HANDOVER PROCESSES AND PRACTICES OF CRITICALLY ILL PATIENTS BETWEEN NURSING STAFF FROM THE INTENSIVE CARE UNITS OF PRIVATE HOSPITALS IN THE ETHEKWINI DISTRICT, KWAZULU-NATAL

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Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

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Abstract

Background

Nursing handover is an integral part of safe patient care in the Intensive Care Unit (ICU).The term handover refers to a nurse taking responsibility and accountability of care from another nurse at the end of the shift and is used interchangeably with terms such as hand-off, handover, sign off, inter-shift report and shift report. Nursing handover can represent a potential risk for patients and health institutions as information during the handover processes can be lost, misinterpreted or miscommunicated. Thus, the process of communication during handover is vital in the fast-paced world of an Intensive Care Unit.

Purpose of the study

The purpose of this study was to explore handover processes and practices between nursing staff from the Intensive Care Units of private hospitals in the eThekwini district.

Methodology

A qualitative, exploratory, descriptive design guided the study by implementing the Situation, Background, Assessment and Recommendations (SBAR) framework. In-depth interviews of Intensive Care Nurses were conducted to collect data. Intensive Care Unit trained and experienced Registered Nurses and Enrolled Nurses were interviewed. A total of twenty-two (22) participants were interviewed during the working hours of the participants.

Findings

The study findings revealed that during handover practices in the Intensive Care Unit communication is the most important component of human interaction and is necessary for the transfer of information from the sender to the receiver. Handover was, however, not consistent in all hospitals and the junior nurses were not given the necessary support and supervision at times, due to the acuity of the patients and the shortage of nurses in the unit. There was no structured handover tool in place to ensure that the process was formalized for all nurses in the Intensive Care Units to follow.

Conclusion

The study concluded with recommendations made to improve the handover process which included the use of Situation, Background, Assessment and Recommendations (SBAR) framework to ensure that the process is structured, having a team leader free to assist junior staff to ensure the handover runs smoothly, handover processes should be taught in nursing colleges and that nursing management should assist the staff by drawing up a proper handover policy. Further research should be conducted on this topic but in other departments in the hospitals to evaluate how their handover practices are done.

Key words: Critical Care, Critical Care Nurse, Intensive Care Nurse, Intensive Care Unit, Handover, Patient safety, Critical Care Unit

Dedication

As an expression of my deepest gratitude and appreciation, I dedicate this work to my husband, Khalid Anwar, my cheerleader, to whom I remain forever indebted to for the love, patience, support, tolerance and encouragement, which inspired and sustained me throughout this research. To my beloved parents, Thiagarajh and Sandraganthi Padayachee, my wonderful family and late mother-in-law Sara Bee Shaik, this work is a dedication to you for your unwavering support and encouragement towards my commitment in achieving part of a lifetime dream. I pray that I may be an inspiration and support to you as some of you pursue your own dreams. To my dearest baby boy Miran, may this be an inspiration to you that you can achieve anything in life if you believe in it and pursue it. It does not matter how long it takes. Thanks for being a part of my life and for your patience. I love you all.

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Glossary of terms

Intensive Care Nurse

Intensive Care nurses rely upon a specialized body of knowledge, skills, and experience to provide care to patients and families and create environments that are healing, humane and caring (American Association of Critical Care Nurses - AACN 2013:3).

Intensive Care nursing

Intensive Care nursing, used synonymously and interchangeably with Critical Care nursing, is defined as advanced and highly specialised care provided to medical or surgical patients whose conditions are life-threatening and require comprehensive care and constant monitoring. This care is administered in specially equipped units of a health care institution (Urden, Stacy and Lough 2018: 2-5). It is a nursing specialty that deals specifically with human responses to life-threatening problems.

Intensive Care Unit

Urden, Stacy and Lough (2018: 2-5) maintain that an Intensive Care Unit, used synonymously and interchangeably with Critical Care Unit, is a specially equipped hospital area designed for the treatment of patients with life-threatening conditions. This unit contains resuscitation and monitoring equipment and is staffed by nursing personnel who are specially trained and skilled in recognising and immediately responding to cardiac and other emergencies.

Handover

Handover is when one nurse hands over the responsibility of the care of a patient to another nurse at the end of a shift (Chong, Rahim, Jaj *et al.* 2020: 691). For the purpose of this study, handover refers to the transfer of essential clinical information in a timely and efficient manner to ensure continuity of care and safety of patients (Abraham *et al*. 2016: 79).

Acronyms

Acronym	Full word/sentence
AACCN	American Association of Critical Care Nurses
ECG	Electrocardiogram
EN	Enrolled Nurse
ICU	Intensive Care Unit
IREC	Institutional Research Ethics Committee
KZN	KwaZulu-Natal
RN	Registered Nurse
RNE	Registered Nurse experienced
RNT	Registered Nurse trained
SANC	South African Nursing Council
SBAR	Situation Background Assessment Recommendations
SOP	Scope of Practice
US	United States
USA	United States of America
WHO	World Health Organization

CHAPTER 1: ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Nursing handover is an integral part of safe patient care in the critical care unit and its primary purpose is to ensure that relevant patient information is communicated to the relevant parties, thus minimising any disruption in patient care (De Lange 2016: 4). The nursing handover also allows the incoming nurse an opportunity to visualise the patient and ask questions (Rykse 2017: 7). Nursing handovers in a Critical Care Unit can function as a key determinant in the patient's continuity of care, mapping and communicating vital information that affects the patient's care and recovery. According to Coleman (2018: 6), the nursing handover occurs at the beginning of the shift in Critical Care Units, whereby all staff from the unit is present and at the end of this general handover, a nurse will be allocated to a patient for the duration of his or her shift. At the bedside, the allocated nurse will give a detailed handover of the patient including the patient's treatment plan.

1.2 BACKGROUND

In 2009, the World Health Organization (WHO) launched a campaign called the 'World Alliance for Patient Safety Solutions', whereby communication during patient handover was ranked number three as an initial safety solution (WHO 2009). The benefits of an efficient handover were outlined by Inanloo, Mohammadi and Haghani (2017:52), as allowing nurses the opportunity to share vital information with their colleagues, which assisted in improving patient outcomes. According to Zolkefli, Bakar, Isahak and Saiful (2020: 41), it was noted that nursing handovers have to be comprehensive, effective and efficient to deliver safe and quality patient care. Communication is fundamental during nursing handover (Inanloo Mohammadi and Haghani 2017:52). Likewise, care is fundamental to nursing practice making nursing handover an important practice thereof (Nsemo, Ojong and Jane 2018: 1-9).

Nursing handover allows nurses the opportunity to weigh the benefits and responsibilities of sharing vital information with nursing colleagues through effective communication (Nsemo , Odong and Jane 2018: 1-9). A study, done by Shahid and Thomas (2018: 1), found and added that effective communication during nursing handovers minimises or prevents nursing, medical negligence altogether. It is normal for patients to transit between areas of diagnosis, treatment and care, encountering two to three shifts of staff in a 24-hour period, thus further introducing a safety risk to patients at each change interval (WHO 2009). The WHO report on communication during patient handover, which was part of the Patient Safety Solution Campaign revealed that the hand-over communication between hospital units and amongst care teams might not include all the essential information to be conveyed and may cause the information to be miscommunicated (WHO 2009).

1.2.1 Nursing handover

The term 'nursing handover' refers to a nurse taking responsibility and accountability of care from another nurse at the end of the shift and is used interchangeably with terms such as hand-off, sign off, inter-shift report and shift report (Malfait, Van Heck, Van Biesen and Eeckloo 2018: 1). Nursing handover can represent a potential for patient and health institutional risks as information during the handover process can be lost, misinterpreted or miscommunicated (Chalke 2014: 2). Handovers occur frequently during the patient's stay in the hospital. Handovers occur at various levels, such as, within the hospital, that is between departments; inter-facility which occurs between hospitals and in the unit where one nurse hands over the total care of the patient to the next nurse. Handovers in the Critical Care Unit take place between nurses as well as between all members of the multi-disciplinary team (Van den Berg 2013: 1). For this paper, the focus will be on handover between nurses in the Critical Care Unit. The information transferred during nursing handovers is important for the patient's safety whilst in the hospital. Handovers in Critical Care Units take place in an environment that is event-driven with many distractions and where time is limited (Randmaa, Swenne, Martensson, Hogberg, and Engstrom 2016: 173). Patient safety is an ethical imperative implied in healthcare

professionals' actions and interpersonal processes which can lead to a nurse losing her licence to practice if found guilty of medical negligence (Joint Commission 2017: 1). According to Da Silva Dos Santos, De Mellos Barros, Broca and Da Silva (2019: 1-16), that an increased number of medico-legal incidents arise from poor communication during handover in Critical Care Units.

Although nursing handover remains one of the most essential aspects of patient care, effective communication during nursing handover in a highly stressful ICU is just as crucial. This allows the nurse to plan her nursing management, whilst listening to the report that is being given by making use of her visual and auditory senses (Al Ibrahim 2014: 15).

1.2.2 Communication during handover

Considering the demanding nature of the patient's profile, patient acuity levels and the highly technological and fast-paced environment of an ICU, there is a vital need for conveying clear and concise communication among team members during handover (Shahid and Thomas 2018: 3). Ineffective communication can contribute to medical errors (Chalke 2014: 2). Miscommunication during nursing handovers was seen to be the root cause of sentinel events during a patient's stay in Critical Care Units (Herawati, Nurmalia, Hartiti and Dwiantoro 2018: 177-185). It is also noted that telephones, Electrocardiograph (ECG) monitors, infusion pump alarms, patients' relatives, and staff interrupt handover. This can result in important information not being conveyed during the nursing handover, thus jeopardising patient care and safety (Kowitlawakul *et al.* 2015: 99-104). Effective communication between shift changes is important because nurses communicate differently and have different expectations about information and interpretation (Mamela 2017: 14).

For nursing to proceed effectively, communication must be thorough (Herawati *et al*. 2018: 177-185). Effective communication among nurses is imperative to ensure patient safety and the delivery of high-quality care. Patient safety is compromised if vital clinical

information is not made available to all members of the healthcare team (Kullberg *et al*.2017: 2).

Evans *et al*. (2010:1-6) concluded that communication errors resulting from failure to transfer appropriate information are the most common cause of preventable disability or death of patients. The importance of effective communication is further indicated in a study by Ayala (2017), who used the Schramm model (see Figure 1.1) to illustrate the process of communication. The author reported that communication is something circular in nature and is made up of the following components:

- Encoder – Person who does the encoding or sends the message / where the message originates.
- Decoder – One who receives the message.
- Interpreter – Person trying to understand, analyse, perceive or interpret the message.

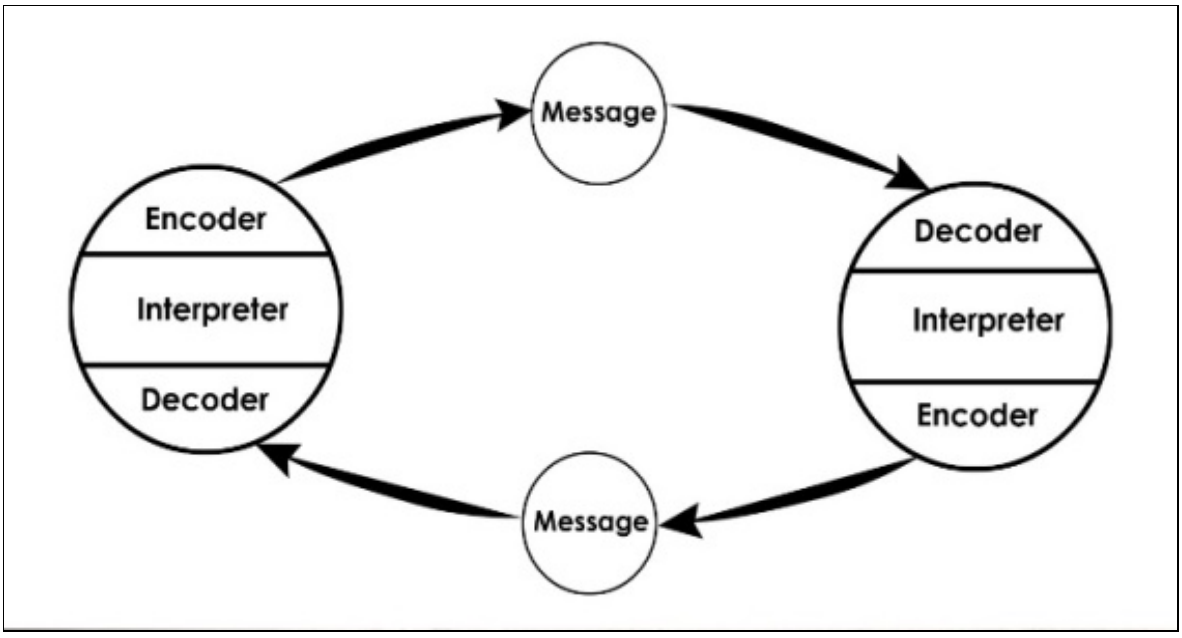

Figure 1.1. The Schramm Model of Communication (Ayala 2017: 15-16)

Ayala (2017: 15-16) uses this model to state that communication between two parties is not a linear sequential process, but is performed simultaneously by the sender and the receiver and is a two-way exchange of information. According to Eggins and Slade (2015:197), communication systems in a hospital operate within the confines of cultural rules and expectations and the responsibility and accountability for the care of patients from outgoing to incoming communication across shifts, across disciplines and care settings, such as the ICU, lies with healthcare professionals. Patient-centred care is determined by the quality of interactions between the patients and clinicians or health care professionals and effective handovers done at the patient's bedside have proved to enhance information transfer and patient-centred care (Ayala 2017: 15-16). The author further emphasises that inadequate and ineffective communication between healthcare professionals during handover are key factors that can contribute to errors and procedural mistakes, which may lead to adverse effects, delays in diagnosis and treatment and inappropriate omission in care in an ICU.

1.2.3 Critical Care Unit

The term 'Critical Care Unit' is used synonymously with Intensive Care Unit (ICU) (Thimmapur *et al.*2018: 184-187). However, in the current study, the term "Critical Care Unit" will be used. The Critical Care Unit is a specialised unit where a team of specialised nurses attends to the patient's health needs. Critical Care Units house critically ill patients in a hospital, and generally have a skilled multidisciplinary workforce such as doctors, nurses, anaesthetists and other specialised medical staff. Quality and safety are a major focus in Critical Care Units due to it being a complex and fast-paced environment. Due to the Critical Care Unit environment being so demanding with high patient acuity, Critical Care Nurses are subject to errors during their shift (Urden, Stacey and Lough 2018: 25). Various factors affect the transfer of information during the handover process, which include busy work environments, staff workload, work experiences and education levels of the nurse taking over, ineffective listening skills of the nurse as her mind may be wandering off and workplace culture. Workplace culture refers to the way things are done in a specific place (De Lange 2016: 1).

The patient in the Critical Care Unit is in a vulnerable position, with different staff members working different shifts, making nursing communication and bedside handover vital for patient safety and continuity of care (Urden, Stacey and Lough 2018: 9-10). The same authors attest that ineffective handover jeopardises patient safety and hampers quality care (Urden, Stacey and Lough 2018: 9-10). Due to the nature of the environment, the Critical Care Unit may show the highest number of medical errors. Failure to provide a comprehensive report during handover would result in the patient's safety being jeopardised (Principe 2017: 2).

1.3 PROBLEM STATEMENT

Inter-shift nursing handover is a critical process in the dynamic and fast-paced environment of adult, paediatric and neonatal Critical Care Units, which demand efficiency and attention to detail. The Critical Care Nurse is responsible for the critically ill patient's care for a 24-hour period and all interventions conducted are guided by policies, procedures, laws of the land, the Nursing Act 33 of 2005 and regulations by statutory bodies, for example, the South African Nursing Council (SANC) Scope of Practice (Regulation 2598) (SANC 1984: 1-5).

According to international statistics reflected in a study by Ayala (2017: 8), it was noted that 80% of serious medical errors occur during the process of handover as a result of communication breakdown between healthcare providers. In 2006, the Joint Commission in the United States of America reported that a communication breakdown was the leading cause of medical malpractice (WHO 2007). Williams and Stellenberg (2018: 33) reported that South African nurses are involved in 87% of malpractice, of which 11.1% was communication related. Communication gaps during handover can cause serious breakdowns in the continuity of care, inappropriate treatment and cause potential harm to the patient (Vines, Dupler, Van Son and Guido 2014: 166). Effective communication is seen as a major challenge in the healthcare industry and the workplace while miscommunication is bound to occur due to various distractions. Research findings indicated an increase in patient incidents, namely pressure ulcers and medication incidents in the Critical Care Unit which beg the following question: "Do the handover

processes and practices between nursing staff from the intensive care units provide adequate and necessary information to ensure patient safety?"

Thus far, the literature search has yielded findings that attempt to standardise information during handover processes but there is limited evidence on nursing perspectives of handover processes in a Critical Care Unit (Randmaa *et al.* 2016: 178). The researcher envisages this study to be timeous in raising critical communication issues for consideration in health service delivery organisations. This can further stimulate discourses on clinical handovers amongst health care professionals, allowing the practices and processes to be informed by critical thinking and sound decision-making skills.

1.4 PURPOSE OF THE STUDY

The purpose of this study was to explore handover processes and practices between nursing staff from the Critical Care Units of private hospitals in the eThekwini district.

1.5 RESEARCH QUESTIONS

The study aimed to answer the following research questions:

- What are the current handover processes and practices for patient handover in the Critical Care Units of private hospitals in the eThekwini district?
- What are the barriers to effective handover processes and practices in the Critical Care Units of private hospitals in the eThekwini district?
- What are the strategies that can improve nursing handover processes and practices in the Critical Care Units of private hospitals in the eThekwini district?

1.6 SIGNIFICANCE OF THE STUDY

The nursing handover will always be a core element in the nursing care process; hence a change of shift handover is an integral part of clinical practice in a Critical Care Unit (Arumugam, Hamidah, SHA and Irwan 2016: 495). Patient safety and continuity of care

are dependent on the accurate transfer of information during nursing handover. The commonly used methods of communication during handover in the Critical Care Unit are known to be face-face, verbal, written or a combination of the three (Superville 2017: 4). Nurses are responsible and accountable for handover daily, yet they are not formally trained on handover practices. They may be legally liable if they fail to handover pertinent patient information, should medical negligence occur due to information not communicated during handover (Principe 2017: 3). The researcher in this study explored current practices of Critical Care Unit nurse-patient handover and identified its strengths and weaknesses. It is hoped that the findings of his study may advance the development of a standardised tool or policy related to handovers in a Critical Care Unit that will ensure continuity of care, meet the needs of a patient promptly, reduce inconsistency and omission of important information affecting the quality and continuity of patient care.

1.7 RESEARCH METHODOLOGY

A qualitative, exploratory, descriptive design was used to collect data by means of semi-structured individual interviews conducted in selected Critical Care Units. Unit managers, team leaders and all nurses involved in nursing handover engaged in discussions regarding the topic of inquiry. Data was analysed using Creswell's six - step qualitative data analysis.

1.8 STRUCTURE OF THE DISSERTATION

Table 1.1 Structure of the dissertation.

CHAPTER	TITLE	OUTLINE
1	Overview of the study	Introduces and provides an overview of the study by identifying the topic of inquiry, research questions, and study aims. Background information on the research problem is provided to highlight the importance of the topic and justify this study.
2	Literature review	Presents a review of relevant literature pertaining to international and local studies and reports on nursing handover processes. This chapter also presents the conceptual framework that guides this study.
3	Research methodology	Provides a detailed description and rationale for the research methodology. The study population, sample, data collection, and data analysis methods are described in detail in this chapter.
4	Presentation of findings	Presents the results of current nursing handover processes in the Critical Care Units.
5	Discussion of findings	Discusses the findings of the study in relation to interviews by reviewing and interpreting data obtained. The limitations and strengths of the study are also identified in this chapter.
6	Conclusions, limitations and recommendations	Conclusions drawn from the findings are presented. Recommendations are made in relation to the key findings of the study

1.9 CONCLUSION

This chapter provided an overview of nursing handover processes and practices of critically ill patients between nursing staff from the intensive care units. The objectives of the study together with the problem statement and rationale were also outlined in

this chapter. The next chapter will review, outline and discuss relevant literature concerning nursing handover processes and practices of critically ill patients between nursing staff from a local, national and international viewpoint.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In chapter one, an overview of nursing handover has been outlined. Chapter two reviews various handover practices in Critical Care Units. A review of the literature was conducted to determine the knowledge on the topic locally and internationally to identify any commonalities that exist in literature. This enabled the researcher to provide a framework for the study by placing it in the context of current knowledge of handover in Critical Care Units. Literature review is undertaken for the researcher to familiarise herself with the knowledge base (Polit and Beck 2012: 88). To ensure a comprehensive search, the search data base included Research Gate, Google Scholar and CINAHL. Keywords including handover, handoff, critical care, ICU, inter - shift handover, bedside handover, nurse handover were used. This chapter will also discuss the conceptual framework chosen to guide the study.

