and quality of care between professional nurses with a Baccalaureate degree and those with a diploma in nursing in the South African context.

Perceptions of patient safety and quality of care may differ from person to person. These perceptions are likely to be related to individuals' insight into what patient safety and quality of care entails. Furthermore insight into patient safety and quality of care will impact on patient outcomes. Therefore it is of importance to investigate the relationship between perceptions of professional nurses with a Baccalaureate degree in nursing and professional nurses with a diploma in nursing within the South African context.

2.3.5 BACCALAUREATE DEGREE VERSUS DIPLOMA

Van Gaal *et al.* (2010:1119) state that education can lead to changes in professional behaviour. If education can lead to changes in professional behaviour, it can be seen as guiding professional behaviour. Thus, the education of the professional nurse could influence his/her professionalism and actions within the profession

Daley (2011:3) mentions that compelling evidence exists that links Baccalaureate degree education with lower rates of patient death, medical errors and better patient outcomes. Gregory, Guse, Dick and Russel (2007:79) agree that nursing education impacts on patient safety. Aiken, Clarke, Cheung, Sloane and Silber (2003:1621) discovered that surgical patients cared for in hospitals in which higher proportions of direct-care professional nurses held Baccalaureate degrees experienced a substantial survival advantage over those treated in hospitals in which fewer nurses held Baccalaureate degrees or higher. Similarly, surgical patients experiencing serious complications during hospitalization were significantly more likely to survive in hospitals with a higher proportion of nurses with Baccalaureate education (Aiken *et al.*, 2003:1621). Daley (2011:3) holds the belief that Baccalaureate prepared nurses are better prepared to meet the challenges of obtaining advanced education that fosters a deeper understanding of the many factors that influence patient health and illness.

In further studies, a 10% increase in the proportion of nurses holding a Baccalaureate degree was associated with a 5% decrease in both the likelihood of patients dying within 30 days of admission and the odds of failure to rescue (Aiken *et al.*, 2003:1617). Furthermore, Aiken *et al.* (2003:1622) imply that altering the qualifications of hospital nurses by increasing the percentage of those earning a Baccalaureate degree would produce substantial decreases in mortality rates for surgical patients generally and for patients who develop complications. Correlating with this, Ridley (2008:148) found that hospitals that employ more Baccalaureate nurses consistently report fewer adverse events such as 30-day mortality, decubitus ulcers and pneumonia.

The Baccalaureate programme is, however, not accessible to all prospective nurses. Matriculation exemption is a legal requirement for admission to first-degree study at a South African university (University of the Free State, 2012:1). Furthermore the demand for professional nurses is far outpacing the need for highly educated nurses (Bartels & Bednash, 2005:8). Unfortunately, political and economic forces seek to solve the complex problem by focusing on the production of larger numbers of nurses by using the quickest route rather than focusing on the competencies and education nurses must possess in the health-care environment today and in the future (Bartels &

Bednash, 2005:8). If Baccalaureate preparation proves to be the better option for education of professional nurses, the capacity for training these nurses might still be too limited, thus forcing prospective nurses to choose an alternative route.

However, international organisations and boards are moving towards Baccalaureate degree preparation for professional nursing. The AACN now recognises a Baccalaureate degree in nursing as the minimum educational requirement for professional nursing practice (AACN, 2000:1). Furthermore, the European Federation of Nurse Educators (FINE) and the wider Bologna agree that nursing should become a graduate profession (Costa, 2011:2 and European University Association, 2007:11). Thus, with time, this aim should not be disregarded as a possible future for nursing in South Africa.

Hickam *et al*. (2003:10) relate the generally accepted thought that experience is more important than educational level in nursing, so as to demerit the need for Baccalaureate preparation of professional nurses. This is, however, refuted by Aiken *et al*. (2003:1620) who state that nurses' years of experience were not found to be a significant predictor of mortality or failure to rescue. Thus, years of experience will not nullify prior educational advantage.

There exists evidence that qualifications of the professional nurse directly impact on patient safety and quality of care. Though becoming an international standard, Baccalaureate degree education is not accessible to every prospective professional nurse within the South African context.

2.4 SUMMARY

A literature review was initiated to be able to accurately define the concepts qualification, perceptions, patient safety and quality of care, as well as to compare the two qualifications, viz. the Baccalaureate degree in nursing and the diploma in nursing with reference to the other concepts.

It can be concluded that further investigation is needed to determine the relationship between qualifications and the perceptions of patient safety and quality of care as different perceptions may impact on varying patient outcomes related to patient safety and quality of care. This needs to be determined within the South African context.

In the next chapter an article, as prepared for the *Nursing and Health Sciences Journal* is presented. This article includes a shortened version of the literature review, the study aims, method, results and conclusion.

CHAPTER 3 – ARTICLE

PREAMBLE I

ARTICLE AUTHOR GUIDELINES: NURSING & HEALTH SCIENCES JOURNAL

WILEY-BLACKWELL

Nursing & Health Sciences

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1. Aims and Scope

Nursing & Health Sciences (NHS) is a premier international journal focusing on the exchange of knowledge in nursing and health sciences, particularly between the East and West. It has an international authorship, readership and Editorial Board. The journal was the first nursing and health sciences journal to be fully published in English in Japan. It began in 1999 and is owned by the Society for Nursing and Health Sciences at Yamaguchi University. By encouraging Eastern and Western scholars to share their knowledge and experiences, *Nursing & Health Sciences* provides readers with a deeper understanding of health care around the world, and the opportunity to enrich their own practices to improve global health.

The types of articles published in NHS are papers on:

• Original research of all designs and methods, related to clinical practice, education, health policy, health management, health service delivery and evaluation, or public health.

• Research methodology and protocols.