2.2 NURSING HANDOVER

Nursing handover is an integral part of safe patient care in the Critical Care unit (De Lange 2016: 4). During handover ,the responsibility of treatment is transferred from one health care provider to another by providing them with the clinical investigations ordered, treatment plan, management of care and any clinical deterioration or problems experienced by the patient (South African Department of Health 2017: 24). Studies by: Manser, Foster, Flin and Patey (2012: 138-156); Merten, van Galen and Wagner (2017: 1-5); Davis (2013: 2) and Mgoqi ,Crowley, and Van Der Heever (2017: 2) have agreed that nursing handover is a critical communicative process were clinical information at the end of the nursing shift or during the shift is conveyed to support the transfer of patient care and a major contributing factor to patient safety. The authors further stated that handover is not looked at seriously resulting in errors or omissions in care for the patient. During handover, there is transfer of information between nurses regarding the patient's clinical issues, including changes in condition and management plans, blood results, medication prescriptions, vital signs, intravenous sites and fluids, occurs (Sassaki and Perroca 2017: 2). Authors; Van der Merwe (2018:

3); Mgoqi *et al.* (2017: 2) and Achrekar *et al*. (2016: 46), agreed that nursing handover between nurses at shift change is an important process in clinical nursing practice, allowing nurses to exchange necessary patient information to ensure continuity of care and patient safety. Handover is a fundamental procedure in the course of a nurse's workday as it traces the patient's nursing and medical management as well as the patient's response to treatment in a 24-hour cycle (Gregory *et al*. 2014: 541). Nursing handover is a transition in patient care and nursing handover at shift change is considered vital for effective nursing practice, thus allowing nurses to exchange pertinent patient information and statistics to ensure continuity of care and promote patient safety as a selected handover process outcome (Al Ibrahim 2014: 9). Nursing handover can be done three times a day. In the morning when taking over from night staff, at midday when the team leader wants to know if orders were carried out following doctor's rounds and in the evening during handover to night staff (Roslan and Lim 2016: 151). The concept of handover is not new and has been evaluated and tested in different outcomes and in various settings (Kullberg *et al.* 2017: 2). Another study done in Germany, noted that nursing handovers occurred within a 24-hour cycle of clinical care in which nursing, medical and technical knowledge related to each patient's needs are transferred between incoming and outgoing nurses to maintain safety and continuity of care (Flemming and Hubner 2013: 2).

There are several terminologies used in literature to describe handover such as handoff, handover, signs off, inter- shift report and shift report. For the purpose of this study, the term handover will be used. There have been various literature studies on nursing handover in Critical Care Units; however there has been limited research done in South Africa.

2.2.1 The importance of nursing handovers

Mgoqi *et al.* (2017: 17) signified that nursing handover at shift change is important in nursing practice as it allows nurses to exchange pertinent patient information to ensure continuity of care. Patients' information on their progress must be transferred frequently and daily between doctors and nurses to promote continuity of care (Bigham *et a*l. 2014: 572-579). Nursing handover promotes a patient - centered care approach by drawing attention to poor changes in nursing care (Tobiano *et a*l. 2018: 244). The information exchanged during nursing handovers must be relevant and up to date as

this can encroach on care planned over the 12-hour shift (Van Der Merwe 2018: 2). Authors, Bonthala and Das (2016: 308-312) alluded that nursing handover is a critical process, whereby one nurse delivers clinical information about the patient at the end of her shift to the other or during the day before the nurse can go on her breaks to maintain continuity of care whilst promoting patient safety.

The dynamic and fast paced environment of the critical care unit demands efficiency during nursing handover that may compromise information exchange (Kowitlawkul *et al*. 2015: 99-104). Effective handover processes help to eradicate potential flaws in the communication system and allows for fixing of errors before they spiral out of control at the expense of the patient and organisation (Mgoqi *et al.* 2017: 18). There has been various attempts made to improve handover, but there seems to be little to no improvement (Milesky, Baptoste and Shelton 2018: 78).

2.2.2 Location of handover in Critical Care Units

Inter-shift nursing handovers in Critical Care Units occur across the continuum of care, including inter-departmental or inter-hospital admissions, making nurse reporting a vital component of the communication process, impacting on patient safety and care (Van Sluisveld *et al*. 2015: 589–604). Nursing handovers in Critical Care Units primarily occur at the bedside, which promotes patient safety by allowing the incoming nurse to visualise her patient as well as the environment and ask questions about the patient and their condition (Young 2017: 4). In some hospitals, handover occurs in the unit manager's office or the duty station (Wanigasinghe 2016: 76-81). The team leader or charge nurse takes over from the night team leader or charge nurse before filtering the information to her subordinates (Aslanidis *et al.* 2014: 321-327). A study done in Sweden noted that traditionally, nurse- nurse reports occur at the nurse's station and the patient is not seen during the handover (Kullberg *et al.* 2017: 2). Nurses in the Critical Care Units handover using varied methods such as face to face, tape-recorded, written handovers, electronic tools or mnemonic tools can occur at the bedside but mostly occur in private spaces away from the patient due to the interruptions and distractions (Spooner, Chaboyer and Aitken 2019: 15-21).

Van der Merwe (2018: 2) finds that in traditional nursing handovers in South African general wards, the senior nurse on duty hands over all the patients in the unit away

from the patient's bedside, either at the duty station or outside the patient's ward. However, in Critical Care Units, nursing handovers occur at the bedside, as specific staff is allocated to specific patients depending on the patient acuity and category of nursing staff (Davis 2013: 22). Verbal and face-face handovers at the patient's bedside allow for nurses to meet and assess the patient at the same time (Van der Merwe 2018: 3).

2.2.3 Risks that can occur during nursing handovers

Nursing handover techniques can vary from hospital to hospital and unit to unit within a hospital (Dorvil 2018: 1-6). Both Roslan and Lim (2016:151) and Talley *et al*. (2019: 13-21) agreed that one of the most important times for the delivery of patient care in a Critical Care Unit occurs during the change of shifts between nurses. This complex interchange of information and responsibilities can carry a potential for errors that can adversely affect a patient's hospitalisation, safety and the quality of patient care outcomes (Roslan and Lim 2016: 151). To ensure high quality and safe nursing care, there is a need to achieve a shared understanding across all professionals working in the Critical Care Unit (Demiray, Kececi, Acil and Ilaslan 2018: 93-97). Nursing handover can also have the potential to be a high-risk process due to the interruption in continuity of care and, if not conducted as per the handover guidelines of the institute (Birmingham *et al.* 2015: 145). A Philadelphian article by Hochman *et al*. (2017: 186-192) reported that handover was poorly communicated on weekends when the nurse manager was absent, and this resulted in patient safety issues. Communication errors between nurses can cause adverse patient incidents in the healthcare environment (Stewart 2016: 7). Handover sometimes includes errors in transferring unnecessary information and sometimes important information is missed (Bigham *et al.* 2014: 2). There could be several moral, ethical, financial and legal implications for both the patient and the hospital if nursing handover does not contain important information on the patient's condition. This includes the events of the day that contributed to their care and other vital data to enhance patient safety (Piper *et al* 2018: 1-13). Handover needs to take place timely in the Critical Care Unit, as the nurse taking over is usually anxious during handover regarding planning of care for her patient. At the same time the nurse handing over is in a hurry to go home and does not allow the nurse taking over to ask questions or clarify misconceptions (Milesky *et al* 2018: 78). Ineffective handovers

can result in delayed treatment, omission of vital data and prolonged hospital stay (Demiray *et al.* 2018: 94). An article by Mamela (2017: 17), argued that handovers have not been thoroughly explored therefore there are uncertainties regarding the standardisation of handover.

2.2.4 The importance of communication during handover

According to Evans *et al.* (2010: 1-6), nursing handover refers to the transfer of information, professional responsibility and accountability between individuals and teams within the overall system of care. The study concluded that communication errors resulting from failure to transfer appropriate information, is the most common cause of preventable disability or death of a patient. It is essential for effective communication and critical information to be handed over between nurses to ensure patient safety (Chalke 2014: 1). Studies by Achrekar *et al.* (2016: 45-50) and Manser *et al.* (2012: 138-156revealed that communication between nurses during handover is of vital importance to promote patient safety as this has been a huge problem amongst nurses. Randmaa *et al.* (2016: 45) revealed that there have been attempts to standardise information during handover but there is limited evidence on the effect of a standardised handover and its outcomes. It is therefore important to evaluate nursing handovers in Critical Care Units to promote patient safety and prevent adverse patient events. Failure to communicate appropriately during handover can increase morbidity which in turn can cause a negative public image on the healthcare setting as well as the risk of the nursing practitioner to lose her license to practice (Singh and Mathuray 2018: 122-139). It is therefore important that nursing handover of patient information is communicated explicitly through conversation. Failure to maintain effective communication during handover can result in a delay in diagnosis, patients receiving incorrect doses of medication or not receiving any dose, and breakdown in continuity of care (Spooner *et al.* 2018: 47).

According to Smeulers (2016: 136-175), nursing handover often occurs in a verbal report, face to face. Some handovers are written, also referred to as non-verbal handovers where structured documentation is used and orders are carried forward for the next shift to carry out. Handovers may also be tape-recorded and presented.

2.2.5 Verbal handovers

De Lange (2016: 20) noted that verbal handovers occur through face-to-face communication. It is commonly used during inter-shift handovers, inter-departmental handovers, or between medical doctors. It is the most common form of handover used across the globe (Malekzadeh *et al* 2014: 177). Both Ebehardt (2014:3) and Herawati *et al.* (2018: 177-185) identified that effective and efficient communication is vital in the fast-paced world of Critical Care Units to ensure safe nursing care takes place. The nurse must ensure communication is clear and explicit, so possible medico-legal hazards can be avoided (Herawati *et al* 2018: 177-185). Verbal handovers varied amongst healthcare personnel as it depended on the patient's profile, how long the patient was admitted in the Critical Care Unit and whether a senior or junior staff member was taking over from them (DeRienzo *et al* 2014: 149-152). A study by Giske *et al. (*2017: 767-773) suggested that clear concise language without using abbreviations is important during verbal reports. Richter, McAlearney, and Pennell (2019: 32-41) concluded that nursing handover is influenced by organisational factors which include the infrastructure of the unit as well as the organisational culture. The patient's current health status as well as their care plan must be communicated effectively (Young 2017: 4).

2.2.6 Non-verbal handovers

Non- verbal handovers are equally important and include written notes , reading nursing notes, electronic mail, messages via mobile phones or tape-recorded (Engstrand and Mattson 2016: 1-5). Non-verbal handovers can be seen as posing a risk for the elimination of information (Lee *et al.* 2016: 1-8). Countries like Sweden, the USA, England, and Italy use nursing handover practices differently and include tape-recorded and oral, face-face handover practices at, or away from the bedside (Birmingham *et al*. 2015 1459). Written handovers generally help the nurse taking over so she does not forget to carry out certain tasks or specific doctor's orders (Van der Merwe 2018:33). It is advantageous to the patient as continuity of care is maintained. The nurse who had handed over has ensured that she does not leave any gaps by documenting her handover, thereby not jeopardising the patient's safety, nor compromise care (Alrahji, Sormunen and Alsubhi 2018: 55-64) . Non-verbal handover helps the nurse remember any important events during her shift so they can be passed

to the doctor or family members (Birmingham *et al.* 2015: 5). The author concluded that non-verbal handovers allowed the nurse to go back to the original source to clarify misconceptions. Engstrand and Mattson (2016: 1-8) elucidated the importance of non-verbal handovers which included ensuring patient safety always. The time required to read the handover report may be tedious and can result in the nurse not getting a "full picture" of the patient (Stewart 2016: 1- 45).

The practice in Critical Care Units sometimes entails written handovers taking place as the outgoing nurse would sometimes document procedures or diagnostic tests that need to be done for the day (Davis 2013: 39). However, Critical Care Nurses need to be vigilant and ensure an accurate and comprehensive handover of the patients' progress so that continuity of care takes place (SANC 2014: 7, 15). This is in keeping with the stance by the WHO, whereby nursing handover is rated as one of the five priority areas globally, that would ensure safe quality patient care (WHO 2007).

2.2.7 Advantages of nursing handover

De Lange (2016: 1); Rusticali and Piccoloto (2019: 18) and Chalke (2014: 3) agreed that nursing handover provides nurses the opportunity to reflect on the previous shift thereby promoting patient safety and quality care, as important information related to the patient's care is transferred from one nurse to another during the process. It aids in the continuity of care as the information is being handed over. Spooner *et al.* (2018: 48) concluded that problems or errors are recognised during the handover process and can be dealt with immediately. On the other hand, Milesky *et al.* (2018: 77) stated that problems can be resolved during the handover process thereby not jeopardising the patient's care.

Both verbal and non-verbal reports can assist the nurse in her care planning (Alyamany 2013: 15-34). Information will not be lost with both verbal and non-verbal handover (Da Silva dos Santos, *et al*. 2019: 1-16). Studies by Alrajhi, Sormunen and Alsubhi (2018: 53) and Van den Berg (2013: 1) concur that staff have the opportunity of clarifying information immediately. Errors can be immediately corrected such as medication omissions or fluid balance charts that have not been totaled. Handover assists in the training and development of new nurses and student nurses (De Lange 2016: 1).

2.2.8 Disadvantages of nursing handover

Handover may be seen as time-consuming due to the content that needs to be handed over (Alyamany 2013: 15-34). Poor communication skills, including language difficulties or barriers, can lead to misunderstandings amongst nurses and cause vital information to be omitted (Kimani 2018: 2). Staff may choose what they want to hand over resulting in pertinent information being omitted (De Lange 2016: 21). The use of verbal and non-verbal handovers can result in repetition as well as the nurse showing a lack of interest in reading the report (Van der Merwe 2018: 3). The negative aspect of a standardised handover is the failure to communicate critical information during the period of their shift (Mohammad 2017: 10).

Davis (2013: 17) viewed non-verbal or written handovers as being abstract and does not allow for discussions or clarity. Engstrand and Mattson (2017: 1-8) agreed that during verbal handovers, nurses become so engrossed in focusing on the patient and their surroundings that they fail to listen attentively. The same authors mentioned that there can be an excessive amount of information handed over which is irrelevant thus causing handover to be time-consuming (Engstrand and Mattson 2017: 1-8). Nurses can become disengaged resulting in the information being handed over not processed formally (Achrekar *et al*. 2016: 45-50).

Mc Ginn (2017: 12) and Van der Merwe (2018: 3) highlighted that patient safety can be affected if the nursing handover is communicated ineffectively, or there are various distractions or disruptions during a verbal handover. Davis (2013: 36) and Kimani (2018: 3) agree that there is the possibility of a breach of the protection of personal information during verbal handovers. It is important to be mindful during handover when discussing patient personal information especially when there are other patients who are alert and listening attentively to the handover (De Lange 2016: 144). Patients may become anxious if they misinterpret what they have heard during the nurse handover (Alrajhi, Sormunen and Alsubhi 2018: 54). There are various distractions such as people; including staff members, family, doctors, patients and visiting hours during handover that can inadvertently lead to critical elements being left out (Kowitlawakul *et al.* 2015: 99-104). The authors state that distractions are usually higher at night than in the morning and this leads to the nurse omitting pertinent information thereby jeopardising patient safety (Kowitlawakul *et al.* 2015: 99 - 104).

Other factors that can impede patient safety during handover includes: distractions from monitors and other equipment in the Critical Care Unit, time as nurses are always in a hurry to leave at the end of their shift as transport could be an issue as well as the nurse who looked after the patient for the day, did not handover the patient as she had to leave early (Roslan and Lim 2016: 151).

2.3 FACTORS INFLUENCING THE NURSING HANDOVER PROCESS

Educational background and level of experience influences handover practices (Mamela 2017: 91). A study by Gore *et al* (2015: 75) has concluded that handover should be part of a nursing student's curriculum to improve communication and enhance patient safety. Studies by Abuajah (2020: 5); Chalke (2014: 80); Milesky *et al*. (2018: 56) and Mamela (2017: 94) agree that effective communication skills should be part of the student nurse's curriculum to improve their practice, as nurses are considered advocates for their patients and communication is an important factor during nursing handover to promote patient safety (Young 2017: 15). Handover has several advantages such as allowing the incoming nurse to have a visual reference of the patient, promoting two-way communication between the incoming and the outgoing nurse and keeps nurses focused on the vital information that is handed over (Roslan and Lim 2016: 6). The same author found that nursing handovers are associated with positive benefits and allow nurses the opportunity to communicate during handover and ensure continuity of patient care (Roslan and Lim 2016: 2). Handover reports that are structured and tailored to the needs of the unit help improve communication and safety. The use of clear language, authorised abbreviations and familiar medical terminologies can minimise misinterpretations, thereby promoting patient safety (Giske *et al.* 2017: 768).

2.4 IMPLICATIONS OF THE HANDOVER PROCESSES

Handovers can be extremely complex as they occur in a variety of settings and stages along the continuum of care and amongst various staff with different skill sets, priorities and educational levels. There are several contributors to handover problems including poor communication skills, omission of vital data, distractions, lack of or illegible documentation, lack of medication reconciliation and lack of easy accessibility to information (Spooner *et al.* 2016: 165). Critical Care Nurses work in a challenging

work environment that can affect their ability to think critically and evaluate patient care (Birmingham *et al.* 2015: 1459). Studies by Birmingham *et al.* (2015: 1458), Da Silva Dos Santos (2019: 1-16), Giske, Melas and Einarsen (2017: 1-9) and Roslan and Lim (2016: 150-157) concur that environmental factor such as bleeping alarms from the monitor, nurse call bells, telephones, the doorbell, as well as the patient and their family are distractions during handover. Roslan and Lim (2016: 150-157) have indicated that distractions from the environment do cause disruptions, leading to time constraints for the duration of handovers. The same study noted that bedside handovers can cause a breach in patient confidentiality as there is the possibility of other patients and their families listening to what is being handed over. Noise negatively impacts nursing handover and can result in duplication of information or technical errors (Da Silva Dos Santos *et al.* 2019: 9). Another study done by Kowitlawakul *et al.* (2015: 99-104) found that alarms from ICU support devices such as ventilators, intra-aortic balloon pumps and electrocardiogram monitors can also cause distractions during handover. This can impact the quality of the information that is being transferred and can give rise to communication errors or omissions, resulting in delayed treatment, omission of vital data and prolonged hospital stay (Bigham *et al.* 2014: 572). There are several moral, ethical, financial and legal implications for both the patient and the hospital if nursing handover does not contain important information on the patient's condition, including the events of the day that contributed to their care and other vital data to enhance patient safety (Milesky *et al.* 2018: 78). The study also noted that although, there have been various attempts to improve handover in critical care or emergency units, communication problems with handover still exist.

2.5 NATIONAL AND INTERNATIONAL RECOMMENDATIONS FOR NURSING HANDOVER PRACTICES

The standardisation of a nursing handover is a challenging process in the clinical setting. Nursing handover is an integral part of clinical decision-making (Principe 2015: 1). Communication is important for patient safety. Van der Merwe (2018: 175) suggested that a policy should be drawn up stating that English is the only language nurses and healthcare providers should use when in the clinical area. This will avoid misunderstandings during the handover process whilst promoting patient safety (Mgoqi *et al* 2017: 91). The use of a standardised handover tool will help alleviate

omissions during handover (Al Ibrahim 2014: 56). Both Davis (2013: 39) and Spooner (2019: 15-21) advocated for the use of mnemonics to help reduce incidents during handover. It is important to maintain consistency during handovers and limit interruptions to avoid omitting pertinent information to maintain the safety of the patient (Van den Berg 2013: 40). Omission of pertinent information not handed over can result in a delay in care or could jeopardise patient safety (Chalke 2014: 11). Nursing handover must be interactive. Communication should include up-to-date information on the patient (Mohammad 2017: 7). Authors, Davis (2013: 97) and Alrahji, Sormunen and Alsubhi (2018: 55-64) explained that handover should be timeous to avoid the process from being rushed causing pertinent information to be omitted. Nurses should attend handover promptly on both day and night shifts so patient safety is not at risk (Van der Merwe 2018: 175). A crucial point was mentioned by Davis (2013: 102), that intimidation by the nurse taking over most especially in Critical Care Units can cause nervousness in the nurse handing over, resulting in an ineffective handover. Team leaders must allocate nursing staff appropriately to avoid this from happening. Nursing handover should be carried out by nurses who have the same level of experience, proficiency and hierarchy (Mohammad 2017: 3).

The management of the patient, medication regimes, care plans and discharge plans are communicated between the nurses in the Critical Care Units. Nurses have an opportunity during handover to get clarity on the patient's care and treatment regimes. Principe (2017: 2) agreed that the incoming nurse will continue to deliver care as rendered by the outgoing nurse if handover was delivered effectively. Taylor (2015: 414) added that if the patient is being visualised, the incoming nurse can clarify any misconceptions or correct any errors before the outgoing nurse leaves. It has been noted that handover becomes more real when visualisation takes place. Implementation of safety checks facilitates a smoother workflow when nursing handover is done at the bedside.

Gore *et al.* (2015: 7) linked nursing handover to comprise of four functions. The first function includes the patient review. Here an overview of the patient's clinical condition is given such as tests and procedures carried out on him and the care plan. The second function sets norms and expectations of the unit's performance. During this time double-checking of orders carried out is done, intravenous fluids are verified and

patient assessment is reviewed. The third function is validating and establishing professional credibility. Praise for excellence or poor decision-making is identified and handled accordingly. The fourth function is socialisation into the profession and the unit culture.

The standardisation of nursing handovers has been considered to improve the effectiveness of handover and facilitate effective communication between the nurses handing over (Mohammad 2017: 9). A standardised nursing handover can improve communication and can improve patient falls as well as medication errors (Milesky *et al.* 2018). A standardised nursing handover can prevent patient care errors, promote continuity of care and improve nurse satisfaction if the information is communicated thoroughly (Da Silva Dos Santos *et al.* 2019: 13-16). Articles by Malfait *et al.* (2018: 1-8) and Bruton *et al.* (2016: 383-392), validated that bringing handover to the bedside can increase patient satisfaction, also improve team cohesion and at the same time reduce medico-legal risks.

2.6 EFFECTIVE AND INEFFECTIVE NURSING HANDOVER

For handover to be effective there must be many considerable factors to be considered, such as language, distractions, interruptions and level of patient acuity (Van der Merwe 2018: 7).

2.6.1 Effective nursing handover

Effective nursing handover is important for patient safety and continuity of care. Nursing handover is a highly interactive session, where questions and answers are put to the forefront because it lays the foundation for effective decision making and awareness of the patient being handed over to maintain safety (Flemming and Hubner 2013: 580). Effective handover improves the nurse's outcomes for patient care, and this ultimately promotes safety (Nsemo, Odong and Jane 2018: 9). Teamwork has been perceived to improve handover practices successfully. There is always learning and continuous improvement that takes place during nursing handovers as outlined in Mamela (2017: 28) and De Lange (2016: 24), as during handover questions are asked and misconceptions are clarified. A study in Nigeria concluded that effective communication is the key to positive patient outcomes in Critical Care Units (Nsemo, Odong and Jane 2018: 1-9). Correct, concise and complete information transferred

during the nursing handover will ensure effectiveness (Chalke 2014: 21). A good quality handover creates a good working atmosphere (Mamela 2017: 19). Effective nursing handovers give rise to teaching, learning and team-building strategies (Chalke 2014: 22). Maintaining an effective nursing handover will enhance patient safety as well as nurse satisfaction (Mamela 2017: 22).

2.6.2 Ineffective nursing handover

Communication failures during handover can result in adverse events and near misses (Mamela 2017: 23). The absence of critical information during the handover will ultimately lead to an ineffective handover, thereby jeopardising patient safety (Spooner *et al.* 2016: 170). Studies by De Lange (2016: 21); Mamela (2017: 25) and Van der Merwe (2018: 11), have agreed and outlined that frequent distractions and interruptions during handover have negatively influenced patient safety as communication during handover was jeopardised. Distractions and interruptions such as monitor alarms, call bells, doorbells, patient family members and doctor rounds during handover can cause both nurses to lose concentration and important information can be omitted (Van der Merwe 2018; De Lange 2016 and Mamela 2017). Other literature by De Lange (2016: 19-24) and Mgoqi *et al* (2017: 5) concluded that language barriers or multilingual staff had a negative impact on patient safety. Nurses often lose concentration during handover due to the long duration or engage in their private conversations resulting in important information being omitted (Van der Merwe 2018: 7; Davis 2013: 20-21). The high turnover of agency staff can result in vital information not being handed over (Davis 2013: 38). South Africa has not yet completely converted to electronic documentation. Writing skills and legibility can contribute to misinterpretation of information which can hamper patient safety (Davis 2013: 20; De Lange 2016: 22).

Globally, communication plays a huge role during nursing handover (Lee *et al* 2018: 1-10); Zou and Zhang (2016: 65-66); Alrahji, Sormunen and Alsubhi (2018: 55-64) ; Spooner *et al* (2019: 1-10); Piper *et al.* (2018: 12-13). The nursing staff's attitude was also seen as a pivotal reason for flaws in communication. Rikos *et al* (2018: 1-8) found that staff shortages, lack of materials and technical infrastructure were contributing factors to ineffective handover. The same authors conducted a study in Korea and found that teaching and training on handover in the nurses' education curriculum is

imperative to ensure effective and efficient handover is conducted (Lee *et al.* 2018: 1-10). Irish authors, Fealy *et al.* (2019: 85), saw time as a hurdle for effective handover. They further stated that handover in the Critical Care Units are either prolonged causing the nurse taking over to lose focus or it is too short, as the nurse handing over is giving too scanty information.

2.7 CONCEPTUAL FRAMEWORK FOR THE STUDY

According to Polit and Beck (2012: 128), a conceptual framework is the underpinnings of a study and needs to have its roots in a specified conceptual model. A conceptual framework is one where the researcher has developed, through identifying and defining, concepts to create ways of looking at specific professional values (Brink and Van Der Walt 2012: 26).

The conceptual framework SBAR, which is the acronym for Situation, Background, Assessment and Recommendation was used to guide the study. It was originally developed by the United States (US) military for communication on nuclear submarines but has been successfully used in many different healthcare settings, particularly relating to improving patient safety (Shahid and Thomas 2018: 2). Michael Leonard was the first to adopt the SBAR framework from the US Navy communication tools in 2006 (Nagammal, Nashwan, Nair and Sushmita 2017: 103).

2.7.1 Situation, Background, Assessment and Recommendation (SBAR) as a conceptual framework

SBAR is an easy-to-use, structured form of communication that enables information to be transferred accurately between individuals (Shahid and Thomas 2018: 3). SBAR allows for the provision of all relevant information, organised in a logical fashion to be communicated (Muller *et al*. 2018:2). According to Muller *et al*. (2018: 2), SBAR is used as a best operating practice to improve patient safety when communicating information in critical situations. A study by Achrekar *et al.* (2016: 45) has concluded that SBAR improves the effectiveness of communication by using a standardised communication process. SBAR consists of standardised, prompt questions in four sections to ensure that staff are sharing concise and focused information. It allows staff to communicate assertively and effectively, reducing the need for repetition and the likelihood for errors (Muller *et al.* 2018: 1-10). As the structure is shared, it also

helps staff anticipate the information needed by colleagues and encourages their assessment skills. Using SBAR prompts staff to formulate information with the right level of detail (Muller *et al.* 2018: 1-10). Ruhomauly *et al.* (2019: 54) concluded that SBAR helps to provide a structure for an interaction that helps both the giver of the information and the receiver of it. The authors further assert that it helps the giver by ensuring they have formulated their thinking before trying to communicate it to someone else (Ruhomauly *et al.* 2019: 54). The receiver knows what to expect and it helps to ensure the giver of information is not interrupted by the receiver with questions that will be answered later on in the conversation (Ruhomauly *et al.* 2019: 54).

SBAR can be used in any setting in healthcare but can be particularly effective in reducing the barrier to effective communication across different disciplines and between different levels of staff (Ting, Peng, Lin and Hsiao 2017: 171-174). When staff use the tool in a clinical setting, they recommend that it ensures the reason for the communication is clear (Ting *et al*. 2017: 171-174). This is particularly important in situations where staff may be uncomfortable about making a recommendation, such as those who are inexperienced or who need to communicate with someone more senior than them (Arumugam, Hassan, SHA and Bahari 2016: 495 – 503). The use of SBAR provides clarity to communication and prevents the unreliable process of 'hinting and hoping' that the other person understands (Arumugam *et al.* 2016: 495 – 503). The SBAR technique allows for effective communication by ensuring short and organised information during handovers (Achrekar *et al.* 2016: 46).

2.7.2 Components of the SBAR Framework

According to Muller *et al.* (2018:2), the acronym SBAR is defined as:

S = Situation (identification of the nurse handing over and the patient)

B = Background (patient's medical and surgical history, medication)

A = Assessment (evaluation of patient's condition, nursing diagnosis)

R = Recommendation (advice given or what needs to be done for the patient)

Table 2.1 The SBAR Framework: Chart

S	**Situation**	• Nurse identification • Patient Identification • Age • Doctors' names • Allergies
B	**Background**	• Admission diagnosis • Surgical interventions • Co- morbidities • Current problems • Current treatment plan • Intravenous fluids and access sites • Vital data and other data • Diagnostic tests
A	**Assessment**	• Current vital signs • Head to toe assessment findings • Critical indicators • Breathing patterns • Nutrition, pain score, elimination wounds, drains
R	**Recommendations**	• Recommend nursing actions. • Allow visualisation of patient's skin and access sites

(Blom *et al.* 2015: 530-535)

2.7.2.1 Situation

Stewart (2016: 5) stated that it is important to identify yourself as well as the patient you are introducing during handover as this gives the nurse taking over an indication of who she is receiving the patient from so that she can make a record of the nurse in her notes as well as who the patient is. In some settings, there can be several patients bearing the same surname (Purwanza, Fitrayasari and Rahayu 2020: 1124). This can also help the nurse, most especially if she is new to the Critical Care Unit or perhaps unfamiliar with the patients (Ilan, LeBaron, Christianson, Leyland, Day, and Cohen 2012: 1-10). The name of the patient, their age, admitting doctor and allergies must be communicated in the situation (Purwanza *et al* 2020:.1127). It is therefore important that the patient's demographic data is handed over in the situation to give the nurse an idea of who he/she will be nursing for the day (Arumugam *et al.* 2016: 495 – 503).

2.7.2.2 Background

The background component comprises of the patient's admission diagnosis and reason for admission, pertinent past medical history or their risk factors, social history, a brief summary of their current problem and current treatment plans (Purwanza *et al* 2020: 1127). Depending on the duration of stay in the Critical Care Unit and if the nurse is familiar with the patient, the reason for admission is not repeated frequently (Chaharsougi, Ahrari and Alikhah 2014: 141-147). The rest of the information including intravenous fluids, intravenous or access sites are also handed over (Purwanza *et al* 2020:1127). The patients' vital signs during the duration of the shift including abnormalities are handed over. Their neurological status, neurovascular status, pain score, wound and drains and elimination including intake and output are communicated. Other clinical information including laboratory results are also handed over (Blom *et al*. 2015: 530-535). By relaying this information to the nurse taking over, she already has a mental picture of what to expect of her patient whilst nursing him/her (Purwanza *et al* 2020:1127).

2.7.2.3 Assessment

Blom *et al. (*2015: 530-535) stated that the current vital signs, any abnormalities detected from a head-to-toe assessment, the risk for falling assessment and skin assessment are handed over. Other components of assessment will include the actual nursing diagnosis or critical indicators following the comprehensive assessment (Shahid and Thomas 2018: 1-9). The current nursing status of the patient which is the head-to-toe assessment must be handed over (Muller *et al.* 2018: 2). The patient's current breathing pattern and ventilator status, circulation, nutrition, elimination, sleeping patterns, pain score, veno- thrombus embolus score, psychosocial, skin integrity and risk for fall score are handed over (Blom *et al*. 2015: 530-535). The nurse will also give an overview of what the assessment of the patient's health situation is and the doctor's assessment (Ting *et al.* 2017: 171-174).

2.7.2.4 Recommendation

Based on the situation, background and assessment, the nurse will recommend what nursing actions need to be performed on the patient (Shahid and Thomas 2018: 1-9). The incoming nurse will get an opportunity to assess intravenous access sites, pressure areas, other invasive lines, and wound sites (De Meester *et al.* 2013:1192-1196). The nurse will then recommend transfer to another department, theatre, or ward (Shahid and Thomas 2018: 1-9). Diagnostic tests that need to be done for the day such as laboratory tests, x-rays and arterial blood gases will also be handed over. The frequency of vital data, neurological or neurovascular observations and pressure care will be recommended. The nurse handing over may even recommend to the nurse taking over when the treating doctor should be called.

2.7.3 Application of the SBAR Framework to the study

As discussed above, Vardaman, Cornell, Jervis, and Yates *(*2013: 422) describe the SBAR framework (Table 2.1) as one that assists with effective handover communication. Similarly, the critical care nursing handovers must abide by handover procedure and protocol, but may not necessarily, be effectively executed (Urden, Lough and Stacey 2018: 1). The various concepts of the SBAR framework speak to the handover practice in Critical Care Units and overcome common barriers to nursing handover communication, such as lack of standardisation of the process, the disruptive surroundings, interruptions and lack of confidentiality and intimacy (Nagammal *et al*. 2017: 101). A study by Ayala (2017: 13) alluded that SBAR can shape the flow of communication and explain any information that needs clarity. SBAR can be used during handover to improve communication amongst nurses and help nurses explore patient's information in a structured way thereby allowing the nurse taking over to pay attention to critical situations (Arumugam *et al.* 2018: 496). It is noted that SBAR accentuates patient safety through effective communication (Raymond and Harrison 2014: 850). SBAR is said to stimulate critical thinking, which is essential in Critical Care Units as well as improve teamwork (Achrekar *et al* 2016: 45-50). SBAR helps close communication gaps during handover by allowing both parties involved in handover to understand the information being conveyed. The use of SBAR will provide a structure to the handover progress (Achrekar *et al.* 2016: 46). Burger, Kyriacos and Jordan (2015: 85-86) concluded that by using the SBAR

framework, patient outcomes will be met. SBAR has positive benefits on teamwork and communication resulting in a positive effect on safety (Shahid and Thomas: 2018: 2-3). Muller *et al.* (2018:1) stated that communication during handovers is common. The authors further stated that that there could be misunderstandings during handover which can be avoided if a mnemonic such as SBAR is implemented (Muller *et al.* 2018:2). Nagammal *et al* (2017: 105) alluded that SBAR will help improve communication during handover optimising patient safety in the critical care unit. Achrekar *et al* (2016: 49) indicated that if the SBAR framework was used as a teaching tool, it will equip Critical Care Nurses to improve communication during handover.

2.8 CONCLUSION

In this chapter, the context of the handover processes in Critical Care Units during a shift change was explored. This chapter has also provided an insight of nursing handover linked to methods of communication, its advantages and its disadvantages and provided scholarly insight into the international and national perspectives and practises of nursing handover as related to the topic of inquiry. This chapter has further referred to and discussed the conceptual framework that guided the study.

The following chapter details the research methodology section and includes the study design, the setting, population, sampling approach and technique, sample size, data collection method, processing and analysis.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

The aim of this study was to evaluate nursing handover in the Critical Care Unit. This chapter is dedicated to the research methodology. According to Polit and Beck (2017: 11), research methods are used systematically to obtain and analyse information. The chapter discusses the research design, study population, sample size and method, setting and selection criteria. An overview of the type of approach used for this qualitative study, interview and interview techniques will further be described. Data collection methods and data analysis methods as well as measures to ensure rigour and ethical considerations are also included for discussion in this chapter.

3.2 RESEARCH DESIGN

Grove, Burns and Gray (2013: 195) describe a research design as a detailed plan according to which the research is conducted. Babbie and Mouton (2010: 31) further explain that a research design is likened to a blueprint of how one intends to conduct the study. Polit and Beck (2017: 237) also state that every study requires a plan, which is referred to as the research design. Within this design, the researcher must remain objective and the approach to knowledge must be systematic so that validity is enhanced. An exploratory descriptive design, utilising a qualitative approach was used to explore nursing staff perspectives of the inter-shift handover practices and processes in Critical Care Units of selected private hospitals.

3.2.1 Qualitative design

Polit and Beck (2017: 221) define qualitative research as social research carried out in the field or natural setting and analysed largely in non-statistical ways. According to Grove, Burns and Gray (2013: 23), qualitative research is appropriate when the researcher wants to examine the experiences of human beings in the natural environment. Qualitative research uses a subjective approach to define life experiences and add meaning to them. A qualitative design was chosen, as the researcher would like to depict what has already been stated and is known and correlate it with viewpoints from the participants at present. An advantage of this research design for this current study, is that it proved to be useful as there was little information available on the topic at hand (De Lange 2016: 40).

3.2.2 Exploratory studies

Exploratory research is designed to increase the knowledge of a field of study (Grove, Burns and Gray 2013: 25). Burns and Grove (2013: 313) define exploratory research as research conducted to gain new insights, discover new ideas and/or increase knowledge of a phenomenon. An exploratory design was chosen as the researcher wanted to explore the handover processes in Critical Care Units during shift change. Utilising this approach, it was easier for the researcher to gain knowledge and understanding of the participants' experiences in the handover process.

Whilst exploratory research mostly deals with qualitative studies, it is conducted when the researcher wants to have a better understanding of the problem at hand (Polit and Beck 2017: 21). Researchers use exploratory designs when they are trying to gain familiarity with an existing phenomenon and acquire new insights into it to form a precise problem. Exploratory research is inexpensive, highly interactive and open in nature. It has no predefined structure, as it answers questions like how and why allowing the researcher to acquire more information about the research (Polit and Beck 2017: 21). In the current study, the researcher explored the inter-shift handover in Critical Care Units by asking participants to describe the process of handover, their experiences when handing over to different categories of staff and the challenges that they face during handover.

3.2.3 Descriptive studies

Descriptive research refers to research studies that have as their main objective, the accurate portrayal of the characteristics of persons, situations or groups (Polit and Hungler 2004:716). A descriptive approach in data collection in qualitative research gives the ability to collect accurate data and provide a clear picture of the phenomenon under study (Mouton and Marais 1996:43-44). Speziale and Carpenter (2003: 22) stated that a descriptive method in data collection in qualitative research is central to open, unstructured qualitative research interview investigations.

Added to this, a descriptive design is included when the researcher wants to develop theory, identify problems with current practice and make judgments (Brink, Van Der Walt and Van Rensburg 2012: 162). This method was most suitable because it allowed the researcher to obtain information from participants who work in the environment of

interest, which are the medical, surgical, cardiac and neonatal Critical Care Units of selected private hospitals. The study provides an overview of the nursing handover in Critical Care Units in selected private hospitals using the perspectives and experiences of Professional nurses and Enrolled nurses. The study was conducted in a real-world setting and in the natural setting where the participants work. The experiences of participants are described in their own words.

A description is important in research and descriptive research requires a detailed and in-depth description of the phases and processes that are carried out to achieve the results that emerge (Polit and Beck 2017: 206). During the interview process, whilst gathering data for this study, the researcher probed participants to describe their understanding of the handover processes, which allowed the researcher to identify problems with the current handover practices.

3.3 SETTING

According to Brink, Van Der Walt and Van Rensburg (2012: 59), a study setting refers to the specific area or place where the research was conducted in. The study was conducted in the Critical Care Units of selected private hospitals in the eThekwini District. Two private hospitals that employ ICU-trained Registered Nurses (RNS), ICU experienced RNs and Enrolled Nurses (ENs) in the Critical Care Units, on a permanent and contractual basis and have more than one Critical Care Unit were included in the study. The two private hospitals in the study have medical, surgical, neurosurgical, cardiac and neonatal Critical Care Units. These Critical Care Units were chosen because of the skill mix and the number of nurses utilised, as the types of patients nursed in the units require close monitoring. Therefore, these units have a greater number of RNs and some ENs as compared to other types of general units. The Critical Care Units that were chosen had the required skill mix which comprised 60% ICU-trained and experienced RNs and 30% ENs as compared to other categories of nurses. For confidentiality purposes, the hospitals were coded as Hospital A and Hospital B.

These hospitals were chosen because of the high patient numbers and the increased occupancy of the Critical Care Units. Notably, Hospital A is a 400- bedded hospital and has three (3) Critical Care Units that have between 10 to 25 beds each. The

average occupancy between these three (3) units is between 80-100%. Hospital B is a 207 -bedded facility and has three (3) Critical Care Units and one (1) Neonatal Critical Care Unit. The bed numbers between these units range from 8-10 beds each. The occupancy of these units is consistently 100%.

3.4 POPULATION

The population is defined by Polit and Beck (2017: 249), as the complete combination of cases in which the researcher is interested. In qualitative studies, a population is not chosen for the purpose of generalisability, but rather to establish the kinds of individuals that are suitable to take part in the study (Polit and Beck 2017:491). In this study, the target population was identified as RNs, both ICU- trained and experienced and ENs working in the Critical Care Units. Between both these hospitals, there are one hundred and twenty-three RNs and ENs. These include ICU - trained and experienced and ENs employed in the Critical Care Units on a full-time and contractual basis. ICU-trained RNs are a group of nurses who have completed a four (4) year degree or Diploma in General Nursing and have then pursued a one (1) year diploma or two (2) year degree in Intensive Care Nursing. These nurses are seen as specialised nurses and are in great demand throughout the world. ICU experienced RNs hold a four (4) year degree or Diploma in General Nursing with more than two (2) years of experience in the Critical Care Units. Some of these nurses have many years of experience and can function in the capacity of an ICU-trained nurse, however, they lack the qualification. Enrolled Nurses also known as staff nurses, are those, who according to the South African Nursing Council (SANC 1984), have completed a two (2) year Certificate Course in nursing. Their Scope of Practice (SOP) allows them to function under the direct supervision of the RN.

For the study, the following number of RNs and ENs were used. Hospital A had a total number of six (6) ICU - Trained RNs; one (1) ICU - Experienced RN and two (2) ENs. Hospital B had a total number of seven (7) ICU -Trained RNs; three (3) ICU-Experienced RNs and three (3) ENs.

3.5 RECRUITMENT PROCESS

Ethical clearance from the University's Institutional Research Ethics Committee (IREC) was received on the 23 April 2020 - IREC 145/19 (Appendix 1). Permission to conduct research at the proposed study sites was requested from the Research Committees of the organisations and obtained on 9 April 2020 - REC 251015-048 (Appendix 2b). The researcher focused on building a trusting relationship with the Unit Managers as suggested in Polit and Beck (2017:168), as they could influence the success of the study by acting as gatekeepers to potential participants. Gatekeepers are persons who have the authority to allow entry into a research site (Polit and Beck 2017:260) and play an important role in the recruitment of participants who would be valuable to the study. Gatekeepers can, however, at the same time block access to the research site, whether deliberate or not, by enforcing their own opinion on participant selection (Singh and Wassenaar 2016: 42).

3.6 SAMPLING

A sampling process is defined as the "selection of a portion of the target population to represent the entire population" (Grove, Burns and Gray 2013: 42; Polit and Beck, 2017: 743). Purposive sampling was used to recruit participants for the study. Purposive sampling is a judgmental or selective sampling method that involves conscious selection by the researcher of certain subjects or elements to include in a study (Grove, Burns and Gray 2013: 705). Purposive sampling was best suited to this study as a limited number of participants namely RNs (trained and experienced) and ENs served as primary data sources due to the nature of the research design, aims and objectives. The RNs' and ENs' experiences in the Critical Care Units were therefore essential in providing information-rich data about the handover process.

3.6.1 Inclusion criteria

All RNs and ENs working in Critical Care Units who are directly involved in the handover process were purposively selected for this study and were allowed to participate. RNs and ENs who consented to participate in the study were included in the study.

3.6.2 Exclusion criteria

Enrolled Nursing Assistants or Ward Attendants employed in the ICUs were not eligible to participate as they are not involved in holistically nursing a patient during their shift nor are they involved in inter-shift handover in a critical care unit. RNs and ENs who did not consent to participate in the study were excluded from the study.

3.7 SAMPLE SIZE

The sample size for a research study is determined by the information needs of the research (Polit and Beck 2012:252). The sample size for the study was guided by the principle of data saturation, which is the point where no new information is obtained from the participants (Grove, Burns and Gray 2013:371). The proposed maximum sample size was thirty-five (35) participants, who were twenty (20) RNs both ICU-trained and experienced nurses, and fifteen (15) ENs, however, data saturation was reached after interviewing twenty-two (22) participants. A total of seventeen (17) RNS (trained and experienced) and five (5) ENs were interviewed.

3.8 CODEBOOK FOR DATA DEFINITION

All the participants were assigned code numbers to ensure confidentiality and anonymity of data. The two study sites were coded as Hospital A and B respectively, while the participants were assigned “RNT”, “RNE” and “EN” as a code. The participants were the ICU-trained RNs (RNT), followed by the ICU experienced RNs (RNE) and the ENs (EN). The numberings were done in consecutive order, per study site. The first ICU-trained RN interviewed was coded as “RNT 1” and the last one as “RNT 13”. This was followed by ICU experienced RNs, which were coded as “RNE 1” to “RNE 4” and the ENs were coded from “EN 1” to “EN 5”.