• Systematic reviews of research evidence (qualitative, quantitative, mixed methods); meta-analyses, meta-syntheses. (Please note that narrative or traditional literature reviews are no longer published).

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All manuscripts should be written so that they are intelligible to the professional reader who is not a specialist in the particular field. Where contributions are judged as acceptable for publication, the Editor-in-Chief or the Publisher reserve the right to modify typescripts to eliminate ambiguity or repetition, and improve communication between author and reader.

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• Use a tab, not spaces, to separate data points in tables. If you use a table editor function, ensure that each data point is contained within a unique cell (i.e. do not use carriage returns within cells).

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The title should be short, around **12 words**, informative and contain the major key words, including the country (countries) where the project took place and the study design. A short running title (less than 40 characters, including spaces) also should be provided.

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All articles must have a brief abstract that states in **180 words or less** the purpose, basic procedures, main findings, principal conclusions of the study, and implications for practice. **The abstract should not contain abbreviations or references**, and should not be written in various sections under headings.

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PREAMBLE II

COVER LETTER TO NURSING AND HEALTH SCIENCES JOURNAL EDITOR-IN-CHIEF

North-West University
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04 March 2012

Editor-in-Chief

Nursing & Health Sciences

RE: ARTICLE FOR SUBMISSION

The authors hereby submit the article “Nurse qualifications and perceptions of patient safety and quality of care in South Africa”.

This article has not been published or submitted for publication elsewhere. The content of the article was approved by the contributing authors. Ethical approval was granted by the North-West University (Certificate no: NWU-0015-08-S1). Participants in this study gave voluntary informed consent for the research and data was collected anonymously. No conflict of interest is present in this study.

Thank you for your consideration of the submitted article.

Yours sincerely

_____

A.J. Blignaut

Nurse qualifications and perceptions of patient safety and quality of care in South Africa

Running Title: Nurses' qualifications and perceptions

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3.1 ABSTRACT

Background: Several studies have been published on the importance of exploring and describing the perceptions of professional nurses aimed at improving patient safety and quality of care. However, the research did not focus on factors influencing perceptions or the context of South Africa.

Objective: To investigate the perceptions of professional nurses regarding patient safety and quality of care, correlating qualifications with these perceptions.

Design: Cross-sectional survey of nurses.

Setting and participants: 1187 professional nurses (161 with a Baccalaureate degree and 956 with a diploma) from medical and surgical units of 55 private hospitals and 7 public national referral hospitals in South Africa completed the survey.

Results: Half of the professional nurses feel as if their mistakes are held against them while one-third perceive information to be lost during shift changes and patient transfers. Almost half of professional nurses feel that hospital management is distant and would not resolve reported problems regarding patient care. 26.6% (n = 26.8) of Baccalaureate and 25.5% (n = 237) of diploma professional nurses perceive the quality of care in their hospitals to have deteriorated in the last year. Qualifications had no correlation with perceptions of patient safety and quality of care, although emotional exhaustion, depersonalization and personal accomplishment did.

Conclusions: An environment in which professional nurses can freely report adverse events will contribute to patient safety and quality of care.

Key words: baccalaureate, diploma, patient safety, perceptions, qualifications, quality of care.

3.2 INTRODUCTION

Nearly one in ten patients is harmed while receiving health care in well-funded and technologically advanced hospital settings (World Health Organization [WHO], 2008). The shocking reality is that there is likely to be an even greater risk of harm to patients in developing countries due to limitations in infrastructure, technologies and human resources (WHO, 2008).

Cline *et al.* (2011) claim that, in order to improve patient safety and quality of care; the perspectives of bedside professional nurses must be explored and understood in this regard. This is confirmed by Hansen *et al.* (2011) who state that investigating different perceptions within a hospital setting could imply target areas for improved patient outcomes.

Disparity between perceptions is related to information imbalances (Feng *et al.,* 2011), thus educational background or qualifications. Even so, contradictory opinions reflect the fact that qualifications impact on the perceptions of professional nurses regarding patient safety and quality of care (Ramanujam *et al.,* 2008; Wagner *et al.,* 2009). Thus, professional nurses' perceptions of patient safety and quality of care, and the relationship between these perceptions and the qualifications of professional nurses working in medical and surgical units in South Africa were investigated.

3.3 LITERATURE REVIEW

According to the South African Nursing Council (SANC, 2011) the nursing student in South Africa either receives education from a university or a college. This will lead to a qualification such as a Baccalaureate degree, diploma, or bridging course diploma that will permit registration as a professional nurse. At the end of 2011, universities in South Africa delivered 590 Baccalaureate nursing degree graduates while colleges prepared 2376 diploma and 2964 bridging course diploma professional nurses (SANC, 2011). This does not correlate with international trends as set by the American Association of Critical Care Nurses (AACN), Sigma Theta Tau International (STTI), the European Federation of Nurse Educators and the Bologna Process in recognizing a Baccalaureate degree in nursing as the minimum educational requirement for professional nursing practice (AACN, 2000; Warren *et al.*, 2005; Costa, 2011; European University Association, 2007).

Aiken *et al.* (2002) conclude from research that staff qualifications directly impact on the process of care and patient outcomes. Gregory *et al.* (2007) agree that nursing education impacts on patient safety. Furthermore, Aiken *et al.* (2003) discovered that surgical patients cared for in hospitals in which higher proportions of direct-care professional nurses held Baccalaureate degrees, experienced a substantial survival advantage over those treated in hospitals in which fewer nurses held Baccalaureate degrees or higher. Similarly, surgical patients experiencing serious complications during hospitalization were significantly more likely to survive in hospitals with a higher proportion of nurses with a Baccalaureate

education (Aiken *et al.*, 2003). Daley (2011) holds the belief that Baccalaureate prepared nurses are better prepared to meet the challenges of obtaining advanced education that fosters a deeper understanding of the many factors that influence patient health and illness.