3.9 DATA COLLECTION METHOD

Data was collected using individual face-to-face in-depth, semi-structured interviews with the participants. According to Polit and Beck (2017: 334), in qualitative studies a semi-structured interview allows the researcher to combine a pre-determined set of open questions that prompts discussion with the research participants and allows the researcher to further explore themes or responses. The research question was

developed from literature sources relating to the topic. No closed-ended questions were posed to the participants.

All the participants who agreed to take part in the study had to sign an informed consent form (Appendix 4). An information letter (Appendix 3) included an explanation of the handling of all interview materials, confidentiality issues and anonymity procedures for participants and the option to withdraw at any time. Once informed consent was obtained, all interviews were scheduled for a time that was convenient for each participant and the health service. A private room was organised at each study site to use for the interviews to ensure that the interviews were conducted in a suitable environment that would enable the participants to talk freely.

The in-depth interviews were conducted by the researcher, with the use of an interview guide in English. The researcher had no personal relationship with the participants. The interview guide contained a demographic section as well as a central question to focus the discussion (Appendix 5a and Appendix 5b). The demographic questionnaire was formulated and used to obtain information about the participants being interviewed, their years of being qualified and their years of experience in the Critical Care Unit. This helped the researcher to understand how the participants experienced their role in the handover process.

The grand tour question that was asked to the participants was: *What is the current practice during inter-shift nursing handovers in the ICU?* Probing questions were then used to elicit more information from the participants depending on their responses. Probing is eliciting more useful information from a participant in an interview than was volunteered in the first reply with the goal being to ask questions that allow the participants to provide rich, detailed information about the phenomenon under study (Polit and Beck 2017: 390). The interviews aimed to understand the processes and practices of the Critical Care Nurses during inter-shift handover. Interviews were scheduled for 30 to 45 minutes for each participant. The interviews were recorded by audiotape to provide an unobtrusive and accurate record of the participant's comments. The number of interviews was guided by data saturation. This was reached after fifteen (15) interviews were conducted but the researcher continued with seven

(7) more interviews in order to confirm data saturation. A total of twenty-two (22) interviews were conducted.

Table 3. 1 Sample realisation for the study population

Study site	RNT	RNE	EN
A	6	1	2
B	7	3	3
Total	13	4	5

3.10 DATA COLLECTION PROCESS

The data for this study was collected using semi-structured individual interviews. As per Grove, Burns and Gray (2013: 271), this method of data collection will allow the participants the freedom to express their opinion or understanding of the phenomenon under study, without the restrictions of closed-ended questions or the interviewer's opinion.

A demographic questionnaire was used that included participants' age; gender; race; years qualified; years of experience and the category of nurse (Appendix 5a). Permission was obtained from the line managers to collect data whilst participants were on duty. The maximum time taken to perform the interview was fifteen minutes. If the participant needed to go back to their patient during the interview, the interview was halted and was rescheduled or continued at a more convenient time for the participant. The researcher conducted the interviews in English, in a private room that was made available to the researcher in the hospital. The interviews were audio-recorded and field notes were made during the interview processes. The data collection process was discussed with the Nurse Manager on the first day of data collection at each hospital. The researcher requested for the Unit Manager of each unit to assist with the flow of potential participants to the data collection room, as per the category of nurse required. The purpose aims and objectives of the research were discussed with the participants, as well as the ethical principles that had to be maintained. Participants were also made aware that the interviews were audio-recorded for transcription and data analysis purposes. Once written consent was

obtained, the researcher commenced the interview. On average, each interview lasted approximately 15 minutes and three to four interviews were completed per day.

The data collection sessions were held during working hours, when the RNs and ENs were available, without disrupting normal operations. The data collection sessions took place in a private venue where the participants were informed about the study and were allowed to read the covering letter (Appendix 3). Once informed consent (Appendix 4) was obtained, the researcher conducted the interviews. The researcher also obtained consent from the participants to use a digital voice recorder to help with data analysis. The interview opened with a grand tour question which allowed the participants the opportunity to provide detailed information about the current handover process. The sample size was guided by data saturation at both hospitals.

3.11 DATA ANALYSIS

Data was analysed using thematic analysis. Each interview session was analysed on the same day as the interview, before conducting the next interview, to monitor data saturation. The researcher ensured that participants from both hospitals were interviewed. Qualitative data was transcribed from the audio -recorder into a written format and was compared and read against the field notes for clarity. The transcribed interviews were captured onto a master file through Microsoft Word. The researcher read and understood the collected data to, sort and organise the data according to Creswell's six steps of qualitative data analysis (Creswell 2014: 196-200).

Phase 1: Organising and preparing data

The researcher analysed the data by transcribing the interviews and scanning the material to arrange and sort out the data. The researcher listened to the audio-recordings and took into consideration the field notes that were written down during the discussion between the researcher and the participants.

Phase 2: Read through all the data

The researcher acquired a general sense of the information and reflected on its meaning and a general idea of what the participants were trying to say. The researcher listened to the voice recordings and reread through all the field notes to gain a general sense of the information and reflect on their complete meaning.

Phase 3: Coding the data

Once the researcher was acquainted with the data for qualitative research, the coding commenced and a list of codes was generated. The participants were coded as RNT, RNE and EN. From the data received during the interviews, themes and subthemes emerged. The themes were evaluated for relevance to the study purpose.

Phase 4: Description of data

The themes were consolidated to generate a small number of themes or categories and refine the findings. These created headings and subheadings in the data analysis chapter. According to Creswell (2013: 70), this is often done in a narrative passage to convey the findings of the analysis. It may include a chronology of events, a detailed discussion of several themes or a discussion of interconnecting themes.

Phase 5: Present the results of the data analysis

The participants' words were transcribed into scientific terms. This was described in the form of themes and subthemes.

Phase 6: Interpretation of the findings

The lessons learned about the handover practices from the study during the data analysis helped the researcher understand the topic better.

3.12 RESEARCH RIGOUR

Rigour, according to Polit and Beck (2017: 559), is the motivation for good qualitative research which encompasses trustworthiness thorough quality, scientific and accuracy of the data. This ensured the validity and reliability of the data. Subsequently, understanding qualitative research according to Creswell (2014) and Marshall and Rossman (2011) is a combined effect, shaped by the researcher's gender, social class and race. Trustworthiness was implemented since the nature of the research study is qualitative. The four principles of trustworthiness, as defined by Lincoln and Guba's (1985: 290-294) strategies of credibility, transferability, dependability, confirmability and authenticity will be used.

3.12.1 Credibility

Credibility is the truthfulness of the data collected and the understanding thereof (Polit and Beck 2017:473). As a clinical facilitator who has witnessed the theory practical gap while witnessing a handover, she should be mindful of her thoughts and opinions. To ensure credibility, notes were written during the interview; thereafter a summary was written immediately after each interview to clarify the obtained data. Audio-recordings were used to assist the researcher when reviewing data.

3.12.2 Dependability

Dependability, according to Polit and Beck (2017: 559), encompasses the provision of evidence such that if it were to be repeated with the same or similar participants in the same or similar context, its findings would be similar. The researcher ensured dependability by conducting an inquiry audit whereby an external reviewer scrutinised the data and the supporting documentation.

3.12.3 Transferability

Transferability, according to Polit and Beck (2017: 560), is the extent of the findings that can be conveyed and applied to other groups or settings for the study to be meaningful. The researcher provided a detailed comprehensive description of the research setting and data process for other researchers to make a comparison. For this study, purposive sampling was used to obtain information from those who have knowledge. The population comprised of RNs and ENs in the Critical Care Units.

3.12.4 Confirmability

This refers to accurate reporting of the real meaning of data as provided by the participants (Brink, van der Walt and van Rensburg 2012:71). The interviews for this study were audio-recorded so that the information provided by the participants are accurate and truthful.

3.12.5 Authenticity

Authenticity refers to the extent to which the researcher faithfully and fairly shows a range of different realities. It emerges in a report when it conveys the feeling of the participants' lives as they lived it (Polit and Beck 2017: 234). The data that was

collected during the study was described accurately and depict the actual experiences of the participants in their real-life settings, enabling readers to develop a heightened sensitivity to the inter-shift handover processes in Critical Care Units in private healthcare institutions.

3.13 ETHICAL CONSIDERATIONS

According to Polit and Beck (2017: 150-151), the researcher will follow the processes of ethics by meeting the professional, legal and social requirements when conducting an inquiry. Ethical clearance was obtained from the Durban University of Technology Institutional Research Ethics Committee and the private hospital group's hospital managers and unit managers. The identity of the participants was protected by using a coding system. No financial compensation was received by the researcher when conducting the study.

3.13.1 Beneficence

Participants were treated in an ethical manner, not only respecting their decisions and protecting them from harm, but also by making efforts to secure their well-being by not publishing their names in the study.

3.13.2 Respect for human dignity

During the study, participants were assured that the data they provided to the researcher will be kept in strict confidence. No personal, identifiable data was recorded, and it was emphasised to participants that they could withdraw from the study at any time. The names of the hospital or the participants were not revealed.

3.13.3 Informed consent

All participants were given a written consent form with all of the details of the study and they may withdraw from the study at any time. Informed consent was obtained from all participants addressing the objectives, procedures, potential risk/benefits, confidentiality and anonymity.

3.13.4 Confidentiality

Confidentiality measures were undertaken by the researcher to ensure that confidentiality is maintained by using a coding system instead of using participants' names to ensure the identity of the participants are kept confidential. The participants' names are known only to the researcher through codes that were used to identify them. The list of participants and their codes are under lock and key. Records of the recorded interviews are kept in a computer locked with a password only known to a researcher. No healthcare worker or any party will have access to the raw data to prevent a breach of confidentiality.

3.14 CONCLUSION

Chapter 3 presented an in-depth discussion on the research design, the research method as well as the data analysis process was discussed. Research rigour and ethical considerations have also been detailed. Chapter 4 will present the data analysis using Creswell's six steps of qualitative data analysis that allowed for categorisation of the themes and subthemes that emerged.

CHAPTER 4: PRESENTATION OF FINDINGS

4.1 INTRODUCTION

In Chapter 3, the research methodology was outlined. Chapter 4 analysed the findings of the study. The analysis of data commenced from the beginning of data collection until the completion of the study. Data collection involved face-to-face interviews. The findings that were highlighted were categorised into major themes and subthemes that emerged from the interviews conducted with ICU- trained RNs, ICU Experienced RNs and ENs regarding the handover process in Critical Care Units in the eThekwini district.

4.2 DEMOGRAPHIC DATA

4.2.1 Intensive Care Unit Experienced Registered Nurses (RNE)

ICU experienced RNs were coded as RNE. The ICU experienced RNs (RNE) interviewed were between the ages of 30-47 years old. All participants were females. The number of years qualified as a RN ranged between 1-20 years. The number of years of critical care experience ranged between 1-20 years.

Table 4.1 Demographic data of ICU Experienced RNs

Participant code	Gender	Age	Category of nurse	Years as RN	Years of Critical care experience
RNE 1	Female	47	RN	16-20	16-20
RNE 2	Female	28	RN	1-5	1-5
RNE 3	Female	36	RN	11-15	11-15
RNE 4	Female	47	RN	6-10	6-10

4.2.2 ICU- trained RNs (RNT)

The ICU-trained RNs were coded as RNT. The ICU-trained RNs (RNT) interviewed were between the ages of 30 - 60 years. The majority were female, and one was male. The number of years qualified as trained RNs ranged between 10-20 years. The number of years of critical care experience ranged between 1-20 years. Three of these participants were on night duty and their interviews were conducted in the morning before going off duty.

Table 4.2 Demographic data of ICU- trained RNs

Participant code	Gender	Age	Category of nurse	Years as RN	Years of Critical Care Experience
RNT 1	Male	36	RN	6-10	6-10
RNT 2	Female	45	RN	6-10	6-10
RNT 3	Female	61	RN	>20	>20
RNT 4	Female	34	RN	6-10	6-10
RNT 5	Female	43	RN	1-5	<1
RNT 6	Female	33	RN	1-5	1-5
RNT 7	Female	40	RN	6-10	1-5
RNT 8	Female	34	RN	1-5	1-5
RNT 9	Female	37	RN	11-15	6-10
RNT 10	Female	40	RN	16-20	11-15
RNT 11	Female	39	RN	16-20	11-15
RNT 12	Female	39	RN	16-20	11-15
RNT 13	Female	41	RN	16-20	11-15

4.2.3 Enrolled Nurses (EN)

The Enrolled Nurses were coded as EN. The Enrolled Nurses (ENs) interviewed were between the ages of 25- 47. All were female. The number of years qualified as an Enrolled Nurse ranged between 5-15 years. The number of years of critical care experience ranged between 6-10 years.

Table 4.3 Demographic data of Enrolled Nurses

Participant code	Gender	Age	Years as EN	Years of Critical Care Experience
EN 1	Female	35	11-15	6-10
EN 2	Female	36	11-15	6-10
EN 3	Female	46	6-10	6-10
EN 4	Female	37	6-10	6-10
EN 5	Female	26	6-10	1-5

4.3 OVERVIEW OF THEMES AND SUBTHEMES

The following themes emerged from data collected with respective subthemes as depicted in Table 4.4.

Table 4.4 Themes and subthemes

Themes	Subthemes
1. Communication during handover	1.1 Verbal communication
	1.2 Non-verbal communication
	1.3 Personal aspects
2. Duration of handover process	2.1 Time management
	2.2 Acuity of patients
	2.3 Disrupted handover process
3. Significance of handover	3.1 Attitude of nurses during handover process
	3.2 Knowledge deficit during handover process
	3.3 Bedside handover
4. Distractions during handover	4.1 Internal factors
	4.2 External factors
	4.3 Environmental factors

4.3.1 Theme 1: Communication during handover process

It was noted from the findings that communication is the key in healthcare to promote patient safety, effectiveness, efficiency and patient satisfaction. Communication encompasses a wide range of skills and tasks that contribute to good patient care, and

this makes handover communication so important. During the interviews, a strong theme that emerged between all categories of nurses was communication during handover. The related subthemes for this theme included verbal communication, non-verbal communication and personal aspects.

4.3.1.1 Subtheme 1.1: Verbal communication

All categories of staff mentioned that verbal communication poses a problem during handover. A major issue regarding verbal communication is the language barrier. This was a result of various ethnic groups employed who hand over in their vernacular language as they sometimes find it difficult to express themselves in English. Some participants also mentioned that a language barrier occurred when the nurse handing over was in a hurry to go home and gave a rushed handover in her mother tongue, which confused the nurse taking over if she did not understand what was being said. The ICU-trained RNs mentioned that verbal communication must be supported by non-verbal communication. The following quotes support these findings:

"… language barrier for some nurses is a deficit during handover as some nurses find it difficult to express themselves in English." (RNT10)

"...language is a barrier during handover at times which is frustrating especially when you want to know important information which is not clearly handed over." (EN 2)

"… inadequate information is handed over causing problems post-handover when the doctor asks questions and the nurse who took over can't answer." (RNT 11)

"…when the nurse is in a hurry to go off duty, she speaks in her language, and I don't understand and when I ask her to repeat, she ignores me." (EN1)

4.3.1.2 Subtheme 1.2: Non -verbal communication

Non- verbal communication included the use of a handover book, where the shift leader, day or night, documents important points and relays this during general handover at the duty station. Many of the staff who use this method find that it helps to backtrack events for long-term patients in the Critical Care Units. A few of the RNs mentioned that if documentation is incomplete before handover, which is seen as non -verbal communication, the handover process does not go well. During handover

various documents are utilised, such as ICU charts; pathology flow sheets; Venous - Thrombo embolus documents; medication prescription and restraints documents. It was mentioned that incomplete documentation led to a poor handover, as well as when staff from the wards or agency staff handed over, very often some of these documents were missed out during handover. The following quotes were received from participants relating to this subtheme:

"... documentation that is incomplete contributes to a poor handover as the nurse would be stumbling during the handover especially during morning handovers." (RNT 12)

"... I prefer that important points that are handed over are also documented on the ICU chart so I can refer to during the day especially when there is a lot of procedures to do for the patient." (RNE 4)

"… if the patient documentation is incomplete, handover does not flow smoothly as the nurse handing over is trying to complete her documentation whilst handing over." (RNT 3)

"..: if we make use of a handover book at least we can back track events not handed over and this can also help if procedures were done are documented in the book that were not handed over, you can make reference to the book quickly." (RNE 1)

"... the handover book helps prevent omissions such as diagnostic tests the patient had or needs to have, especially for the team leader as she is allocated to a patient but still has to oversee the rest of the unit." (RNT 12)

"… the handover book kept at the duty station can be used as a reference if the bedside nurse didn't thoroughly handover especially for those nurses rush off after handover and you are unable to contact them once they have left." (RNT 1)

"... as the team leader the handover book works very well if there was missing information handed over because I can always refer to it as a quick reference." (RNT 5)

4.3.1.3 Subtheme 1.3: Personal aspects

Personal aspects can influence communication during handover in different ways such as emotions, moods and lack of team spirit. Regarding emotions, it refers to the nurse's overall wellbeing before commencing her duty, during her duty and at the end of her duty. If the nurse has personal issues to deal with, she is side-tracked and barely concentrates on her tasks. This was mentioned by some of the nurses that their colleagues seemed to be distracted at times and did not give off their full potential during handover. Also, if the nurse had a difficult patient to deal with during her shift, she often presented her patient incompletely as she just wanted to leave, and her communication was haphazard. Some of the participants mentioned that lack of team spirit also led to poor communication during handover. Some of the nurses felt that they will hand over whatever they felt was important and would leave before any questions are asked. The statements below are evidence of the participants' views of how personal effects affected handover communication:

"... Of recent, it is noted that staff lack team spirit. They feel as though they must just get handover done and rush off home which results in miscommunication." (RNT 7)

"... If a nurse has had a bad shift because of various reasons such as a difficult patient or family, she rushes through handover and does not give me a chance to ask questions." (RNE 2)

"... Some nurses seem so distracted during handover that it shows when they communicate that they are not giving off their best." (EN2)

4.3.2 Theme 2: Duration of handover

Participants mentioned that the duration of handover differed between nurses and not patients. Some nurses admitted that they got a long-detailed handover from some nurses whilst others disagreed. No rule stipulates the duration of handover. As mentioned in the previous theme of distractions, there are external and internal factors that contribute to the extended time of handover. Poor time management can contribute to increased duration of handover which can ultimately affect patient safety and satisfaction. Subthemes that emerged from the major theme included: time management, acuity of patients and disrupted handover processes.

4.3.2.1 Subtheme 2.1: Time management

ICU-trained RNs mentioned that their junior subordinates lack time management. The other factor that was mentioned, was prolonged handover at the duty station resulting in a shorter bedside handover. Some participants also mentioned that staff fail to arrive on duty at the stipulated time, 06h45 in the mornings and 18h45 in the evenings, resulting in the team leader or another colleague handing over to them, leading to inadequate handover. Poor time management contributes to a poor handover as indicated by the ICU-trained RNs and this can compromise patient safety. Some participants indicated that if the nurse handing over has not completed her documentation due to poor time management, she gives a shortcut handover so that she can complete her documentation. This is evidenced in the following statements:

"... some nurses lack time management which causes lack of information given during handover and this is a problem for me as I have to keep asking the nurse questions and she becomes irritated." (RNT 1)

"...handover at the duty station is a waste of time, it cuts the time of bedside handover which is far better as all the staff on duty have an idea of the patients in the unit." (RNT 12)

"...staff must come on duty on time, everyone should attend handover promptly so staff wouldn't have to rush off duty and not give detailed information during handover." (RNT 8)

"...sometimes if I have to hand over to an agency staff member, they normally take too long to come on duty as they live a far distance from the hospital, and I ask the team leader to hand over because I need to leave." (RNE 2)

"... handover takes too long because staff come in at their own times, not adhering to the company policy of on-duty time." (EN 5)

4.3.2.2 Subtheme 2.2: Acuity of patients

The acuity of the patient determines the length or duration of handover as indicated by the staff interviewed. High acuity patients are generally classified as ICU patients and are those who are placed on mechanical ventilators and have many invasive lines.

The ICU-trained RN requires a detailed handover of this high acuity patient to ensure that her plan of care meets the needs of the patient. An ICU- trained RN handover can take up to 45 minutes as compared to an EN who may take 5-10 minutes to hand over the patient. Low to moderate acuity patient handovers are shorter in duration, lasting about 20 - 25 minutes. The duration of handover depends on the category of staff handing over the patient. These findings are confirmed by the statements below:

"…I have noticed that handovers are haphazard when staff are too familiar with each other because they take for granted that familiarity does not require detailed handovers." (RNT 12)

"... A thorough handover is given by permanent staff compared to agency staff for critically ill patients. Handovers that could take up to forty-five (45) minutes by a permanent ICU- trained RN can take five (5) or ten (10) minutes by an agency ICU-trained RN."(RNE 3)

"... If handover started at 0630 am/ pm more time can be taken to give concise information and staff will not rush to go off duty." (EN3)

"... the acuity of the patient determines the length of the handover, the higher the patient acuity, the more time spent on handover by the permanent, trained RNs only." (RNT 7)

4.3.2.3 Subtheme 2.3: Disrupted handover process

Participants mentioned that it is not favorable to have a unit meeting before morning handover as the whole handover process gets delayed and the night staff fails to give a proper handover due to time limitations. Doctor's rounds during handover also disrupted the handover process. The following statements support these findings:

"... it is not a good idea to have a unit meeting in the mornings before handover as the whole day is messed up." (*RNT 6)*

"... the handover process is disturbed by the unit manager to have random meetings only in the morning at her convenience and as a result staff are in a hurry to go home." (RNT11)

"...the unit manager decides to have frequent meetings before handover and I need to rush off duty so I can't give a concise handover, but I can't help that as I need to go to my children." (RNT 3)

"... doctor's rounds and procedures done during handover causes limited time of information being relayed and this causes me stress as i will not have enough time to assess my patient, plan care and carry out other procedures that are due for the patient." (RNT 5)

"... doctors' know that handover is at the set times, yet they still come to do random rounds and disturb handover." (EN 4)

4.3.3 Theme 3: Significance of handover

During the interviews, participants mentioned that junior staff, new students and some staff from the wards who seldom worked in the critical care unit lack knowledge on inter-shift handover. Participants also mentioned the nurses' attitude towards the handover process and some of the staff junior staff, such as ENs viewed handovers as learning opportunities. From the information received, the following subthemes emerged: nurses' attitudes during handover; knowledge deficit of the handover process and learning opportunities.