Hickam *et al.* (2003) make a more explicit statement in saying that higher levels of prior training are associated with lower error. Butterly (2011) confirms this, stating that having more informed practitioners is the key to patient safety. She furthers this argument by implying that improved methods of education can contribute to enhanced safety (Butterly, 2011). This is confirmed by Bloch (2005) who refers to well-designed research showing concrete evidence of the effects of nursing educational levels on patient outcomes, including safety.

Hansen *et al.* (2011) propose the possibility that perceptions of safety are related to insight into the individual. This is related to the statement made by Hasson and Arnetz (2010) that different groups of individuals' perceptions of quality of care differ even though these groups might experience similar aspects of care as being important. Thus it could be inferred that the perceptions of patient safety and quality of care of professional nurses with different qualifications would differ though some overlapping might occur in these perceptions.

Differences in perceptions can offer important information for organizations in identifying potential areas for improvement (Hasson & Arnetz, 2010). This is confirmed by Hansen *et al.* (2011) who state that different perceptions of the

organization's safety climate among groups within the hospital could suggest domains of safety climate or work roles to target in efforts to strengthen an organization's safety climate and potentially improve important patient outcomes. Cline *et al.* (2011) also reiterate that understanding the perspective of bedside professional nurses is important to better define quality nursing care, guide quality improvement initiatives, enhance nursing education, and ensure that the complexity of nursing care is captured in any future measures and indicators of quality care.

Furthermore, hospital staff perceptions of safety are associated with clinical outcomes among patients (Hansen *et al.*, 2011). Thus, as perceptions of safety relate to insight into what safety should entail, and insight leads to better clinical outcomes for patients, perceptions could be seen as predictors of patient safety outcomes.

Many extraneous factors can influence the professional nurse's perception of patient safety and quality of care. Ginsburg *et al.* (2005) reiterate that declines in perceptions of safety may reflect real deteriorations in this area or it may reflect perceptual shifts. The process of making clear distinctions on why perceptions of patient safety and quality of care vary is complicated by the wide array of factors that could impact on this variable.

Ramanujam *et al.* (2008) identified five significant nurse characteristics that decrease perceptions of patient safety. Firstly, nurse education has a direct,

negative influence on the perception of patient safety. Secondly, full-time employment status has a direct, negative influence on the perception of patient safety. Thirdly, nurses' experience, work volume, and low levels of personal control positively influence the perception of work demands, which positively influences the perception of exhaustion which, in turn, increases depersonalization, thus decreasing nurses' perception of patient safety. Feng (2009) agrees that nurses' experiences in the work place directly impact on perceptions of patient safety. These experiences could include work volume, low levels of personal control and work demands. Fourthly, the perception of personal control positively influences a nurse's perception of patient safety, and lastly emotional and interpersonal exhaustion is increased by low levels of personal control, thus positively influencing nurses' depersonalization and decreasing their perception of patient safety. Halbesleben *et al.* (2008) confirm that emotional exhaustion and burnout are associated with a lowered perception of patient safety.

Ramanujam *et al.* (2008) explain that nurses who were highly educated perceived their hospital units to be less safe for patients, perhaps related to the heightened insight that comes from advanced education. This again confirms earlier discussions of perceptions being related to insight.

The findings of Ramanujam *et al.* (2008) were later refuted by Wagner *et al.* (2009) who found that level of education did not impact significantly on perceptions of safety from respondents in the United States and Canada. Therefore, it is

concluded that qualifications impact on perceptions, but differ with context and should be investigated within each new context.

Perceptions of patient safety and quality of care may differ from person to person. These perceptions are likely to be related to individuals' insight into what patient safety and quality of care entail. Furthermore insight into patient safety and quality of care will impact on patient outcomes. Therefore it is of importance to investigate professional nurses' perceptions of patient safety and quality of care, and the relationship between these perceptions and the qualifications of professional nurses working in medical and surgical units in South Africa.

3.4 STUDY AIM

The aim of this study is to report on professional nurses' perceptions of patient safety and quality of care, and the relationship between these perceptions and the qualifications of professional nurses working in medical and surgical units in South Africa.

3.5 METHODS

3.5.1 Design

This study forms part of a larger international collaborative research programme, RN4CAST, which aims to develop human resource forecasting models in nursing

(Sermeus *et al*., 2011). The study has a cross-sectional design with descriptive, explanatory and contextual strategies (Burns & Grove, 2009).

3.5.2 Population and sampling

South Africa is divided into nine geographical provinces: Gauteng, North-West, Free State, Limpopo, Mpumalanga, KwaZulu-Natal, Eastern Cape, Northern Cape and Western Cape. Six of the nine provinces, namely Gauteng, North-West, Free State, KwaZulu-Natal, Eastern Cape and Western Cape were included in the study, as most national referral hospitals in the public sector and hospitals in the private sector are located within these provinces (Klopper *et al.*, 2012). The three largest private hospital groups were invited to participate in the study, of which two hospital groups gave permission to participate. Included in the study are 55 (n = 83) private hospitals (hospitals with a bed capacity of 100 beds or more) and 7 (n = 14) national referral hospitals in the public sector (Coetzee *et al*., 2012).

The population included professional nurses working in medical and surgical units in public and private hospitals of South Africa. A professional nurse is defined as a qualified professional nurse registered with SANC. A total of 1187 (and 935 critical care nurses) (n = 5004) professional nurses completed the survey, with a response rate of 42.4%. A total of 1117 (60 missing) professional nurses completed the question regarding their qualifications and were included in this study, of which 161 have a Baccalaureate degree in nursing and 956 have a diploma.