4.3.3.1 Subtheme 3.1: Nurses' attitudes during handover

During the interviews, the participants spoke about the attitude of the nurses handing over or taking over. Some nurses feel that do not need to take handover as they already know all about the patient and just wanted to get rid of the nurse handing over. Participants also mentioned that contractual or agency staff gave haphazard handovers as they felt that they have no obligation to the institute. Some of the junior staff are also afraid to correct senior or different categories of staff, as well as agency staff during handover due to the fear of victimisation. The following excerpts are evident of this finding:

"... I sometimes I have to probe the nurse to give me information or else I get no information which is very frustrating as we are all trained nurses just not ICU- trained." (RNT1)

".. Some agency staff feel that they are not accountable as they are not permanent employees, so they give haphazard, rushed handovers without worrying about anything." (EN 3)

"... when staff are in a hurry, they brush you off and tell you to read the nursing notes for more information as they don't have the time to give you a thorough handover." (EN 2)

"... Nurses should not have their own conversations during handover, that is rude and also very disruptive." (RNT 8)

"... sometimes if you want to teach staff regarding the handover process, they see you as being vindictive." (RNT 11)

"... Junior staff need to be trained on the handover process as many of them lack insight on what needs to be handed over." (RNT 7)

4.3.3.2 Subtheme 3.2: Knowledge deficit during the handover process

Participants voiced concerns that apart from nurses not communicating effectively during handover, some of them lack knowledge about the diagnosis or the medical condition of the patient. The ICU - trained RNs mentioned that new students in the Critical Care environment, ward staff that are expected to work occasionally in the unit and some agency staff lack knowledge on the handover process. They further added that important details were often left out and it is exceedingly difficult to be at every bedside at the same time to monitor what is being said. One EN also mentioned that it would be a good idea if handover was taught at college during nurse training. This is evident by the following comments:

"... The ICU- trained RN sometimes teach us about the diagnosis and care plans for patients with diagnosis that are not so common. They also correct us when we handover to them on the correct handover procedure, but we are not fortunate to receive handover from the trained RN always." (EN 5)

"...You learn a lot from handovers, especially for ENs who are new to the critical care environment. Some of the RNs teach us about the diagnosis and what needs to be handed over." (EN 4)

"...*You broaden your horizons in ICU, unlike the ward as the exposure is far greater in ICU." (RNT 6)*

"... Agency staff need training on handover because they need guidance from the team leader during handover. Alternatively, the training specialist from the agency needs to attend handover to hear them handover." (RNT7)

"... Some of the staff in ICU lack knowledge of the patient's condition and diagnosis which is evident when they handover as they are unable to understand the processes in the ICU "(RNT 9)

4.3.3.3 Subtheme 3.3: Bedside handover

An advantage of bedside handover is patient safety. All the participants concurred that bedside handover is the best. When they go from bed to bed, it allows them to visualise their patient, assess their skin, intravenous site, infusion pumps and other contraptions. It also gives the nurse who is not nursing a particular patient an opportunity to answer questions related to another patient, should the patient's nurse be on a break if she attended the handover. These statements are supported by the following comments:

"...Bed to bed handover is better, everyone knows all the patients, and this helps during breaks when doctors come on rounds." (RNT 13)

"... bedside handover gives you an opportunity to check up on the patient and charts and correct any findings to prevent serious errors." (EN 5)

"... *bedside handover gives you an opportunity to check on your patient and make sure that the nurse handing over to you has completed her tasks and is handing over a live patient." (RNT 10)*

."...bedside handover allows me to check up on all of the patient's lines and skin as well as documentation and the medication prescription so I can identify errors before the nurse leaves." (RNT 12)

4.3.4 Theme 4: Distractions during handover

The participants collectively agreed that they experience feelings of frustration and confusion when drawn away from the handover due to various distractions. This not only affects the handover but changes the nurses' emotional intelligence and actions. It influences cognitive thinking skills, with a possible risk to patient safety. The subthemes that emerged were: internal factors; external factors and environmental factors.

4.3.4.1 Subtheme 4.1: Internal factors

During the interviews various internal factors that cause distractions during handover emerged, such as disruptive patients; staff talking on their cellphones during the handover and social conversations between staff members. This causes information to be omitted and can impact patient safety. These distractions can also lead to an unnecessary increased duration of handover. The following excerpts endorse these statements:

"... some staff drift away from handover and discuss their personal matters, which is disturbing because the focus on handover is lost." (EN1)

"... If the patient is disruptive during handover, that causes me to lose my thoughts and forget what I was supposed to say most especially if I had a busy shift and there are many tasks to complete, I become distracted." (RNT 10)

"... When staff are on their cell phones, they don't pay attention to handover and then I am expected to repeat a whole chunk of what I had already said which is very annoying." (RNE 1)

4.3.4.2. Subtheme 4.2: External factors

The participants agreed that patient visitors, and members of the multi-disciplinary team which includes doctors, phlebotomists; physiotherapists; radiographers and dieticians also disrupt the handover process. Time spent on distractions of this nature prolongs handover resulting in valuable time being lost for delivery of care to the patient. Vital information that is lost regarding patient care can result in adverse events compromising patient safety. The statements below are excerpts that validate this:

"... Doctors know when it is handover, but they still come at that time to do rounds." (RNT 5)

"... patients' visitors come during handover and refuse to wait as they want information about their relatives." (*RNT 8)*

"... certain members of the multi-disciplinary do not respect the handover process as they constantly interrupt us during handover, and this causes prolonged handover." (RNT 6)

4.3.4.3 Subtheme 4.3: Environmental factors

The environmental factors influencing handover that was discussed during the interviews included the telephone; doorbell; monitor alarms; food trolleys and infusion pumps. It is important to note that patient monitor alarms will continuously alarm until the nurse stops what he/she is doing and attends to the alarm. This may lead to the nurse losing concentration, which is of particular significance during the handover period. Not only does it divert the nurses' attention away from the handover, but it also causes a break in communication that may lead to the loss of important information regarding the patient's care. The nurse then stops the handover to attend to the alarm and reassess his/her patient which may take a few seconds or minutes. The following responses made this significant:

"... nurses lose their concentration when they stop to attend to the telephone or alarms and on returning to handover important information is lost or not communicated." (RNT 6)

"... *the doorbell can be very disturbing during duty station handover, as the handover comes to a halt to answer the bell, once answered the team leader goes back to handover and this takes up too much of time." (RNT 8)*

4.4 CONCLUSION

Chapter 4 discussed the results of qualitative data using Creswell's six steps of qualitative data analysis. This method was utilised to analyse the information gathered from the interviews with the selected participants to identify certain themes and subthemes. The next chapter will give an overview of the interviews.

CHAPTER 5: PRESENTATION OF RESULTS

5.1 INTRODUCTION

The previous chapter presented the results of the study. In this chapter, the discussion of results are presented to highlight how the research questions were answered and the objectives were achieved. The main purpose of the study was to explore the handover processes between nursing staff in the Critical Care Units.

5.2 OVERVIEW OF THE DISCUSSION OF FINDINGS

During the interviews, staff were asked about the handover practices in the Critical Care Units. The responses were analysed and formulated into themes and subthemes. The findings of the research are in keeping with the current handover practices in the Critical Care Units. Handover in a Critical Care Unit is an important process in nursing care because it involves transferring important patient data between nurses. Handover is a communicative process that helps nurses to summarise patient data. A key point to handover is sharing responsibility and accountability during the process.

5.3 DEMOGRAPHIC INFORMATION OF STUDY PARTICIPANTS

A total of twenty-two (22) participants were interviewed by the researcher. All the participants were permanently employed by both hospitals. Three (3) participants were on night duty at the time of the interviews and the rest were on day duty. The researcher requested for the participants to indicate their demographic details (age, gender, ethnic group, number of years qualified, number of years of critical care experience and their role in the critical care unit. Of the 22 participants, thirteen (13) were ICU- trained, four (4) were ICU experienced and five (5) Enrolled Nurses. Twenty-one (21) participants were female and one (1) was male. The youngest participant was 26 years old whilst the oldest was 61 years old. The number of years of Critical Care experience ranged between 1 to 20 years and more. This data gave the researcher an overview of the staff working in the Critical Care Units and their experience which helped to understand how they viewed the handover process. Results of the demographic profile of the respondents are summarised in Table 4.1.-4.3 of chapter 4.

5.4 DISCUSSION OF THEMES AND SUBTHEMES

5.4.1 THEME 1: COMMUNICATION DURING HANDOVER

Communication is the most important component of human interaction and is necessary for the transfer of information from the sender to the receiver. If communication does not occur, information will not be transferred, leading to information loss. Communication was seen as the overarching theme amongst all participants. As the study progressed, various subthemes evolved for this theme. Handover communication is a term that is not new to the healthcare profession (Colvin, Eisen and Gong 2016: 96). It implies that there is a sharing or transfer of information and knowledge along with authority and responsibility among healthcare providers (Jang and Son 2020: 623-634). The provision of quality nursing care depends on the handover process (Galatzan and Carrington 2018: 484). According to Engstrand and Mattson (2017: 10), neglected non-verbal communication during handover results in non-functioning nursing reports. The authors further stated that patient safety can be enhanced by improving the combination of verbal and non-verbal communication and that a handover template should be used to ensure communication is optimal (Engstrand and Mattson 2017: 10). The overall mental state of the nurse who is handing over is important as this will determine her communication during the process.

5.4.1.1 Subtheme 1.1: Verbal communication

Communication skills were seen as strengths during handover because good communication skills result in a good handover. Excellent verbal communication is fundamental to patient safety (Bagnasco *et al*. 2019: 219). According to Guevera Lozana, Arroyo and Ligia (2015: 421), verbal communication is an important aspect during nursing handover. Verbal communication is used between nurses to transfer information to achieve objectives and goals (Van Rooyen 2018: 20). Effective communication is key in transferring vital information regarding the patient's care from the outgoing nurse to the incoming nurse in warranting continuity of patient care (Galatzan and Carrington 2018: 484). Vital information regarding the patient’s care may be lost during poor verbal communication, placing the patient’s safety at risk. A nurse who possesses excellent verbal communication skills will have a positive outlook on handover communication. These statements are in keeping with the

findings during the interview, that one must possess excellent communication skills during handover.

5.4.1.2 Subtheme 1.2: Non-verbal handover

Documentation which is seen as non-verbal handover is important during bedside handover because the nurse needs to review bedside handover from this documentation, confirming that the nursing care was done. Non-verbal communication includes what can be seen, heard, what one can touch and the smell of the patient. This was mentioned during the interviews that nurses want to be actively involved in handover by using their senses to take over. Non-verbal communication, according to Giske *et al* (2017: 771), can express authority and help inform the incoming team of nurses of the content being presented in a handover. Non-verbal handover, in the context of the study, was referred to as nursing documentation. Nursing documentation is essential during nursing handover to ensure that the nurse taking over is aware of the continuity of care. It shows that the patient was cared for during the shift and that the documentation is proof. The participants expected all relevant documentation to be handed over to complete the process. At each subsequent nursing handover, the nurses' documentation is used as an information source to describe relevant background information about the patient, the surgical procedure if appropriate, and the patient's clinical state upon admission. The Critical Care environment is procedure and time-driven, therefore nurses believe that it increases their workload, as they now must go back and revisit the nursing documentation for clarification regarding the patient's care. Significant events documented should be discussed during handover between nurses. Important events that occurred to date during the patient's stay in the unit must be communicated (Roslan and Lim 2016:154).

5.4.1.3 Subtheme 1.3: Personal aspects

Personal aspects refer to emotions, moods and lack of team spirit. These aspects can hinder communication in various ways. As indicated in the previous chapter, a nurse's mood or emotional state can affect the way she carries out her nursing care. With the current socio-economic times in South Africa, where the nursing fraternity is experiencing brain drain due to nurses dying from the Coronavirus or leaving the country for better prospects overseas, it has an impact on the nurses working in the

Critical Care Units. These factors weaken the nurses' emotions and give him/her the feeling of not wanting to be at work, therefore, impeding communication especially at handover (Bagnasco *et al.* 2019:222). When a nurse has had an eventful shift with a difficult patient, family member or doctor it affects her handover communication. She feels drained and just wants to rush off duty to be away from the memories of her shift. She fails to optimise her handover communication and sometimes misses out on important aspects of her patient's care. The same is for the nurse's mood. Her/his mood can affect her/ his communication by not communicating effectively during handover. When nurses lack team spirit it shows in their communication with each other. This affects handover as they fail to give important details of the patient's care. When the nurse concentrates on one aspect such as an undue encounter with the patient, she/he would fail to communicate the important aspects of the patients' care. Personal aspects that affect communication can ultimately lead to a spate of patient incidents and compromise patient care (WHO 2020: 2).

5.4.2 Theme 2: Duration of handover

Effective time management is arguably one of the most important factors during bedside handover (Colvin *et al.* 2016:96). Nurses put a lot of time and energy into handover ensuring it is accurate and factual to the patient's diagnosis and health needs. Information handed over during this period will directly impact the continuity of care as the patient's care for the next twelve hours will be planned according to the information received (Zolkelfi *et al.* 2020: 46).

According to the findings of the study, the time has played a major role in handover. The times of handover starting and ending contribute to how the information was conveyed to the incoming nurse. It was mentioned that if a nurse did not arrive on duty on time, it would have meant that she would not have received a proper handover. As nurses from different Critical Care Units were interviewed, it was noted that handover at the bedside varied from five to forty-five minutes. A concise, detailed handover took up to forty- five minutes whereas a short haphazard handover took about five minutes. From the information obtained, the following subthemes emerged; time management during handover, acuity of patients and disrupted handover processes.

5.4.2.1 Subtheme 2.1: Time management

According to Colvin, Eisen and Gong (2016: 96), Critical Care Units are time and procedure driven and nurses see time as their “sacred” moment. Time is a crucial factor for critical care patients as every second in the environment counts towards their healing. Zolkelfi *et al.* (2020: 46) affirmed that if nurses are delayed for handover, patient care can be delayed causing a risk for patient safety. Critical Care Units are fast-paced units and when nursing a critically ill patient, time is never enough. It is therefore important for the nurse to manage time appropriately to complete tasks and documentation before handover, to ensure that patient care is optimised and there is no missing information to the next shift to promote safety.

5.4.2.2 Subtheme 2.2: Acuity of patients

The acuity of patients, depending on whether they are critically ill and ventilated, determines how long the handover will take. According to Rikos *et al.* (2018: 521), critically ill patients have a longer handover as the incoming nurse needs to assess the patient, the invasive lines, the medication and other important information linked to the patient to ensure patient safety. This does not mean that patients with low to moderate acuity should have a shorter handover. All important aspects of the patients’ day or night must be given equal priority.

5.4.2.3 Subtheme 2.3: Disrupted handover processes

A break in any form of communication caused by distractions during handover may bring about strong emotional connections associated with feelings of frustration, anxiety and confusion. It prolongs the handover period and leads to the depletion of physical and physiological energy levels. As a result, it places the nurse in a destructive frame of mind, and they may adapt to ineffective coping mechanisms due to increased stress levels (Giske *et al.* 2017: 768).

Participants verbalised that distractions during handover disrupted their thinking process and memory, compromising their own mental wellbeing. This brings about changes in the team dynamics on a behavioral level compromising the continuity of safe patient care.

5.4.3 Theme 3: Significance of handover

A handover is a communicative event that is of great importance in the duration of care of the patient. Vretare and Anderzen-Carlson (2020: 1) concluded that nursing handover is a complex phenomenon, which is understood in many ways. Handover is mediated through communication and marks a shift in responsibility (Bruton *et al*. 2016: 386). Handover seems to be related to patient safety and quality of care thereby creating a potential for improvement in the quality of nursing handover (Kim, Lee and Kim 2021: 59). The interview findings alluded to the following subthemes concerning the significance of handover.

5.4.3.1 Subtheme 3.1: Attitude of nurses during handover

A strong point that was made was nursing attitude. This was about nurses talking on their cellphones or having conversations with other colleagues whilst receiving handover from the outgoing nurse. This was found to be disrespectful during the handover. Zolkelfi *et al.* (2020: 45) concluded that some nurses do informal chatting, such as personal life or gossiping about the patient, during handover, which caused a delay in the handover processes. Bagnasco *et al.* (2019: 221) affirmed that the attitude of a nurse who is taking over the patient will determine the attitude of the nurse handing over to him/her. By this, the authors further stated that if the nurse taking over is constantly interrupting the nurse handing over, it can cause her to become stressed and forget what she will say which can hamper patient safety (Bagnasco *et al*. 2019: 222). During the interviews, nurses agreed that small talk extended the handover time.

5.4.3.2 Subtheme 3.2: Knowledge deficit

Nurses should be incessantly knowledgeable about their patients' history; conditions; diagnosis and other important factors about patient care such as medication interactions; procedures that the patient may have had, nursing care and the handover process. According to Tacchini-Jacquier *et al.* (2020: 14), nurses sometimes lack knowledge of the handover process which resulted in a substandard handover given. Holt, Crowe, Lynagh and Hutcheson (2020: 2) indicated that if nurses lack knowledge about the patient's diagnosis or condition, handover will not be communicated accurately. Inadequate handover training is evident during nurse training because nurses rely on senior staff to learn handover practices and processes. During the

interviews, the ICU- trained RNs mentioned that some nurses lack handover knowledge as they did not know how to conduct a proper handover and have deficient knowledge about the diagnosis or disease.

5.4.3.3 Subtheme 3.3: Bedside handover

Bedside handover, according to Forde, Coffey and Hegartty (2020: 3737), comprises of three stakeholders, the incoming nurse; the outgoing nurse and the patient, where verbal and non-verbal communication is imperative for continuity and patient safety. Bedside handover offers the nurse the opportunity to visually take over the patient by lifting bed linen to make sure that verbal handover correlates (Oxelmark *et al.* 2020: 2). Many of the participants preferred bedside handover in comparison to duty station handover as it gave them a holistic approach to taking over the patient. Roslan and Lim (2016: 156) revealed that bedside handover serves as a platform for effective nurse communication.

5.4.4 THEME 4: DISTRACTIONS DURING HANDOVER

Loss of concentration during bedside handover in the critical care unit environment can be linked to disturbances that divert nurses' attention away from completing the task at hand (Spooner *et al.* 2019: 15). Anecdotal evidence confirms that any distraction during handover diverts attention away from the task at hand, affecting decision making and prolonging handover that may lead to errors in treatment in the already vulnerable critical care patient (Roslan and Lim 2016: 155). Not only does it affect safe patient handover, but it can increase stress and anxiety levels among staff members as they may feel rushed in completing the handover due to time lost (Spooner *et al.* 2019: 21). Doctors' rounds often distract nurses' attention away from the handover (Vretare and Anderzen-Carlson 2020: 2). Breaks in the thought processes divert attention away from the task at hand during handover, which is caused by distractions during handover placing patient's safety at risk (Vretare and Anderzen-Carlson 2020: 2).

In this vulnerable environment, many factors causing distractions to the handover process play a pivotal role such as telephones; bedside alarms; doctors' rounds and colleagues (Zolkelfi *et al.* 2020: 42). This places the patient's safety at risk and compromises the continuity of safe patient care.

The following themes emerged from the study, internal factors, external factors and environmental factors.

5.4.4.1 Subtheme 4.1: Internal factors

The handover period must be seen as a “golden” and “sacred” time for nurses. It is a time where the exchange of vital information regarding the patient’s care takes place from the outgoing nurse to the oncoming nurse (Spooner *et al.* 2016: 19). Nursing care to be delivered to the patient will therefore be planned according to information received during this handover period and any distractions can pose as a source for potential error during handover (Feil 2013: 1).

5.4.4.2 Subtheme 4.2: External Factors

An interruption from any procedure during the handover period will lead to a break in concentration from the nurse that is handing over (Spooner *et al.* 2016: 23). This break in thought may lead to the omission of important information that can delay the patient’s treatment, putting the patients’ health and safety at risk and prolonging the patients stay in the critical care unit that may have a greater cost implication on the patient (Spooner *et al.* 2016: 23).

5.4.4.3 Subtheme 4.3: Environmental factors

Telephone calls play an important role in communication between members of the multidisciplinary team in the treatment of the patient and concerned family members. It can however place a great deal of anxiety and stress on nursing staff when they are called away from the bedside handover to attend to these telephone calls (Rhudy *et al.* 2019: 364). Bedside alarms in the critical care unit include monitor alarms, ventilator alarms and alarms from invasive devices such as intravenous lines. Alarm limits are set according to the patient’s vital data and ever-changing conditions to ensure the continuity of safe patient care. It is important to note that these alarms will continue to discharge until the nurse stops what he/she is doing and attends to the alarm. This may lead to a loss of concentration which is of particular significance during the handover period (Sassaki and Perroca 2017: 2). Not only does it divert the nurses’ attention away from the handover, but it also causes a break in communication that may lead to the loss of vital information regarding the patients' care (Sassaki and

Perroca 2017: 2). The nurse will stop the handover to attend to the alarm and reassess his/her patient, this may take a few seconds or minutes and could lead to vital information being omitted (Van de Merwe 2018: 3). Participants verbalised that bedside alarms can be overwhelming and caused poor concentration during handover.

5.5 DISCUSSION OF RESULTS BASED ON STUDY OBJECTIVES

The SBAR framework has been used as a conceptual framework to guide the study. The themes that emerged after the analysis of the interviews were used to guide the discussion of the results. The purpose of the study was to explore handover processes and practices for patient handover between nursing staff in the Critical Care Units of private hospitals in the eThekwini district. Three research questions had to be answered to achieve this purpose and further guided the discussion of results. The three research questions included the following:

- What are the current handover processes and practices for patient handover in the Critical Care Units of private hospitals in the eThekwini district?
- What are the barriers to effective handover practices in the Critical Care Units of private hospitals in the eThekwini district?
- What are the strategies that can improve nursing handover processes and practices in the Critical Care Units of private hospitals in the eThekwini district?

5.5.1 Current handover practices

During the study, it appeared all participants had a similar handover process, where one group took a general handover from the team leader at the duty station and another group went individually to the bedside and took handover. Some participants added that taking handover at the duty station as a group had many advantages as all the nurses on duty knew about all the patients in the unit. If there was a time the primary nurse was not at the bedside, another nurse could step in for a doctor's round or attend to the patient. Other participants who regarded duty station handover as a disadvantage stated that it was time-consuming, and this resulted in a delay for bedside handover which was then shortened as the nurse handing over was in a hurry to go home.

The frequency of handover differed as well. Most of the nurses concurred that handover only occurs in the morning and evening. There was no handover at midday, which is important because if this was done, the team leader will have an idea of the patients' conditions as well as if doctors' orders were carried out. Regarding the time handover commenced, all participants noted that handover commenced usually at the same time, which was 06h45 or 18h45. Some of the participants mentioned that if a nurse came in late for handover, the nurse handing over would sometimes leave and the team leader or another colleague hands over the patient. This resulted in missing vital information as the person who handed over did not give a comprehensive handover. The duration of handover differed between participants, where some indicated that they got a handover lasting five (5) to ten (10) minutes and others received a lengthy handover for about forty-five (45) minutes.

The way the patient was handed over depended on the category of nurse handing over and the type of patient, that is whether the patient was ventilated or critically ill. This was the same for the information handed over such as documents and invasive lines. Some nurses felt that if they nursed the patient previously and this was known to the nurse handing over, it was assumed that the nurse receiving the patient knew everything about the patient and failed to give a comprehensive handover.

5.5.2 Barriers to effective handover

Simamora and Fathi (2019: 1280) agreed that multiple factors relate to poor and ineffective communication. If the nurse handing over was distracted for any reason such as answering a telephone call, attending to a doctor's round or the multi-disciplinary team, attending to a disruptive patient or the monitor or infusion pump alarm, the nurse would sometimes lose her chain of thought and miss out certain aspects of the patient care. This caused the nurse receiving the patient much anxiety if she were questioned by the doctor during a round and could not answer the doctor.

Unit manager meetings prior to handover were seen as a challenge due to delays not only in receiving handover but with patient care. Some participants reported that unit manager meetings sometimes took up to one and a half to two hours in the morning. These nurses voiced frustration at the time of the meetings. Time management is also a barrier to handover as delays in documentation cause a delay in handover.

5.5.3 Strategies to improve handover

The following recommendations were made to improve handover: record what is verbally handed over in the nursing notes; implementation of a team leader to supervise the handover process; stop handover at the duty station, rather all the nurses should go from bed to take over the patient so the patient can be assessed whilst the nurse is handing over, which gives an opportunity for teachable moments; doctors should be made aware of handover times and not come to do rounds at that time; nursing colleges should introduce handover into the curriculum; introduction of midday handover; use of a handover checklist; unit manager meetings should not exceed 30 minutes prior to handover; nurses must improve time management.

5.6 DISCUSSION OF RESULTS BASED ON CONCEPTUAL FRAMEWORK CHOSEN TO GUIDE THE STUDY

During the study, it was discovered that the nurses do not use acronyms such as SBAR during their handover. They felt that if they had used an acronym such as SBAR, they would have a more structured process with fewer problems to face post-handover. This will also help to ensure that the time spent is not too short or long. As the study progressed it was noted how each aspect of SBAR could have been used for the handover in the Critical Care Units.

5.6.1 Situation

During handover, nurses partially followed the SBAR framework, where they introduced the patient, gave the diagnosis, sometimes a brief history was given about the patient and most times this was not done. As cited in several literature findings, it is important to identify the patient during the introduction to handover, so the nurse knows who her patient is as sometimes many patients bear the same or similar names (Burgess, Diggele, Roberts and Mellis 2020: 4).

5.6.2 Background

Giving a background history about the patient is important especially when the nurse is handling the patient for the first time (Ghosh, Ramamoorthy and Pottakat 2021: 2).

During the study, it was mentioned that this was not done frequently or not done at all. Participants mentioned that they were not given adequate background information about the patient, and it was sometimes very difficult to obtain this information if the patient was not able to produce this information due to his/her condition.

5.6.3 Assessment

A comprehensive head-to-toe assessment must be handed over, irrespective of the patient's duration of stay as changes to vital parameters can occur at any time and the nurse receiving the patient should be made aware of these changes (Ghosh *et al* 2021: 5). Participants agreed that this aspect of handover lacked greatly. Information handed over was given in fragments and not in a structured manner.

5.6.4 Recommendations

Recommendations during handover were sometimes missed out as per the participants. Sometimes the team leader would remind the nurse who took handover of the patient about diagnostic tests that needed to be done or to follow up on blood results or other diagnostic tests. Participants mentioned that if the nurse had followed a structured handover process, recommendations would not be left out. Ting *et al.* (2017: 194) stated recommendations during handover enhances patient safety.

5.7 CONCLUSION

This chapter presented the findings of the study that were identified by the participants. The discussion focused on the themes and subthemes. Support for the findings was provided in the form of references to relevant literature sources. The experiences of the Critical Care Nurses during handover were explored during this study. It helped the researcher get an overview of the practices and linked the findings to the conceptual framework. The next chapter will discuss recommendations and conclude the study.

CHAPTER 6: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

6.1 INTRODUCTION

Chapter 5 discussed the research findings based on the data analysis conducted by the researcher. This chapter of the study will outline the overview of the research findings and present the conclusion, limitations and recommendations of the study.

6.2 OVERVIEW OF THE STUDY FINDINGS

The study followed a qualitative, exploratory, descriptive approach. A total of twenty-two (22) interviews were conducted. The data obtained was analysed using Creswell's six steps of data analysis. The purpose of the study was to explore handover processes and practices between nursing staff in the Critical Care Units. The research question that was asked, was *What are the current handover practices in the Critical Care Unit*? Along with this, probing questions emanated. The objectives of the study were met and all questions were answered.

It was noted from the study that communication is the most important component of human interaction and is necessary for the transfer of information from the sender to the receiver. Nurses who possess excellent verbal communication skills ensure that handover is meticulously communicated. Non-verbal communication includes what can be seen, heard, what one can touch and the smell of the patient. This was mentioned during the interviews that nurses want to be actively involved in handover by using their senses to take over. Non-verbal communication can express authority and help inform and update the incoming nursing team about patient care. When the nurse concentrates on one aspect such as an undue encounter with the patient, she/he would fail to communicate the important aspects of the patients' care. Personal aspects that affect communication can ultimately lead to a spate of patient incidents and compromise patient care. Effective time management is arguably one of the most important factors during bedside handover. If nurses are delayed for handover, patient care can be delayed causing a risk for patient safety. The acuity of patients, depending on whether they are critically ill and ventilated determines how long the handover will take. Critically ill patients have a higher acuity hence have a longer handover. A break in any form of communication caused by disruptions during handover may bring about

strong emotional connections associated with feelings of frustration, anxiety and confusion.

A handover is a communicative event that is of great importance in the duration of care of the patient. A strong point that was made was the attitude of the nurse who is receiving handover, especially when she does not pay attention to handover. If the nurse taking over is constantly interrupting the nurse handing over, it can cause her to become stressed and forget what she will say which can hamper patient safety. Nurses should be incessantly knowledgeable about their patients' history; conditions; diagnosis and other important factors pertaining to patient care such as medication interactions; procedures that the patient may have had, nursing care and the handover process. Many of the participants preferred bedside handover in comparison to duty station handover as it gave them a holistic approach to taking over the patient.

Loss of concentration during bedside handover in the Critical Care Unit environment can be linked to disturbances diverting nurses' attention away from completing the task at hand. Doctors' rounds often distract nurses' attention away from the handover. Breaks in the thought process divert attention away from the task at hand, which is handover, placing patient's safety at risk. An interruption from any procedure during this handover period will lead to a break in concentration from the nurse that is handing over. Telephone calls play an important role in communication between members of the multidisciplinary team in the treatment of the patient and concerned family members. It can however place a great deal of anxiety and stress on nursing staff when they are called away from the bedside handover to attend to these telephone calls. When participants were asked how they felt about bedside alarms, the impact it has on their concentration and the handover, they felt overwhelmed at times.

6.3 LIMITATIONS OF THE STUDY

The study was limited to the Critical Care Units' findings and cannot be generalised to other departments of the hospital. As a researcher, being an ICU training specialist and having lectured to some of the participants, researcher bias was eliminated by assuring all participants that they could withdraw from the study at any time they wanted, and that all information was confidential. There has been insufficient research on the topic in South Africa.

6.4 RECOMMENDATIONS OF THE STUDY

Communication during handover was chosen as a major theme from the interviews. Effective communication during patient handover plays a pivotal role in ensuring patient safety and the continuity of safe patient care. Information given during the handover period forms the building blocks on which nursing care is planned for the next shift. Communication should therefore be relevant to the patient's diagnosis. The participants believed without effective communication; handover could not occur. The following recommendations were made by the participants:

6.4.1 Nursing practice

The participants reached a consensus that communication was the essence of patient handover practices. Communication between nurses during handover should be clear, audible and in a language that is understandable to all. Participants agreed that all documentation should be up to date before handover being commenced. This will aid in a complete, yet comprehensive handover as indicated by participants. A verbal handover should be followed by a written handover. A few nurses also mentioned that diagnostic tests that need to be done or any follow-ups for the patient should be documented on the chart to prevent omissions. The duration of the handover process was a common point mentioned between the participants. They felt that if a handover tool was utilised, the duration will not vary amongst the nurses handing over. The acuity of patients determined the duration of handover, so as in my preceding statement a handover tool was strongly recommended. Participants also mentioned that staff should arrive on duty timeously to avoid delays in handover as well as rushed handovers.

Many of the participants mentioned that some nurses lack ethics, where they disregard the nurse handing over by indulging in private talk. Nurses need to respect the handover process. Awareness should be raised amongst Critical Care Nurses about the importance of listening attentively to handover. Nurses should maintain confidentiality during handover by not speaking too loudly at the bedside as the chances of other patients overhearing the handover were great.

6.4.2 Nursing education

Whilst some participants agreed that teachable moments occurred during bedside handover, others did not. These participants collectively suggested that the Senior Registered Nurse should educate the junior staff in areas that they are not familiar with. A few participants even recommended that nursing colleges should introduce handover into the curriculum. Bedside handover was recommended in comparison to duty station handover as all the nurses would be able to know about all the patients in the unit, teaching can occur, and errors can be rectified.

6.4.3 Institution management and policymaking

As per the participants, their contracts stipulated the time nurses must report on duty. However, many nurses failed to meet the stipulations and arrive late on duty, and no action is taken against the nurses for breach of contract. As distractions during handover were common, the following recommendations were made for incorporation into hospital or unit policymaking.

- Doctors should be made aware by senior management of handover times and should avoid doing rounds at that time.
- Midday handover to be done so the team leader can get a full picture of what was done and what needs to be done.
- Unit managers should avoid having lengthy meetings before handover as this results in a non-concise, short handover.
- Team leaders, who are not assigned to patients must supervise the handover process of junior staff and ensure teaching is done.
- A secretary or Enrolled Nursing Assistant to answer the doorbells and phones during handover.
- Patients' families should be made aware of handover times so they can avoid calling during these times and disrupting the handover process.
- Awareness of noise and the influence it has on effective handover should be raised in Critical Care Units, including the education of cleaners and members of the multi-disciplinary team.
- The handover policy should be reviewed and the introduction of SBAR should be considered to enhance handover.
- Top and middle management should collaborate with Critical Care Unit staff to draw up policies and procedures to promote effective handover.

- Handover practices should be evaluated regularly through audits and feedback should be given on the findings to the nurses to improve the handover.

6.4.4 Further research

As this study was limited to the Critical Care Unit, further research should be conducted in other departments of the hospital to ascertain the way handover processes are conducted.

6.5 ADDITIONAL RECOMMENDATIONS

The following additional recommendations were made:

The findings of the study should be shared with all Critical Care Nurses involved in handover. This will raise awareness of the current handover practices and the challenges identified. Once Critical Care Nurses are made aware of the challenges, they will be more likely to contribute to the improvement of handover practices.

Critical Care Nurses should be allowed to reach a consensus on the identified recommendations to be implemented and/or identify additional recommendations to be implemented to improve handover practices. The recommendations identified by the nurses of the Critical Care Units should be implemented collaboratively and increased focus should be placed on the importance of handover communication to improve patient outcomes. The presence of a Unit Manager or senior member of staff as a leader during the handover period does not only reduce anxiety and fear, but it also improves team dynamics, mutual respect and guides members of staff in the smooth transitions of handover. It ensures that handover takes place in a timeous manner, improves communications and nurses attending the handover know what is expected of them.

6.6 CONCLUSION

Handover in Critical Care Units is important for patient safety. The ICU environment remains unpredictable due to the critically ill patients ever-changing needs. Effective communication and cooperation among all members of staff are therefore needed in managing and limiting distracters that could place patients' safety and the continuity of safe patient care at risk. This study has identified the current handover practices in

Critical Care Units in line with the first research objective. There were differences in handover styles and no one style was better than the other as there were sometimes unresolved issues that were found at the end of each handover. Barriers to effective handover were identified and strong recommendations were suggested. Lastly, many recommendations came out of this study that could enhance handover thereby promoting patient safety.

Findings based on this study have shown that effective communication and the use of a structured handover tool would lead to improved handover and patient safety among all members of staff that are involved in handover in the Critical Care Unit. Change is never easy. The implementation of a new handover style might be met with resistance, but nurses should be encouraged to implement bedside handover that would improve the standard of patient care and safety thus optimising the nursing handover in the Critical Care Units. This study has met all the objectives; thus, the purpose has been met.

REFERENCES

Abraham, J., Kannampallil, T., Brenner, C., Lopez, K.D., Al Moosa, K. F., Patel, B. and Patel, V.L. 2016. Characterizing the structure and content of nurse handoffs: A sequential conversational analysis approach. *Journal of Biomedical Informatics,* 59 (2016): 76–88.

Abuajah, G. 2020. Effectiveness of end of shift bedside report. [Online].Dissertation for the Doctor of Nursing Practice. Walden University. Available: https://scholarworks.waldenu.edu/dissertations/9517 (Accessed 16/05/2021.

Achrekar, M.S., Murthy, V., Kanan, S., Shetty, R., Nair, M. and Kattry, N. 2016. Introduction of Situation, Background, Assessment, Recommendation into nursing practice: A prospective study. *Asia-Pacific Journal of Oncology Nursing,* 3(1): 45-50.

Al Ibrahim, M. 2014. *Improving nursing handoff process in a Cardiovascular intensive Care Unit*. [Online]. Available: https://core.ac.uk/download/pdf/60773305.pdf (Accessed 20/06/2018.

Alrahji, A. Sormunen, T. and Alsubhi, H. 2018. Factors affecting bedside handover between nurses in critical care areas. *Journal of Nursing and Health Science,* 7(4): 55-64.

Alyamany, H. 2013. Communication in verbal hand-over reports: Nurses´ experiences from in-patients hospital units in Saudi Arabia - Qualitative study. *Middle East Journal of Nursing,* 7(3): 15-34.

American Association of Critical-Care Nurses (AACN). 2013. *AACN Tele-ICU Nursing Practice Guidelines*. United State of America: American Association of Critical-Care Nurses

Arumugam, Y., Hamidah, H., SHA, P.P. and Irwan, S. 2016. Managing patient progress report through SBAR tool in non-critical care areas. *International Journal of Current Innovation Research,* 2(9): 495-503.

Aslanidis, T., Kontos, A., Chytas, I. and Giannakou-Peftoulidou, M. 2014. ICU handover procedure: The Greek perspective. *International Journal of Research in Medical Science,* 2(1):321-327.

Ayala, W.L. 2017. Impact of a standardized tool on handoff quality in nurse change-of-shift reports. *Walden Dissertations and Doctoral Studies*. Available: https://scholarworks.waldenu.edu/dissertations/3860 (Accessed 9/08/2018).

Babbie, E. and Mouton, J. 2010. *The practice of social research.* 10th ed. Republic of South Africa: Oxford University Press.

Bagnasco, A., Costa, A., Catania, G., Zanini, M., Ghirotto, L., Timmins, F. and Sasso, L. 2019. Improving the quality of communication during handover in a Paediatric Emergency department: A qualitative pilot study. *Journal of Preventive Medical Hygiene*, 60(1): E219-E225.

Bigham, T. M., Logsdon, T. R., Manicone, P. E., Hayes, L. W., Randall, K. H., Grover, P., Collins, S. B., Ramirez, D. E., O'Guin, C. D., Williams, C. I., Warnick, R. J. and Sharek, P. J. 2014. Decreasing handoff related care failures in children's hospitals. *Paediatrics*, 134 (2): e572-9.

Birmingham, P., Buffum, M. D., Blegen, M. A. and Lyndon, A. 2015 Handsoff and patient safety: Grasping the story and painting a full picture. *Western Journal of Nursing Research*, 37 (11): 1458 - 1478.

Blom, L., Petersson, P., Hagell, P. and Westergren, A. 2015. The SBAR model for communication between health care professionals: A clinical intervention pilot study. *International Journal of Caring Sciences,* 8(3): 530-535.

Bonthala, L. and Das, S. 2016. Determination of opinions regarding written handover and its importance for patient safety: A questionnaire-based study. *Patient Safety and Quality Improvement Journal*, 4(1): 308-312.

Bressan, V., Mio, M. and Palese, A. 2019. Nursing handovers and patient safety: Findings from an umbrella review. *Journal of Advanced Nursing*, 76(4): 927-938.

Brink, H.I., Van der Walt, C. and Van Rensburg, G. 2012. *Fundamentals of research methodology for health care professionals*. 3rd ed. Cape Town, South Africa. Juta.

Bruton, J., Ward, H., Day, S., Smyth, N. and Norton, C. 2016. Nurse handover: patient and staff experiences. *British Journal of Nursing,* 25(7): 383-392.

Burger, D., Kyriacos, U. and Jordan, S.E. 2017. The development and validation of a modified Situation Background-Assessment-Recommendation (SBAR) communication tool for reporting early signs of deterioration in patients. *Journal of Clinical Nursing*, 26(17): 2794-2806.

Burgess, A., Van Diggele, C., Roberts, C. and Mellis, C. 2020. Teaching clinical handover with SBAR. *BMC Medical Education,* 20(2): 1-8.

Burns, N. and Grove, S. 2013. *Understanding nursing research: Building an evidence-based practice*. Singapore: Elsevier Inc.

Chaharsoughi, N.T., Ahrari, S. and Alikhah, S.2014. Comparison the effect of teaching of SBAR technique with role play and lecturing on communication skill of nurses. *Journal of Caring Sciences*, 3(2): 141-7.

Chalke, N. J. 2014. Identifying critical information for nursing handover: designing a nurse to nurse handover form. Master of Science in Nursing, University of British Columbia.

Chong, D.W.Q., Rahim, I.A., Jaj, B.K., Ali, Z.,Nordin, A., Najid, N.D.A. and Jusoh, A. 2020. Perceptions of nurses on inter-shift handover: A descriptive study in Hospital Kuala Lumpur, Malaysia. *Medical Journal Malaysia,* 75(6): 691-697.

Coleman, R. 2018. Improving nurse to nurse handover through implementation of standardised SBAR. Masters of Science in Nursing Degree. Gardener -Webb University, Hunt School of Nursing.

Colvin, M.O., Eisen, L.A. and Gong, M.N. 2016. Improving the patient handoff process in the Intensive Care Unit: Keys to reducing errors and improving outcomes. *Seminars in Respiratory and Critical Care Medicine,* 37(1): 96-106.

Creswell, J.W. 2014. *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. 4th ed. Edinburgh: Pearson.

Da Silva Dos Santos, G.R., De Mellos Barros, F., Broca, P.V. and Da Silva, R. 2019. Communication noise during the nursing team handover in the Intensive Care Unit. *Texto and Contexto Enfermagem,* 2019 (28): 1-16.

Davis, C. 2013. Optimising the nursing shift handover in Paediatric intensive care. Masters of Science in Nursing. University of Cape Town. Cape Town.

De Lange, S. 2016. Improving patient handover practices from emergency care practitioners to healthcare professionals. Masters in Advanced medical and surgical nursing science (Trauma and emergency nursing). University of Pretoria.

De Meester, K., Verspuy, M., Monsieurs, K.G. and Van Bogaert, P. 2013. SBAR improves nurse–physician communication and reduces unexpected death: A pre and post intervention study. *Elsevier, 84*(2013): 1192-1196.

Demiray, A., Kececi, A., Acil, A. and Ilaslan, N. 2018. A tool for evaluation of nurses' handover: validity and reliability study of the handover evaluation scale. *International Journal of Nursing Science*, 8(5): 93-97.

DeRienzo, C., Lenfestey, R., Horvath, M., Goldberg, R. and Ferranti, J. 2014. Neonatal Intensive Care Unit handoffs: A pilot study on core elements and epidemiology of errors. *Journal of Perinatology*, 34(1): 149-152.

Dorvil, B. 2018. The secrets to successful nurse bedside shift report implementation and sustainability. *Nursing Management*, 49(6): 21-25.

Ebehardt, S. 2014. Improve handoff communication with SBAR. *Nursing Management,* 44(11):17-20.

Eggins, S. and Slade, D. 2015. Communication in clinical handover: Improving the safety and quality of the patient experience. *Journal of Public Health Research,* 4(666): 197-199.

Engstrand, H. and Mattson, J. 2016. The non verbal handover communication in handover situations are the spice between the lines, to understand the severity of the patient's condition. *Journal of Nursing Education and Practice*, 7(5): 1-8.

Evans, S.M., Murray, A., Patrick, I., Fitzgerald, M., Smith, S. and Cameron, P. 2010. Clinical handover in the trauma setting: A qualitative study of paramedics and trauma team members. *Quality Safe Health Care*, 19(57): 1-6.

Fealy, G., Donnelly, S., Doyle, G., Hughes, M., Brenner, M., Mylote, E., Nicholson, E. and Zaki, M. 2019. Clinical handover practices among healthcare practitioners in acute care services: A qualitative study. *Journal of Clinical Nursing,* 28(1): 80-88.

Feil, M. 2013. Distractions and their impact on patient safety. *Patient Safety Advisory*,10(1) : 1-10.