3.5.3 Data collection

Prior to data collection, appointments were made with chief executive officers and nurse managers to explain the RN4CAST programme and its roll-out. In the public health-care sector, where hospitals did not have the available human resources to appoint fieldworkers within the hospitals to assist with data collection, data was collected by the project managers, research assistants and trained fieldworkers form the North-West University. In the private health-care sector, fieldworkers were appointed in collaboration with the management of the hospital and trained to assist with the distribution and collection of the questionnaires.

Data was collected using the RN4CAST survey: the survey is seven pages in length and consists of four sections. Section A focuses on the practice environment of nurses and questions related to job satisfaction, intention to leave and nurse burnout. Section B focuses on nurse-perceived patient safety and quality of care, as well as the incidence of adverse incidents involving patients in the unit. Section C focuses on the most recent shift of nurses and centres on questions related to work schedules, nursing tasks and nurse-to-patient ratios in the unit. Section D focuses on demographic characteristics of nurses (Sermeus *et al.*, 2011). The sections on nurse-perceived patient safety and quality of care, as well as demographics (Sections B and D) were utilized in this study.

Patient safety issues were measured by seven questions derived from the AHRQ safety culture questionnaire which ranged on a scale from 1 (strongly disagree) to 5 (strongly agree) (Sermeus *et al.*, 2011), as reported in Table 2.

Quality of care was measured using five questions, namely, “In general, how would you describe the quality of nursing care delivered to patients on your unit?” which ranged on a scale from 1 (poor) to 4 (excellent); “How confident are you that your patients are able to manage their care when discharged?” which ranged on a scale from 1 (not confident at all) to 4 (very confident); “How confident are your that hospital management will act to resolve problems in patient care that you report?” which ranged on the same scale as the second question; “Please give your unit an overall grade on patient safety.” Which ranged on a scale from 1 (failing) to 5 (excellent); and lastly “In the past year would you say the quality of patient care in your hospital has …” which could be answered by 1 (deteriorated), 2 (remained the same) or 3 (improved). These questions are reported in Table 3.

Professional nurses also reported on perceptions of the incidence of adverse incidents involving patients in their unit which ranged on a scale from 0 (never) to (6) every day. These perceptions were reported on in Tables 4 and 5.

3.5.4 Data analysis

Data for the RN4CAST programme was captured via the computer programme EPIDATA 3.1 (Lauritsen, 2008) and analysed using SPSS 16.0 (SPSS Inc., 2012). Descriptive statistics, utilizing frequencies, means and standard deviations, was

used to report on demographics and perceptions of patient safety and quality of care while medians were utilized to report on perceptions of adverse events. P values (statistical significance derived from t-tests) and effect size (practical significance) of relationships between perceptions of patient safety and quality of care and qualifications of professional nurses were used to obtain insight into this relationship. Furthermore a Mann-Whitney test was done to distinguish between the perceptions of adverse events of professional nurses with different qualifications. The Spearman rank correlation coefficient or Spearman rho was calculated to indicate the strength and direction of the relationship between perceptions of professional nurses regarding patient safety and different influencing factors, including age, satisfaction with nursing as a career, years of experience, emotional exhaustion, personal accomplishment and depersonalization and statistical significance (2-tailed) was calculated. A Cronbach alpha test was done to determine reliability.

3.5.5 Ethical considerations

Ethical approval was granted by the North-West University (Certificate no: NWU-0015-08-S1). In the public sector, ethical clearance was received at national, provincial and at district level for each of the individual hospitals, while ethical committees of the two private hospital groups granted approval in the private sector (Klopper *et al.*, 2012).

3.6 RESULTS

Sample demographics are provided in Table 1.

PREFERRED PLACEMENT OF TABLE 1.

Demographic characteristics of Baccalaureate degree professional nurses do not differ greatly from those of diploma professional nurses, but some issues are noteworthy to highlight. Professional nurses with a Baccalaureate degree working in medical and surgical units in South Africa tend to be younger than diploma professional nurses working in these units. Almost a quarter of the Baccalaureate professional nurses are younger than 30 years (compared to about one-tenth of diploma professional nurses) while a quarter of diploma professional nurses working in these units are older than 50 (compared to a fifth of Baccalaureate professional nurses). Correlating with the age of Baccalaureate professional nurses, 45% of these professionals have less than 10 years' experience (compared to 37% of diploma professional nurses).

Professional nurses' reported perceptions on patient safety in their unit are reported in Table 2.

PREFERRED PLACEMENT OF TABLE 2

With regard to items 1-4, Baccalaureate professional nurses and diploma nurses remain neutral, although it is of interest to note that 54.1% (n = 87) of

Baccalaureate professional nurses and 51.2% (n = 490) diploma nurses feel as if their mistakes are held against them. With regard to important information often being lost during shift changes, 37.9% (n = 61) of Baccalaureate professional nurses and 42.4% (n = 404) diploma nurses agree and strongly agree with this statement. 39.1% (n = 63) of Baccalaureate professional nurses and 38.6% (n = 369) diploma nurses feel that things “fall between the cracks” when transferring patients from one unit to another. With regard to staff feeling free to question the decisions or actions of those in authority 43.5% (n = 70) of Baccalaureate professional nurses and 48.7% (n = 465) diploma nurses disagree and strongly disagree with this statement.