Flemming, D. and Hubner, U. 2013. How to improve change of shift handovers. *International Journal of Medical Informatics*, 82 (7):580-92. .

Forde, M.C., Coffey, A. and Hegarty, J. 2020. Bedside handover at the change of nursing shift: A mixed methods study. *Journal of Clinical Nursing,* 29(15): 3731-3742.

Galatzan, B.J. and Carrington, J.M. 2018. Exploring the state of the science of the nursing hand-off communication. C*omputers, Informatics, Nursing,* 36(10): 484-493.

Ghosh, S., Ramamoorthy, L. and Pottakat, B. 2021. Impact of structured clinical handover protocol on communication and patient satisfaction. *Journal of Patient Experience,* 1(6): 1-6.

- Giske, T. Melas, S.N. and Einarsen, K.A. 2017. The art of oral handovers: A participant observational study by undergraduate students in a hospital setting. *Journal of Clinical Nursing,* 27(5-6):1-9.

Gore, A., Leasure, A. R., Carithers, C. and Miller, B. 2015. Integrating hand-off communication into undergraduate nursing clinical courses. *Journal of Nursing Education and Practice*, 5 (4): 70-76.

Gregory, S., Tan, D., Tilrico, M., Edwardson, M. and Gamm, L. 2014. Bedside shift reports: What does the evidence say? *Journal of Nursing Administration,* 44(10): 541-545.

Grove, S.K. , Burns, N. and Gray, J. 2013. *Understanding nursing research: Building an evidence.* 7th ed. St Louis: Elsevier.

Guevera Lozana, M., Arroyo M. and Ligia, P. 2015. The handover: A central concept in nursing care. *Entermeria Global,* 37(1): 419-434.

Herawati, V.D., Nurmalia, D., Hartiti, T. and Dwiantoro, L. 2018. The effectiveness of coaching using SBAR (situation, background, assessment, recommendation) communication tool on nursing shift handovers. *Belitung Nursing Journal,* 4(2): 177-185.

Hochman, B.R., Barry, M.E., Lane-Fall, M.B., Allen, S.R. ,Holena, D.N., Smith, B.P. , Kaplan, L.J. and Pascual, J.L. 2017. Handoffs in the Intensive Care Unit: Are off hours a vulnerable time? *American Journal of Medical Quality,* 32(2): 186-193.

Holt, N., Crowe, K., Lynagh, D. and Hutcheson, Z. 2020. Is there a need for formal undergraduate patient handover training and could an educational workshop effectively provide this? A proof-of-concept study in a Scottish Medical school. *British Medical Journal,* 10(2):e034468.

Ilan, R., LeBaron, C.D., Christianson, M.K., Leyland, D.K., Day, A. and Cohen, M.D. 2012. Handover patterns: An observational study of critical care physicians. *Bio Medical Central Health Services Research,* 12(11): 1-10.

Inanloo, A., Mohammadi, N. and Haghani, H. 2017. The effect of shift reporting training using the SBAR tool on the performance of nurses working in Intensive Care Units. *Journal of Client-Centered Nursing Care*, 3(1): 51-56.

Joint Commission. 2017. *Inadequate handoff communication*.[Online]. Sentinel Event Alert 58: 1-6.

Available : https://www.jointcommission.org/-/media/tjc/documents/resources/patient-safety-topics/sentinel/event/sea 58.hand off comms final (1) pdf /web and wash (Accessed: 15/05/2021.

Kim, J.H., Lee, J.L. and Kim, E.M. 2021. Patient safety culture and handoff evaluation of nurses in small and medium-sized hospitals. *International Journal of Nursing Sciences,* 8(1): 58-64.

Kimani, J. 2018. Nurses' experience of bedside handover reporting in the palliative care wards of hospitals and hospices. [Online].Available: https://www.theseus.fi/bitstream/handle/10024/144717/Kimani_Janet.pdf?sequence=1&isAllowed=y(Accessed: 2/12/2018.

Kowitlawakul, Y., Leong, B. S. H., Lua, A., Aros, A., Wong, J. J., Koh, N., Goh, N., See, K. C., Phua, J. and Mukhopadhyay, A. 2015. Observation of handover process in an intensive care unit (ICU): Barriers and quality improvement strategy. *International Journal of Quality in Health Care*, 27 (2): 99-104.

Kullberg, A., Sharp, L., Johansson, H., Brandberg, Y. and Berganmar, M. 2017. Patient satisfaction after implementation of person-centred handover in oncological inpatient care – A cross-sectional study. *PloS ONE,* 12(4): 1-14.

Lee, S-H., Phan, P.H., Dorman, T., Weaver, S.J. and Pronovost, P.J. 2016. Handoffs, safety culture, and practices: Evidence from the hospital survey on patient safety culture. *Bio Medical Central health Services Research*, 16 (254): 1-8.

Lee, E.K. and Park, S.Y. 2018. Application of problem based learning (PBL) for nursing students' practicum in handoff communication. *International Journal of Pure and Applied Mathematics,* 118(24): 1-10.

Lincoln, YS and Guba, EG. 1985. *Naturalistic inquiry.* Newbury Park: Sage Publications.

Malekzadeh, J., Mazluom, S. R., Etezadi, T. and Tasseri, A. 2014. A standardized shift handover protocol: Improving nurses' safe practice in intensive care units. *Journal of Caring Science*, 2 (3): 177-185.

Malfait, S., Van Hecke, A., Van Biesen, W. and Eeckloo, K. 2018. Do bedside handovers reduce handover duration? An observational study with implications for evidenced- based practice. W*orldviews on Evidenced-based Nursing*, 5(6):432-439.

Mamela, T. T. 2017. Quality of handover assessments by registered nurses on transfer of patients from emergency departments to intensive care units. Masters Disserttaion. University of Witwatersrand.

Manser, T. 2013.Fragmentation of patient safety research: A critical reflection of current. J*ournal of Public Health Research*, 2(33): 194-197.

Manser, T., Foster, S., Flin, R. and Patey, R. 2012. Team communication during patient handover from the Operating Room: More than facts and figures. *Human Factors*, *55*(1): 138-156.

Marshall, C. and Rossman, G.B. 2011. *Designing qualitative research.* 5th ed. California: Sage Publishers.

Marshall, J. C., L., B., Adhikari, N., Conolly, B., Diaz, J. V., Dorman, T., Fowler, R. A., Meyvroidt, G. Nakagawa, S., Vincent, J. L., Vollman, K. and Zimmerman, J. 2017. What is an intensive care unit? A report of the task force of the word federation of societies of intensive and critical care medicine. *Journal of Critical care*, 37 (2017): 270 - 276.

Mc Ginn, C. 2017. Nurses perceptions' of bedside reporting on an Intensive Care Unit following implementation. Master of Science in Nursing dissertation. Rhode Island College .

Merten, H., Van Galen, L.S. and Wagner, C. 2017. Safe handover. *British Medical Journal,* 359(1) : 1-5.

Mgoqi, M., Crowley, T. and Van Der Heever, M. 2017. Nurses' experiences on the use of Afrikaans for nursing documentation and handovers at a central hospital in the Western Cape. Master of Nursing Science dissertation. Faculty of Medicine and Health Sciences .Stellenbosch University.

Milesky, J. L., Baptoste, D. L. and Shelton, B. K. 2018. An observational study of patient handover communications among nurses working on an oncology critical care unit. *Contemporary Nurse*, 54 (1): 77-87.

Mohammad, A. 2017. A discourse analysis of nursing handoffs: Exploring nurse-to-nurse interactions in two hospitals in Saudi Arabia. Doctor of Philosophy thesis.University of South Florida.

Mouton, J. and Marais, H.C. 1996. *Basic concepts in the methodology of social science.* Revised edition -5th impression. Pretoria: Aurora printers.

Muller, M., Jurgens, J., Redaelli, M., Klingberg, K., Hautz, W.E. and Stock,S. 2018. Impact of the communication and patient hand-off tool SBAR on patient safety: A systematic review. *British Medical Journal,* 8(1): 1-10.

Nagammal, S., Nashwan, A.J., Nair, S.L.K. and Sushmita, A. 2017. Nurses' perceptions regarding using the SBAR tool for handoff communication in a tertiary cancer center in Qatar. *Journal of Nursing Education and Practice,* 7(4): 103-110.

Nsemo, A.D., Ojong, I.N. and Jane, E. 2018. Nurse handover and its implication on nursing care in the University of Calabar Teaching Hospital, Calabar, Nigeria. *International Journal of Nursing Care*, 2(3): 1-9.

Oxelmark, L., Whitty, J.A., Ulin, K., Chaboyer, W., Goncalves, A.S.O. and Ringdal, M. 2020. Patients prefer clinical handover at the bedside; nurses do not: Evidence from a discrete choice experiment. *International Journal of Nursing Studies,* 105(2020): 1-9.

Piper, D., Lea, J., Woods, C. and Parker, V. 2018. The impact of patient safety culture on handover in rural health facilities. B*MC Health Services Research*, 18(889): 1-13.

Polit, D. F. and Beck, C. T. 2012. *Nursing research principles and methods*. 7th ed. Philadelphia: Lippincott Williams and Wilkins.

Polit, D. F. and Beck, C. T. 2017. *Nursing research: Generating and assessing evidence for nursing practice*. 10th ed. Philadelphia: Lippincott Williams and Wilkins.

Polit, D.F. and Hungler, B.P. 2004. *Nursing research principles and methods.* 6th ed. Philadelphia.:Lippincott, Williams and Wilkins.

Principe, I.C. 2017. Examining nurse satisfaction with a bedside handover report process. Doctor of Nursing Practice thesis. Walden University.

Purwanza, S.W., Fitryasari, R. and Rahayu, P. 2020. Nurses shift handover instrument development evaluation Using SBAR effective communication method. *International Journal of Psychosocial Rehabilitation, 24*(9): 1123-1129.

Randmaa, M., Swenne, C.L., Martensson, G., Hogberg, H. and Engstrom, M. 2016. Implementing situation-background-assessment-recommendation in an anaesthetic clinic and subsequent information retention among receivers: A prospective interventional study of post operative handovers. *European Journal of Anaesthiology*, 33(3): 172-178.

Raymond, M. and Harrison, M.C. 2014. The structured communication tool SBAR (Situation, Background, Assessment and Recommendation) improves communication in neonatology. *South African Medical Journal*, 104(12): 850-852.

Rhudy, L.M., Johnson, M.R., Krecke, C.A., Keigley, D.S., Schnell, S.J., Maxson, P.M., McGill, S.M. and Warfield, K.T. 2019. Change-of-shift nursing handoff interruptions: Implications for evidence-based practice. *Worldviews Evidence Based Nursing*, 16(5):362-370.

Richter, J.P. McAlearney, A.S. and Pennell, M.S. 2016. The influence of organizational factors on patient safety: Examining successful handoffs in health care. Health Care Manage Rev. 41(1): 32–41.

Rikos, N., Linardikis, M., Rovithis. and M. Philalithis, A. 2018. Features of recording practices and communication during nursing handover: A cluster analysis. *Journal of School of Nursing, University of Sao Paulo, 52*(3): 1-8.

Roslan, S. B. and Lim, M. L. 2016. Nurses' perception of bedside clinical handover in a medical - surgical unit: An interpretive descriptive study. *Proceedings of Singapore Healthcare,* 26(3):150–7.

Ruhomauly, Z., Betts, K., Jayne-Coupe, K., Karanfilian, L., Szekely, M., Relwany, A., McCay, J. and Jaffry, Z. 2019. Improving the quality of handover: implementing SBAR. *Future Healthcare Journal,* 6(2): 54.

Rusticali, A. and Picolotto, L. 2019. Effectiveness of structured models of nursing handover for ensuring continuity of information in hospital. *International Journal of Case studies in Clinical Research,* 3(1): 13-19.

Rykse, M.L. 2017. Evidence-based protocol: Standardizing handoffs to improve outcomes. Masters of Nursing dissertation. Kirkhof College of Nursing Grand Valley State University.

Sarvestani, R.S., Jafari, A., Motarri, M., Nasrabadi, N., Momennasab, M. and Yektatalab, S. 2018. Cost effectiveness of nursing handover: An action research. *Nurse Care Open Access Journal.* 5(6): 344-346.

Sassaki, R.L. and Perroca, M.G. 2017. Interruptions and their effects on the dynamics of the nursing work. *Revista Gaúcha de Enfermagem,* 38(2): 1-8.

Shahid, S. and Thomas, S. 2018. Situation, Background, Assessment, Recommendation (SBAR) communication tool for handoff in health care – A narrative review. *Safety in Health,* 4(7): 1-9.

Simamora, R.H. and Fathi, A. 2019. The influence of training handover based SBAR communication for improving patients' safety. *Indian Journal of Public Health Research and Development, 10*(9): 1280-1285.

Singh, A. and Mathuray, M. 2018. The nursing profession in South Africa – Are nurses adequately informed about the law and their legal responsibilities when administering health care? *De Jure*, 51(1): 122-139.

Singh, S. and Wassenaar, D. 2016. Contexualising the role of the gatekeeper in social science research. *South African Journal of Bio Ethics and Law,* 9(1): 42-46.

Smeulers, M. 2016. *Evidence-based quality improvement: A recipe for improving medication safety and handover of care.*[Online]. Available :

https://pure.uva.nl/ws/files/2643480/167768_Smeulers_thesis_complete.pdf(Accessed : 18/05/2019.

South African Nursing Council (SANC). 2014. *Competencies for Critical Care Nurse specialist (adult)*. Pretoria: South African Nursing Council.

South African Nursing Council (SANC). 1984. *Regulation 2598 as amended. Regulations relating to the Scope of Practice of persons who are registered or enrolled under the Nursing Act No 50 of 1978*. Pretoria: South African Nursing Council.

South Africa .Department of Health. 2017. *Norms and standards regulations applicable to different categories of health establishments*. Pretoria: Government Printers.

South African Nursing Council (SANC). 2018. *Provincial distribution of nursing manpower versus the population of South Africa*. Pretoria: South African Nursing Council.

Speziale, H.S. Carpenter, D.R. 2003. *Qualitative research in nursing: advancing the humanistic imperative.* 6th ed. Philadelphia. Lippincott, Williams and Wilkins. Spinks, J., Chaboyer, W., Bucknall, T., Tobiano, G., Whitty, and J.A. 2015. Patient and nurse preferences for nurse handover—using preferences to inform policy: A discrete choice experiment protocol. *British Medical Journal*, 5 (1): 1-8.

Spooner, A. J., Aitken, L. M., Corley, A., Fraser, J. F. and Chaboyer, W. 2016. Nursing teamleader handover in the intensive care unit: An observational Study. *International Journal of Nursing Studies*, 31(1): 165 - 172.

Spooner, A. J., Corley, A., Chaboyer, W. and Aitken, L. M. 2018. Developing a minimum data set for nursing teamleader handover in the intensive care unit: A focus study. *Australian Critical Care*, 31 (1): 47-52.

Spooner, A., Chaboyer, W. and Aitken, L.M. 2019. Interruptions during senior nurse handover in the Intensive Care Unit. *Journal of Nursing Care Quality,* 34(1): 15-21.

Stewart, K.R. 2016. SBAR, communication, and patient safety: An integrated literature review. Departmental Honors Thesis. The University of Tennessee at Chattanooga School of Nursing.

Superville, J.G. 2017. Standardizing nurse-to-nurse patient handoffs in a correctional healthcare setting: a quality improvement project to improve end-of-shift nurse-to-nurse communication using the SBAR I-5 handoff bundle. Doctor of Nursing Practice thesis. School of Nursing. University of North Carolina.

Tacchini-Jacquier, N., Hertzog, H., Ambord, K., Urben, P., Turrini, P. and Verloo, H. 2020. An evidence-based, nursing handover standard for a multisite public hospital in Switzerland: Web-based, modified Delphi study. *Journal of Medical Internet Research Nursing,* 3(1): 1-10.

Talley, D.A., Dunlap, E., Silverman, D., Katzer, S., Huffines, M., Dove, C., Anders, M., Galvagno, S.M. and Tisherman, S.A. 2019. Improving postoperative handoff in a Surgical Intensive Care Unit. *Critical Care Nurse*, 39(5): 13-21.

Taylor, J.S. 2015. Improving patient safety and satisfaction with standardized bedside handoff and walking rounds. *Clinical Journal of Oncology Nursing,* 19(4): 414.

Thimmapur, R,M., Raj, P., Raju, B. ,Kanmani, K.R. and Reddy, N.K. 2018. Caregivers satisfaction with Intensive Care Unit services in tertiary care hospital. *International Journal of Critical Illness & Injury Science,* 8(4): 184-187.

Ting, W-H., Peng, F-S., Lin, H-H. and Hsiao, S-M. 2017. The impact of situation-background-assessment-recommendation (SBAR) on safety attitudes in the obstetrics department. *Taiwanese Journal of Obstetrics & Gynecology,* 56(1): 171-174.

Tobiano, G., Bucknall, T., Sladdin, I., Whitty, J. A. and Chaboyer, W. 2018. Patient participation in nursing bedside handover: A systemic mixed methods review. *International Journal of Nursing Studies*, 77 (1): 243 - 258.

Urden, L.D., Stacy, K.M. and Lough, M.E. 2018. Critical Care Nursing. 7th ed. St Louis, Missouri: Elsevier.

Van den Berg, A. K. 2013. Patient handoff: Facilitating safe and effective transition of care. Master's degree in Nursing dissertation. Kirkhof College of Nursing.

Van der Merwe, C.A. 2018. Optimising handover in the intensive care unit by managing distractions. Master of Science in Nursing dissertation. University of Witwatersrand, Johannesburg.

Van Rooyen, N.L. 2018. Developing a model to overcome the organisational communication deficiencies that exist in the PAM industry. Master of Engineering dissertation. Faculty of Engineering. Stellenbosch University.

Van Sluisveld, N., Hesselink, G., Van Der Hoeven, J.G., Westert, G., Wollersheim, H. and Zegers, M. 2015. Improving clinical handover between intensive care unit and general ward professionals at intensive care unit discharge. *Intensive care Medicine,* 41(4): 589-604.

Vardaman, J.M., Cornell, P., Gervis, M.T. and Yates, L. 2013. Improving shift report focus and consistency with the Situation, Background, Assessment, Recommendation protocol. *Journal of Nursing Administration*, 43(78): 422-428.

Vines, M.M., Dupler, A.E., Van Son, C.R. and Guido, G.W. 2014. Improving client and nurse satisfaction through the utilization of bedside report. *Journal for Nurses in Professional Development*, 30(4): 166-173.

Vretare, L.L. and Anderzen-Carlsson, A. 2020. The Critical Care Nurse's perception of handover: A phenomenographic study. *Intensive & Critical Care Nursing*, 58(2020): 1-7.

Wanigasinghe, N. 2016. Clinical audit: Effective handover of critically ill patients in intensive care units between the shifts by the medical and nursing officers. *Sri Lankan Journal of Anaesthesiology*, 24(2), pp.76–81.

Williams, A. and Stellenberg, E.L. 2018. Investigation into the factors contributing to malpractice litigation in nursing practice within the private healthcare sector of Gauteng. Master of Nursing Science dissertation. Faculty of Medicine and Health Sciences. University of Stellenbosch.

World Health Organisation (WHO). 2007. Communication during hand-overs. *Patient Safety Solutions,* 1(3): 1-4.

World Health Organisation (WHO). 2009. *World alliance for patient safety*. Geneva: WHO Press.

World Health Organisation (WHO). 2020. *Health worker safety: A priority for patient safety*. Geneva: WHO Press.

Young, G. 2017. Standardizing the bedside shift report process to improve communication and promote patient safety. Master's degree dissertation. University of San Francisco.

Zolkefli, Y., Bakar, N.A.H., Isahak, F.H. and Saiful, F.M. 2020. Shift handover practices among nurses in medical wards: A qualitative interview study. *International Journal of Care Scholars*, 3(2): 41-49.

Zou, X.J. and Zhang, Y.P. 2016. Rates of nursing errors and handoffs-related errors in a medical unit following implementation of a standardized nursing handoff form. *Journal of Nursing Care Quality*, 31(1): 61-67.

Appendix 1: University Ethics Clearance

Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

23 April 2020

Ms D Anwar
74 Rueford Avenue
Sunford
Phoenix
4068

Dear Ms Anwar

Handover processes and practices of critically ill patients between nursing staff from the intensive care units of private hospitals in the eThekwini district, Kwa Zulu-Natal
Ethical Clearance number IREC 145/19

The Institutional Research Ethics Committee acknowledges receipt of your gatekeeper permission letter.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC Standard Operating Procedures (SOP's).

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

Professor J K Adam
Chairperson: IREC

Appendix 2a: Permission letter to the Ethics Board Life healthcare

74 Rueford Avenue

Sunford

Phoenix

4068

To the Research Department

Life Healthcare Head Office Oxford Manor

21 Chaplin Road, Illovo 2196

Dear Ms Ure

Re: REQUEST FOR PERMISSION TO CONDUCT STUDY

I am presently registered as a Master's student with the Durban University of Technology in the Department of Health Sciences, Nursing programme. The proposed title of my research study is Handover processes and practices of critically ill patients between nursing staff from the intensive care units of private hospitals in the eThekwini district, Kwa Zulu-Natal

The purpose of this study will be to explore the perspectives of Professional and Enrolled nurses regarding nursing perspectives of inter-shift handover practices and processes in Critical Care Units.

The proposed objectives for the study include:

- To describe the current inter-shift handover processes and practices in the Critical Care Units of the selected private hospitals.
- To collectively identify features of the existing handover processes and practices in the critical care unit requiring optimisation
- Recommend strategies that could optimize the clinical handover processes and practices in a critical care unit.

I hereby request your permission to conduct a study at your institution. A copy of the proposal is attached for your perusal. Your support and permission to conduct the study at your institution will be appreciated.