Baccalaureate professional nurses and diploma nurses mostly agree with items 5-7. However, 7.4% (n = 12) of Baccalaureate professional nurses and 9.5% (n = 89) of diploma professional nurses feel that solutions to prevent errors are not pursued. Furthermore, 17.6% (n = 28) of Baccalaureate professional nurses and 17% (n = 159) of diploma professional nurses feel that feedback about changes put into place based on event reports are not communicated to them. Lastly, 14.4% (n = 23) of Baccalaureate professional nurses and 13.7% (n = 129) of diploma professional nurses do not experience hospital management as demonstrating that patient safety is a top priority. There is a small effect (practical significance) between qualifications and item 5, although this finding is not statistically significant (p=0.085).

Professional nurses' reported perceptions on quality of care in their units are reported in Table 3.

PREFERRED PLACEMENT OF TABLE 3

Professional nurses tended to agree with items 1, 2 and 4. Regarding perceptions of Baccalaureate professional nurses, only 1.9% (n = 3) described the quality of nursing care delivered to patients in their units as poor, while 2.5% (n = 4) are not at all confident that patients are able to manage their care when discharged and 5.6% (n = 9) would grade the overall patient safety in their unit as failing or poor. This correlates roughly with the 2.4% (n = 22), 3.2% (n = 30) and 5.6% (n = 53) respectively of diploma professional nurses. However, almost half of professional nurses working in medical and surgical wards in South Africa reported that they were not at all confident or somewhat confident that hospital management will resolve reported problems regarding patient care. 49% (n = 79) of Baccalaureate professional nurses and 44.4% (n = 418) of diploma professional nurses held this view. Furthermore, approximately a third of professional nurses perceived quality of patient care to have improved in their hospitals in the past year while 26.6% (n = 26.8) of Baccalaureate professional nurses and 25.5% (n = 237) of diploma professional nurses perceived the quality of care in their hospitals to have deteriorated.

Professional nurses' perceptions of the incidence of adverse events involving patients in their unit are reported in Table 4.

PREFERRED PLACEMENT OF TABLE 4

Both Baccalaureate and diploma professional nurses reported medication error, pressure ulcers, patient falls, nosocomial infections, verbal abuse towards nurses by staff and work-related physical injuries to nurses to occur a few times a year or less in their units. Both groups agree in their reporting of complaints from patients or family or verbal abuse towards nurses by patients and/or their families as occurring once a month or less. Both groups report that physical abuse towards nurses by patients and/or their families and physical abuse towards nurses by staff never occur in their units. No statistical significance between perceptions of professional nurses with different qualifications could be derived.

Besides, qualifications, Ramanujam *et al*. (2008) mentioned factors namely: age, satisfaction with nursing as a career, years of experience, emotional exhaustion, personal accomplishment and depersonalization that impacted on professional nurses' perceptions of patient safety and quality of care. For this reason, Spearman's Rho correlations were performed to investigate the relationship between these factors and professional nurses' perceptions of patient safety and quality of care.

There was a small positive correlation between age and three statements related to patient safety issues within the employment setting, namely: Staff feel as if their mistakes are held against them (r = -0.08; p = 0.014) Things "fall between the cracks' when transferring patients from one unit to another (r = 0.06; p = 0.046); and the

actions of hospital management show that patient safety is a top priority (*r* = .07; r = 0.015).

Job satisfaction was revealed to have a small positive correlation on all statements regarding perceptions of patient safety issues within the unit (*r* = -0.12, -0.09, -0.09, 0.13, 0.12, 0.12 and 0.20 while p = 0.000, 0.004, 0.002, 0.000, 0.000, 0.000 and 0.000).

While years of experience as a professional nurse showed small correlations in both directions to patient safety perceptions within the ward in three statements (Staff feel as if their mistakes are held against them [*r* = -0.06; p = 0.047]; Important patient care information is often lost during shift changes [*r* = 0.13; p = 0.000]; and Things "fall between the cracks" when transferring patients from one unit to another [*r* = 0.13; p = 0.000]), years of experience within a specific hospital only showed a small negative correlation with the statement "The actions of hospital management show that patient safety is a top priority" (*r* = -0.06; p = 0.047).

The Cronbach's alpha coefficient was calculated to determine homogeneity on the constructs of emotional exhaustion, personal accomplishment and depersonalization. These were 0.88, 0.72 and 0.64 respectively. According to Gliem and Gliem (2003) a Cronbach's alpha coefficient of 0.88 indicates excellent internal consistency of the items in the scale, while 0.72 is acceptable and 0.64 is questionable.

Emotional exhaustion had a small to medium negative correlation with all statements related to patient safety (r = 0.26, 0.15, 0.20, -0.20, -0.12, -0.15 and -0.23 while p = 0.002, 0.010, 0.035, 0.001, 0.001, 0.000, 0.000, 0.000).

Statements regarding perceptions of patient safety and personal accomplishment had a small to medium positive correlation (r = -0.09, -0.08, -0.06, 0.10, 0.22, 0.16 and 0.19; p = 0.002, 0.010, 0.035, 0.001, 0.000, 0.000 and 0.000) while depersonalization revealed a small to medium negative correlation with perceptions of patient safety (r = 0.18, 0.22, 0.20, -0.06, -0.13, -0.11 and -0.17; p = 0.000, 0.000, 0.000, 0.058, 0.000, 0.000, 0.000).

3.7 DISCUSSION

Most professional nurses participating in this study (85.6%, n = 956) qualified with a diploma in nursing. This roughly correlates with data revealed by SANC (2011) that indicated that 2337 (79%) out of 2966 professionals were diploma qualified (including both four-year courses and bridging courses). Professional nurses working in medical and surgical units in South Africa with Baccalaureate degrees tend to be younger than those with diplomas and also have fewer years' experience.

This study shows that there are significant problems with regard to nurse-perceived patient safety and quality of care in South African hospitals. Half of professional nurses perceive their mistakes to be held against them and that they should not question the decisions or actions of those in authority. Furthermore, more than a

third of professional nurses feel that important patient care information is lost during shift changes or patient transfers. Lastly, almost a quarter of professional nurses feel that their event reports do not elicit the needed changes.

Quality of care is perceived by most professional nurses as being rendered positively. However, about half of professional nurses working in medical and surgical units in South Africa are doubtful that hospital management will act on problems in patient care. Moreover, a third feel that patients will not be able to manage their care once discharged while two-thirds of the participants felt that the quality of care in their hospitals did not improve during the last year - half of these perceived quality of care in their hospitals to have deteriorated.

Nurse-reported perceptions of incidence of patient adverse events revealed that professional nurses in South Africa believe that these events occur once a year or less. However, the WHO (2008) estimates that tens of millions of patients worldwide suffer disabling injuries or death every year due to unsafe medical practices and care, with the situation being exacerbated by poor infrastructure and shortage of resources in developing countries.

Furthermore, the majority of adverse events fall into three categories: falls, clinical care, and medications (Tingle, 2011). To add to this, health care-associated infections in developed countries affect 5% to 10% of patients admitted to hospitals, while in some developing countries as many as a quarter of all patients may be affected (WHO, 2008). As perceptions of incidence of falls, medication

errors and hospital acquired infections were directly measured by the RN4CAST survey, it is clear that these perceptions do not correlate with reality. Perceptions reported are indicative of apprehension at reporting adverse events that might lead to a branding as “bad nurse” or “bad hospital”. This fear might cause hesitation to report adverse events, thus directly impeding patient safety and also hindering progress in patient safety practices within the wards.

No significant difference between patient safety and quality of care perceptions of baccalaureate professional nurses and those of diploma professional nurses could be determined, thus qualifications do not impact on these perceptions within the context examined.

Age, satisfaction with nursing as career, years of experience, emotional exhaustion, personal accomplishment and depersonalization of professional nurses have a small to medium correlation with perceptions of patient safety and quality of care in medical and surgical units of South Africa. This is in agreement with the findings of Ramanujam *et al.* (2008)

With regard to limitations, this study relied on self-report questionnaire data, which are subject to social desirability biases. Burns and Grove (2009) mention evaluation apprehension as a reason for specific rendition of answers. This might have influenced their responses to reveal perceptions as being more positive than they really are in order to protect the reputation of institutions participants are affiliated to. Furthermore, perceptions do depict reality, therefore, no inference

could be made regarding differences in patient safety and quality of care as rendered by Baccalaureate degree and diploma professional nurses.

3.8 SUMMARY

The South African health-care sector should pay heed to patient safety and quality of care deficits in hospital care suggested by the findings of this study. The denial of incidence of adverse events might indicate evaluation apprehension, especially taking into account that professional nurses chose to remain neutral on a portion of the questionnaire while acknowledging that they are in no position to question those in authority and that their mistakes will be held against them. Furthermore, hospital managements are not trusted to make changes in order to improve quality of care and a third of professional nurses working in medical and surgical units in South Africa feel that quality of care has deteriorated in their hospitals during the past year.

Developing an arena founded on supportive leadership, where professional nurses feels secure in reporting adverse events and hindering factors with regard to quality of care, might benefit patients in terms of safety and better quality care.

3.9 ACKNOWLEDGEMENTS

AJB, SKC and HCK were responsible for the study conception and design. SKC and HCK were involved in the original data collection strategy. AJB performed the data analysis and was responsible for the drafting of the manuscript. SKC and

HCK made critical revisions. Erika Fourie and Suria Ellis provided statistical consultation. Dr. Ronel Pretorius and Dr. Petra Bester are acknowledged for their roles as project co-ordinators in the data collection of this programme. The research leading to these results has received funding from the Atlantic Philanthropies and the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no 223468 (www.rn4cast.eu). Further funding was received from the North-West University as a bursary for a masters' degree.

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ANNEXURE I

TABLES

Table 1: Demographic characteristics of Baccalaureate degree professional nurses and diploma professional nurses

Items	Baccalaureate Degree (n = 161)	Diploma (n = 956)	Total (n = 1117)
	% (f)	% (f)	% (f)
Age (years):			
<20	0.0% (0)	0.2% (2)	0.2% (2)
20-29	23.6% (37)	11.2% (100)	13.3% (137)
30-39	28.0% (44)	26.5% (238)	27.1% (282)
40-49	29.9% (47)	33.1% (296)	32.3% (343)
50-59	17.2% (27)	25.2% (226)	23.7% (253)
>59	1.3% (2)	3.8% (34)	3.4% (36)
Full-time employment:			
Yes	95% (150)	95.5% (904)	95.5% (1054)
No	5% (8)	4.5% (43)	4.5% (51)
Years of experience:			
0-9	44.9% (71)	36.6% (319)	38.1% (390)
10-19	21.6% (34)	26.0% (227)	25.7% (261)
20-29	26.5% (42)	24.1% (210)	24.0% (252)
>30	7.0% (11)	13.3% (116)	12.2%(127)

Table 2: Perceptions of Baccalaureate degree professional nurses and diploma professional nurses of patient safety within their units

Items	Baccalaureate Degree (mean : SD)	Diploma (mean : SD)	Effect size	p	Total (mean : SD)
1. Staff feel like their mistakes are held against them.	3.36 : 1.323	3.31 : 1.210	0.04	0.642	3.32 : 1.225
2. Important patient care information is often lost during shift changes.	2.81 : 1.250	2.90 : 1.303	0.08	0.365	2.86 : 1.302
3. Things "fall between the cracks" when transferring patients from one unit to another.	2.89 : 1.232	2.85 : 1.259	0.03	0.693	2.84 : 1.253
4. Staff feel free to question the decisions or actions of those in authority.	2.90 : 1.372	2.73 : 1.258	0.13	0.131	2.77 1.280
5. In this unit, we discuss ways to prevent errors from happening again.	4.15 : 0.979	4.01 : 0.934	0.15	0.085	4.04 : 0.948
6. We are given feedback about changes put into place based on event reports.	3.75 : 1.191	3.71 : 1.094	0.03	0.696	3.73 : 1.108
7. The actions of hospital management show that patient safety is a top priority.	3.94 : 1.131	3.89 : 1.077	0.04	0.611	3.91 : 1.078

Table 3: Professional nurses' perceptions of quality of care in their units (n = 1193)

Items	**Response range** (lowest score indicating most negative response)	**Baccalaureate Degree (mean : SD)**	**Diploma (mean : SD)**	**Effect size**	**p**	**Total (mean : SD)**
1. In general, how would you describe the quality of nursing care delivered to patients on your unit/ward?	1-4	3.09 : 0.699	3.02 : 0.741	0.09	0.280	3.04 : 0.744
2. How confident are you that your patients are able to manage their care when discharged?	1-4	2.81 : 0.733	2.82 : 0.748	0.01	0.899	2.82 : 0.751
3. How confident are you that hospital management will act to resolve problems in patient care that you report?	1-4	2.52 : 0.940	2.64 : 0.924	0.13	0.125	2.63 : 0.928
4. Please give your unit/ward an overall grade on patient safety.	1-5	3.71 : 0.901	3.70 : 0.847	0.01	0.945	3.71 : 0.856
5. In the past year would you say the quality of patient care in your hospital has…?	1-3	2.10 :0.791	2.10 : 0.776	0.01	0.934	2.11 : 0.781

Table 4: Baccalaureate degree professional nurses and diploma professional nurses' perceptions of incidence of adverse events involving patients in their unit

ADVERSE EVENTS	Baccalaureate Degree(mean)	Diploma (mean)	Effect size	p	All (mean)
1. Medication error	1	1	0.01	0.846	1
2. Pressure ulcers	1	1	0.00	0.906	1
3. Patient falls	1	1	0.04	0.184	1
4. Urinary tract infections	1	1	0.02	0.459	1
5. Bloodstream infections	1	1	0.02	0.605	1
6. Pneumonia	1	1	0.00	0.895	1
7. Complaints from patients or family	2	2	0.05	0.107	2
8. Verbal abuse towards nurses by patients and/or families	2	2	0.05	0.079	2
9. Verbal abuse towards nurses by staff	1	1	0.04	0.214	1
10. Physical abuse towards nurses by patients and/or families	0	0	0.01	0.754	0
11. Physical abuse towards nurses by staff	0	0	0.01	0.821	0
12. Work related physical injuries to nurses	1	1	0.01	0.843	1

CHAPTER 4 – EVALUATION OF THE STUDY, LIMITATIONS AND RECOMMENDATIONS FOR NURSING PRACTICE, NURSING RESEARCH, NURSING EDUCATION AND POLICY

4.1 INTRODUCTION

Evaluation of the study is done to consider whether outcomes were reached. Conclusions of the research are discussed within this portion of this chapter.

According to Burns and Grove (2009:707) limitations are theoretical and methodological restrictions or weaknesses in a study that may decrease the ability to generalise the findings. Thus limitations restrict the applicability of the study to the general population.

Recommendations include ideas that emerged from the present study and previous studies in the same area that can provide direction for the future (Burns & Grove, 2009:718). These ideas are directed towards recommendations for nursing practice, nursing research, nursing education and policy development.

4.2 EVALUATION OF THE STUDY

This study was performed in fulfilment of the requirements for the degree *Magister Curationis*. The researcher gained confidence and understanding of the research process through the writing of this dissertation.

The study aimed to describe professional nurses' perceptions of patient safety and quality of care, and to explore the relationship between perceptions and certain personal characteristics of professional nurses, such as qualifications.

A need for this study was identified when international literature was found to have explored and described the perceptions of professional nurses, but this had not been done within the context of South Africa. Furthermore, little research had been done within the South African context regarding factors such as qualifications influencing perceptions of patient safety and quality of care.

A cross-sectional design, with descriptive, explanatory and contextual research strategies was used in order to answer three questions: 1.) What are the perceptions of patient safety and quality of care of the professional nurse with a diploma in nursing in South Africa? 2.) What are the perceptions of patient safety and quality of care of the professional nurse with a Baccalaureate degree in nursing in South Africa? 3.) Does a relationship exist between the qualifications of professional nurses and perceptions of patient safety and quality of care in medical and surgical units in public and private hospitals in South Africa? Data collected by means of the RN4CAST survey was statistically analysed to answer these questions.

Findings included that neutral perceptions were reported on aspects related to general patient safety. Ho1 was accepted (There is no significant relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care) while Ha1 was rejected (There is a significant relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care). Adverse events are not reported accurately due to evaluation apprehension. Furthermore, there is a need to address issues regarding management and leadership in order to create a safe environment for professional nurses in which to report adverse events or hindrances in quality of care. Although some factors that influence perceptions of patient safety and quality of care were identified, qualifications of the professional nurse did not influence these perceptions.

This research study lead to an original research article.

4.3 CONCLUSIONS

4.3.1 Baccalaureate degree studies and diploma studies for education in nursing differ

All included educational institutions training Baccalaureate degree professional nurses have exit level outcomes correlating with the provider, professional and research role. Five out of these six educational institutions focus on the educational role and the managerial role while only two directly involved the advocacy role.

All diploma training institutes have exit level outcomes designated to the provider role and the professional role while eight out of the twelve indicated the advocacy role and seven the managerial role. Only half of these institutions have exit level outcomes specifically indicating educational **and** research roles.

4.3.2 Professional nurses' perceptions of patient safety and quality of care

Professional nurses seem to be apprehensive about criticizing authority. They feel that mistakes are held against them. Perceptions of professional nurses working in medical and surgical wards in South Africa indicate that information loss occurs during shift-changes and patient transfers. Many professional nurses perceive hospital management as unwilling to make changes to improve quality of care and one-third of professional nurses feel that quality of care has deteriorated during the last year.

4.3.3 Comparison of perceptions of professional nurses

No significant relationship was revealed between qualifications and professional nurses' perceptions of patient safety and quality of care. Therefore the research hypothesis, viz. that "There is a significant relationship between the qualifications of professional nurses and their perceptions of patient safety and quality of care" was rejected. However, age, satisfaction with nursing as a career, years of experience, emotional exhaustion, personal accomplishment and depersonalization of professional nurses were found to slightly influence their perception of patient safety and quality of care.

4.4 LIMITATIONS OF THE STUDY

As perceptions are very contextual, different confounding elements of the study participants might have influenced the outcome of the study. Although some of these elements such as years of experience and burnout were taken into account with stratification techniques it is possible that confounding elements still remained. One of these elements might well be the profound difference between the public and private health-care settings. The inability to stratify all possible factors could have had a widening effect on the standard deviation of responses.

Furthermore, this study relied on self-report questionnaire data, which are subject to social desirability biases. According to Burns and Grove (2009:224) evaluation apprehension refers to participants' desire to be seen in a favourable light by the researchers. This might have influenced their responses to reveal perceptions as being more positive than reality entails in order for the researchers to regard the institutions in a more favourable light. This could be exacerbated by the participants feeling that their mistakes will be held against them. Though anonymity was assured with the participants, the influence of evaluation apprehension cannot be determined.

4.5 RECOMMENDATIONS

Recommendations for nursing practice, nursing research, nursing education and nursing policy were developed in accordance with conclusions from the study.

4.5.1 Recommendations for nursing practice

Training and retraining regarding aspects of patient safety and quality of care should occur at least once a week in order for patient outcomes to be improved. Furthermore, reporting of adverse events should occur more rapidly and without apprehension so as to reduce the risk of recurrence of these events in the future. These recommendations are in line with the core standards as set out by the South African Department of Health (2011:5):

- Patients receive care and treatment that follow nursing protocols, meet their basic needs and contribute to their recovery.
- Doctors, nurses and other health professionals constantly work to improve the care they provide through proper support systems.
- Clinical risk identification and analysis take place in every ward to prevent patient safety incidents.
- Patients with special needs or at high risk, such as pregnant mothers, children, the mentally ill or the elderly, receive special attention.

- Safety protocols are in place to protect patients undergoing high-risk procedures such as surgery, blood transfusion or resuscitation.
- Adverse events or patient safety incidents are promptly identified and managed to minimise patient harm and suffering.
- An Infection Prevention and Control Programme is in place to reduce health care associated infections.
- Standard precautions are applied to prevent health-care associated infections.

4.5.2 Recommendations for nursing research

Perceptions of patient safety and quality of care were not found to resemble reality. Research focussing on how to align perceptions of patient safety and quality of care with the reality of the deficits might prove to have some merit. If professional nurses perceive patient safety and quality of care to be optimal, enhancement of these patient outcomes might be seen as unnecessary. This in turn might cause serious consequences due to a diminished drive to always improve patient safety and quality of care in nursing units.

As self-reported perceptions do not warrant true predictions of patient safety and quality of care rendered, it would prove beneficial to inspect the quality of care and patient safety outcomes as delivered by nurses with different qualifications in a future study. This will indicate the future for nursing education that is predictive in order to ensure the best quality of care and patient safety outcomes.

4.5.3 Recommendations for nursing education

As insight into quality of care and patient safety improves, perceptions of professional nurses will correlate better with the standard of these principals rendered in practice. It is therefore of great importance that nursing education should not only include elements of rendering quality of care and patient safe care, but also of elements of risks involved in these patient outcomes.

Definite guidelines (such as set out by the WHO) regarding situations causing a decrease in patient safety and quality of care should be included in basic nursing education curricula, with measures that effectively limit these situations. Patient safety should also be taught at the post-graduate level, and remain an area of definite priority.

Furthermore, in-service training sessions should be conducted on a regular basis in medical and surgical units in South Africa so as to build professional nurses' insight into patient safety and quality of care. These sessions could include a wide array of topics focussing on specific threats to quality of care and patient safety as well as resolutions to these threats.

4.5.4 Recommendations for policy

Patient safety should be prioritised in every new policy. No action should be taken without taking possible threats to patient safety into account. These considerations should be built into every policy and procedure. Quality control in hospitals should have clear guidelines and occur on a regular basis. Both internal and external audits on quality of care should be done on a regular basis.

Furthermore, supportive leadership should be motivated by definite guidelines on how to manage and lead professional nurses towards optimal patient safety and quality of care.

4.6 SUMMARY

The study was evaluated, limitations to the study were identified and solutions given for possible improvement. Recommendations were made for nursing practice, future nursing research, nursing education and nursing policy.

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Declaration

Date: 26 April 2012

Client: **AJ Blignaut**

This is to declare that I, Annette L Combrink, accredited translator/language editor of the South African Translators' Institute, have edited the study by

AJ Blignaut

The relationship between the qualifications of professional nurses and their perception of patient safety and quality of care in medical and surgical units in South Africa

Certified an accurate translation of the original

Prof. Annette L Combrink
Accredited translator and language editor,
South African Translators' Institute
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Date: 26 April 2012