Yours Sincerely

Ms D Anwar

Email: deshni.anwar@lifehealthcare.co.za

Tel: +27 848188806

Appendix 2b: Letter from Institution

Life Healthcare Head Office
Oxford Manor, 21 Chaplin Road, Illovo 2196
Private Bag X13, Northlands 2116, South Africa
Telephone: +27 11 219 9000
Telefax: +27 11 219 9001
www.lifehealthcare.co.za

National Health Research Ethics Committee registration: **REC 251015-048**

REF: 04092020/4

09 April 2020

Dear Deshni Anwar

RE: APPLICATION TO CONDUCT RESEARCH

Title of study: Handover processes and practices of critically ill patients between nursing staff from the intensive care units of private hospitals in the eThekwini district, Kwa Zulu-Natal

The Health Research Ethics Committee of Life Healthcare Group hereby grants permission with no conditions for your study to be conducted at **LIFE ENTABENI & MT EDGECOMBE HOSPITALS.**

1. If patient or institutional confidentiality is breached, Life Healthcare is entitled to withdraw this permission immediately. The Company reserves the right to take legal action against you, should Life Healthcare feel that this is warranted.
2. An electronic copy of the research report or compiled results, in the case of a clinical trial, must be submitted to the Life Healthcare Research Ethics Committee on completion of the project or trial. This copy of the research report, and any publications which may develop from it will be placed on the Company's Gateway research page for reference purposes. The researcher is required to make these documents available in PDF format.
3. No direct reference may be made to Life Healthcare, its subsidiaries or any of its facilities or institutions in the research report or any publications thereafter. The Company and its facilities, patients and staff must be de-identified in the study, and remain so for any other studies which may utilise this information. Any abstracts submitted or presentations given which will utilise the results of any research done in a Life Healthcare facility, must comply with the same conditions.
4. Research being done for educational purposes must be completed within the time allotted by the higher education institution. If the research is being done in an individual capacity by an employee of the life Group, the research must be conducted within one year of permission being given by the Company, OR must be completed in the proposed time period specified in the approved proposal. Permission may be withdrawn if the research extends beyond the approved time period.
5. Life Healthcare will not take responsibility for any unforeseen circumstances within its institutions which may materially change the context and potential outcomes of a student's research. Should this occur, the student will be required to approach their Higher Learning institution for guidance around alternatives.
6. Life Healthcare will not be liable for any costs incurred during or related to this study.
7. In cases where a researcher is found to be guilty of misconduct, or in contravention of any national or international legislation or Life Healthcare policies or guidelines, permission to continue with the research will be withdrawn immediately pending investigation. In the case of student research, the higher education institution under which the researcher is registered will be notified. In the case of a clinical trial, The South African Health Products Regulatory Authority (SAPHRA) will be notified, as well as the trial sponsor and any other necessary parties.

Yours sincerely,

On behalf of the Life Healthcare
Health Research Ethics Committee

Appendix 3: Information Letter

LETTER OF INFORMATION

Dear Participant

Thank you for participating in the research study.

Title of the Research Study: Handover processes and practices of critically ill patients between nursing staff from the intensive care units of private hospitals in the eThekwini district, Kwa Zulu-Natal

Principal Investigator/s/researcher: Deshni Anwar (RN, BA Nursing)

Co-Investigator/s/supervisor/s: DR TSP Ngxongo (D Nursing)

DR V Naidoo (D Nursing)

Brief Introduction and Purpose of the Study: Nursing handover is an integral part of safe patient care in the critical care unit as it represents a potential for risk as information which can be lost, misinterpreted or not properly communicated (Chalke 2014: 2). In 2009, World Health Organization (WHO) launched a campaign to improve communication during handover.

Quality and safety is a major focus in Critical Care Units due to the hectic and complex environment. Critical Care Nurses work at a fast pace and can be subject to error during the course of their shift (Urden, Stacey and Lough 2010: 25). The terminology used to describe handover varies such as handoff, handover, sign off, inter shift report and shift report, whereby one nurse takes responsibility of care from another nurse at the end of the shift. The purpose of this proposed study will be to

explore nursing perspectives of the inter-shift handover processes in Critical Care Units of selected private hospitals in the eThekwini district.

The proposed objectives of this study will be:

1. Describe the current inter shift handover practices and processes in the Critical Care Units of the selected private hospitals.
2. Identify barriers and facilitators of an effective handover.
3. Explore the effects of handover practices on patient safety.
4. Recommend strategies that could optimize the clinical handover practices and processes in a critical care unit.

Outline of the Procedures: This is a qualitative study and you will be asked to participate in an interview/focus group discussion after reading the information letter and giving consent. During the interview, you will be expected to use your expert knowledge, skill and experience when discussing your perspectives on handover.

Risks or Discomforts to the Participant: There are no foreseeable risks or discomforts for participating in the study.

Benefits: The proposed study will be published and will be available at the DUT library. I hope that you will enjoy this research process and become motivated and empowered in your job.

Reason/s why the Participant May Be Withdrawn from the Study: Your participation is voluntary. You are under no obligation to participate and may withdraw at any time without penalty or prejudice.

Remuneration: No money or other remuneration will be given to you for your participation in the study.

Costs of the Study: You will not incur any cost to yourself for participating in this study.

Confidentiality: All information supplied by you will be strictly private and confidential and will only be used for the purpose of this study. No information will be linked to the participant's identity. During the focus group interview, please respect each other by not mentioning what was said outside of the groups. I will reinforce confidentiality at the start of the meeting. If you wish to use examples during the interview, please refrain from using colleague's names.

Research-related Injury: The study does not pose any risk for injury to you.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher, Deshni Anwar on 0848188806, my supervisor, Dr TSP Nxgongo on 031 373 2606 or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo: DVC: RIE on on 031 373 2577 or moyos@dut.ac.za.

Appendix 4: Consent form

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Deshni Anwar about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _IREC 145/19_____,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my gender, age, date of birth and initials will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____
Full Name of Participant	**Date**	**Time**	**Signature / Right Thumbprint**

I, Deshni Anwar herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_Deshni Anwar_____	_____	_____
Full Name of Researcher	**Date**	**Signature**

_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**

APPENDIX 5a: Demographic Data

Topic: Handover processes and practices of critically ill patients between nursing staff from the intensive care units of private hospitals in the eThekwini district, Kwa Zulu-Natal

Interview Guide

The following questions will be used by the researcher to probe participants for their responses during the interview. It comprises of a demographic section and a question section.

SECTION 1

1. Age of participant

20 - 30 YRS	
31-40 years	
41-50 years	
51-60 years	
>60 years	

2. Gender

Male	Female

3. Ethnic Group

Indian	White	Black	Coloured

4. Number of years qualified

<1 year	
1-5 years	
6-10 years	

11-15 years	
16-20 years	
>20 years	

5. Number of years of Critical care experience

<1 year	
1-5 years	
6-10 years	
11-15 years	
16-20 years	
>20 years	

6. Current role in the Critical care unit

ICU- trained registered nurse	ICU Experienced registered nurse	Enrolled nurse	Unit manager

APPENDIX 5b: Interview Guide

Section 2

The grand tour question is:

What is the current practice during inter shift nursing handovers in the ICU?

The following questions in the interview guide will be used to guide the researcher during the interview:

- What categories of staff are present at inter-shift nursing handover?
- Where does the handover process occur (nurse station, patient bedside)?
- How long does the inter-shift nursing handover take?
- When and where does the inter-shift handover occur?
- What type of information is communicated during the handover process?
- Is the information received during inter-shift handover sufficient?
- Do other members of the multidisciplinary ICU team (physiotherapist, dialysis technician, respiratory technician) participate in the handover process?
- Are any additional items (documents, charts, notes) that are currently used or can be used to assist inter-shift handover and nursing communication?
- What recommendations can you suggest to improve the current handover processes and practices?

Appendix 6a: Transcript of EN

Appendix 6

TRANSCRIPTS OF EN

Interviewer	Good day how are you?
Participant	I'm good and you?
Interviewer	I'm ok thank you. Thank you for attending my interview and giving me consent to go ahead with the interview.
Participant	Not a problem.
Interviewer	You have read my information letter and you know about my topic, lets talk about handover. Tell me about handover in the departments were you work with regard to strengths, weaknesses, opportunities and threats. So let us start by you telling me what do you see as strengths from handover in the critical care units.
Participant	The strengths are that we go from bed to bed and we do a duty station handover. Why I see this as a strength is because we can note the patient's abnormalities and condition and we know immediately if the patient is deteriorating or getting better.
Interviewer	What are the weaknesses of handover? Do you experience challenges during handover?
Participant	One of the challenges is time as it takes a lot of time to do 2 handovers, one at the duty station and one at the bedside and the challenge to correct the nurses at the same time at the bedside.
Interviewer	What are the nurses being corrected on?
Participant	If they are giving the wrong diagnosis or need correction on any aspects at the bedside
Interviewer	What aspects are you referring to if they are handing over from the chart?
Participant	The nurse wrote the incorrect diagnosis or there is a problem with spelling as you have to go through the entire chart during handover.
Interviewer	Is there anything else you see as a weakness during handover that can cause a problem to you to continue your nursing care for the day?
Participant	When you have an agency staff handing over to you its a weakness as their handover is incomplete, correct and relevant. During the course of the day it makes it difficult for you to nurse the patient because not everything was handed over correct and fully.
Interviewer	When you say that they give you incorrect or irrelevant handover, what does that mean?
Participant	They just tell you how the patient slept, ate, if they tolerated but that is noted on your intake and output chart as well. Sometimes the patient is there for a medical reason and the feeding or intake is not so relevant to the condition.
Interviewer	Is there anything else that you find as a weakness with regard to the nursing handover?
Participant	Agency staff, new recruits, brand new students who are fresh out of college that don't have adequate experience.
Interviewer	What is the weakness with regard to them?
Participant	They don't have much experience, like your new RN's.
Interviewer	Is there no team leader that joins them with them when they are handing over or do they have to handover as they nursed the patient

	for the day?
Participant	There is a team leader but they are there mainly for the documentation as she is not only team leading but has her own patients that she has to take care of. She also has early morning doctor's rounds as some doctors come in early.
Interviewer	What about the night when the day shift hands over to the night shift?
Participant	It is the same as the team leader has patients. During the day the team leader doesn't only look after the department and the new nurses, student nurses and other responsibilities so it is very difficult for her to handover her patient and then watch the new nurse on handover.
Interviewer	Are there any other negative factors during handover?
Participant	Staff who are not present for the whole admission stay of the patient, when you do not have continuous nursing care as the staff are not too clued up on the patient's stay. When there is a break in nursing care is a negative effect on handover as when you nurse the patient on consecutive days it makes handover easier to correlate your nursing diagnosis, interventions and the prognosis of the patient.
Interviewer	Do permanent staff have weaknesses during handover?
Participant	When the wards are quiet and the ward staff are sent to ICU, there is a break in nursing care, there's no nursing continuation. This poses as a weakness for the permanent staff as they don't have adequate knowledge of the patient from admission to date. It is easier if there is continuation of nursing care.
Interviewer	Are there any problems that you encounter with the nurses from the critical care units during handover?
Participant	Sometimes there is lack of knowledge of the patient's condition, the nursing care of the patient, it differs from nurse to nurse. It depends on their years of experience and their knowledge base as well.
Interviewer	What opportunities can you grasp from handover?
Participant	I learn alot such as the patient's diagnosis, nursing diagnosis, vital signs, medication, new conditions, intake and output. You have to be willing to learn from handover.
Interviewer	Do other members of the multidisciplinary team attend handover?
Participant	Very rarely do doctors attend, when they are on a round.
Interviewer	Do the doctors teach you anything during handover?
Participant	They do specific to their patient's condition or diagnosis, such as if they heard you say something incorrectly during handover they will do a teaching.
Interviewer	Do you get any learning opportunities when handing over the ICU chart? the RN shows you what you have done wrong.
Participant	Yes as not everyone completes the ICU chart the same, nursing diagnosis differs. Vital signs are plotted sometimes and sometimes not. Alarm limits are taught by the RN's
Interviewer	Do you experience threats during handover?
Participant	Yes, anything the RN asks will pose as a threat as if the RN asks a question and I cant answer her I feel incompetent. You learn as most times you do a copy and paste and the RN will show you how to do it correctly.

Interviewer	If you are handing over to a RN and you know you have completed your work meticulously but she will bombard you when she goes through your charts? do you see that as a threat?
Participant	Yes it is a threat as many times when you do your best after nursing the patient for 12 hours, a nurse will still come on shift and scrutinize your paperwork and will find a fault.
Interviewer	What are the barriers to handover?
	Language barrier and knowledge deficit.
Interviewer	Are there any disturbances that are seen as a hinderance during handover such as door bells, telephones, doctors' rounds?
Participant	The telephones and the doorbell.
Interviewer	Do you have any recommendations that you can make from all of your experience in the critical care unit with regard to handover?
Participant	We have a handover book so nothing is missed. A shift leader should not take on patients to assist with doctors' rounds, teaching or assisting with procedures.
Interviewer	Have you ever experienced an incident where you have taken over and you felt it was a comprehensive handover but after the nurse went off duty or after you handed over, there were incidents picked up such as medication incidents or v phlebitis?
Participant	Yes, there was when we took over the iv site was checked and was not infiltrated. Post handover the patient rings the bell and the drip has infiltrated. You are unsure of the time of the incident so you record the findings and continue. Medication incidents have reduced as 2 people check medication before administration.
Interviewer	What about pressure ulcers?
Participant	Its average as there are new dressings and if the patient has an ulcer its a long standing ulcer.
Interviewer	Is there anything else you would like to tell me with regard to handover or the process?
Participant	No.
Interviewer	Thank you very much for the interview. You do know according to the information letter that you can withdraw at any time.
Participant	Yes.
Interviewer	Do you have any questions?
Participant	No.
Interviewer	Thank you very much.
Participant	Thank you.

Appendix 6b: Transcripts of ICU Experienced RNs

Appendix 6b

Transcript of Interviews with ICU Experienced RN's

Interviewer	Hello there how are you?
Participant	Good and you?
Interviewer	I am good thank you. How has your day been so far?
Participant	A little bit quiet since the computers are down.
Interviewer	So you have read my information letter and you know what my research topic is about and you have given me consent to collect data, is it ok to continue?
Participant	Yes, sure.
Interviewer	The question i am going to ask you is about the handover processes in the critical care unit?
Participant	Our handover process is in the morning between day and night shift and the evening, both day and night shift are present. The rule is that every staff member must be present including the unit manager on day duty. It is a little bit of a challenge with a few people arriving late on duty and you have to start again or somebody gets left out on a bit of handover which can lead to problems thereafter. The handover process takes place at the patient's bedside,there is no duty station handover. Any other issues to be handed over such as equipment or loan items can be done in the duty station, however patient handover takes place at the bedside. The handover process depends on how ill the patient is. For critically ill patients handover will take a bit longer, about 15 minutes and other patients between 5-10 minutes or less. Handover duration is about half hour.
Interviewer	If you are taking over after the weekend, do you feel that the staff member is giving you adequate information about this patient that you don't know?
Participant	If you are coming on duty for the first time, you will find inadequate information handed over. My expectation is that a full handover is given from admission and then it will be up to the nurse, nursing the patient to read what happened in the last 48 hours including the doctor's orders, outstanding tests and other issues. So the shift you are taking over from has a responsibility to give you a brief overlook of the patient, however if you were on leave for 10 days and you return on duty, the person handing over will not give you adequate information, so it is up to you tor read the file and find out as you are ultimately responsible for the patient for the day.
Interviewer	Are you happy with the nurse not giving you all the information and that you must go back and read all the information?
Participant	How practical is it for the nurse to give you all the information?
Interviewer	I understand, but when you are looking after your critically ill patient and there are so many tasks to perform during the course of the day, do you have time to go back and read 10 days ago.

Participant	Yes you do and the important information must be handed over to you.
Interviewer	During handover when the nurse is handing over the lines and number of days its is, are you physically looking at the lines to check for infiltration?
Participant	The handover process includes, the patient, documentation, invasive lines and you have to physically take over the lines, drains and bags. You are responsible for what you take over, as if you take over an infiltrated line it will be your responsibility.
Interviewer	Any suggestions to improve hand over communication from your experience?
Participant	From my experience, what works is a handover and take over book where the staff write the important events for the day and any outstanding orders or tasks to carry out. It will serve as a communication book as well as a book were you can refer to or you can back track events of the patient's stay such as the doctor asking if an ultra sound was done and the staff on duty are unsure, so they can go to the book to check if it was done. Investigation flow charts also helps so it saves the patient from repeating investigations already done.
Interviewer	Is there any other suggestions or recommendations that you have?
Participant	Yes a midday hand over is important to touch base with the staff as there are not many senior staff on duty. These handovers should be brief and not long. Handing over before lunch and tea is important as lots of things get forgotten during those times as there are delays of diagnostic tests being done. A handover at 4pm will serve as an evaluation and should be quick so we know that all orders are carried out before evening handover.
Interviewer	Have you ever experienced when coming on duty in the morning, the nurse that is handing over is in a hurry to go off and she is giving you a slapdash handover for a critically ill patient and you expected more information, what did you do?
Participant	Yes there are people like that but as a professional person knowing you are responsible for the patient for the next 12 hours, it will be your responsibility to stop the nurse and insist on a more detailed handover, should you find this as an ongoing problem, it must be escalated as there are many people who watch the clock to run off duty. You have to stop the nurse even if she is angry at you but you need to ensure that they give you all the information. The handover entry at the end of the shift must entail what has been handed over with orders that need to be carried out the next day such as diagnostic tests as verbal orders can be forgotten or staff will deny orders handed over. Whatever you have verbally handed over must be recorded to avoid problems.
Interviewer	What disturbances do you find during handover?
Participant	Staff having their own conversations, people hugging and kissing during handover, the telephones, doctors coming on

	rounds. The smarter way to avoid these disturbances will be to get a staff not involved in the handover to deal with the disturbances.
Interviewer	Thank you very much for your time and information.
Participant	Thank you i hope it was informative.
Interviewer	Good afternoon how are you doing today?
Participant	I am well thank you.
Interviewer	Thank you for accepting consent to participate in my interview. Is it still okay to go ahead with the interview?
Participant	Yes it is.
Interviewer	Please can you tell me about your handover process regarding barriers, strengths and weaknesses or recommendations.
Participant	Handover needs improvement, because handover is seen as the norm and things are not done in order. During handover we need to double check medication, signatures, doctors' signatures.
Interviewer	How long does handover take?
Participant	It takes 15-20 minutes
Interviewer	How often is handover done?
Participant	In the mornings and evenings and if i go to tea.
Interviewer	What documentation is used for handover?
Participant	Prescriptions, charts.
Interviewer	Where does handover take place?
Participant	At the bedside
Interviewer	Are there any other members of the multi disciplinary team that take part in handover?
Participant	No.
Interviewer	Do you find that agency staff are always in a rush and give you a brief handover without giving you all the information and you have to go read the charts after handover or the doctor's rounds book?
Participant	Yes sometimes you even have to go through their notes to check up because they don't worry as they are not permanent staff.
Interviewer	Do you find a difference between agency versus permanent staff are handing over to you? do you get a thorough handover from a permanent or agency staff?
Participant	You get a thorough handover from a permanent staff compared to agency.
Interviewer	Can you give me some strengths of handover?
Participant	History is given about the patient, their conditions, how your nursing care should be handled for the day. The weaknesses include poor documentation, not following up with doctor's orders, blood results and you have to go back to check what was done or not.
Interviewer	Are there any barriers or distractions to handover?
Participant	The door bell is a disturbance
Interviewer	If the nurse loses her chain of thought during handover, do you

	have to take her back from where she left?
Participant	Yes it does happen and you have to remind them of what they were saying.
Interviewer	Have you ever had an experience where the nurse completely forgot what she was saying during handover which was important and you only realised after handover when she was gone off duty?
Participant	Yes and then when the doctor comes on a round and questions you it becomes a problem where you are reported to management.
Interviewer	How often have you picked up an IV phlebitis, pressure injury or medication error not picked up during handover or an untoward incident that you picked up post handover?
Participant	Yes that does happen and we sometimes only find out 2 hours post handover of these untoward events.
Interviewer	Are there any opportunities that you can get from handover or an opportunity your junior nurses get from handover?
Participant	We give them an opportunity to handover but the shift leader has to be present and they get reminded if they missed out on anything. I don't leave if handover is incomplete.
Interviewer	Any recommendations to improve handover ?
Participant	A tool will make handover better so if you come back after a few days off you can follow up on tests done. Nurses need more training on the handover process.
Interviewer	Do you have any questions for me?
Participant	No thank you.
Interviewer	Thank you for your time.
Participant	You are welcome.

Appendix 6c: Transcripts of Trained RNs

Appendix 6c

Transcript of ICU Trained RN's

Interviewer	Good morning how are you doing?
Participant	Well and you?
Interviewer	I am good thank you. You have read my information letter and gave me consent to collect data, is it okay to continue?
Participant	Yes.
Interviewer	How has your day been thus far?
Participant	A bit busy but settled now.
Interviewer	Good, today i will like to know what your handover processes in ICU are?
Participant	Our handover process starts at 6h45 or 18h45. We have a full handover in the duty station amongst the RN's and other members of the team. Personal matters that cannot be discussed in the presence of the patient that may upset them are discussed here. We then do bed to bed hand over after the staff are allocated. We take over everything including medication. We fill out a handover book at every shift just in case we miss out any information, we can refer to the book.
Interviewer	Are there any difficulties or problems that you face during handover, whether it is taking over or handing over?
Participant	Yes, there are times when staff need to leave early and there are lots to handover such as medication and vital data is not communicated resulting in miscommunication or orders not carried out, therefore we do handover at the duty station and bedside.
Interviewer	During handover do you experience any outside disturbances that can make you lose concentration or you may have forgotten what you have heard or the person handing over forgot what she was saying?
Participant	Yes, most of the time the ENA's or ward attendants start at 08h00 and during handover the telephones are ringing that stops the handover process or there is someone at the door and the handover process is stopped to attend to that person at the door or there is a patient that requires assistance and a few members have to leave handover to go assist the patient or a doctor comes very early and the team leader has to stop to go on a round with the doctor.
Interviewer	If you have come back after 3 days off and you are taking over a patient you have not seen before, do you get an adequate handover of the patient?
Participant	No, there are many things left out that you have to probe the staff member for such as if the patient went for a scope and it was not handed over. You sometimes find out later about procedures the patient had, or you have to read the handover book which is not possible all the time as there are other duties that you have to attend to. We don't always go back to check.
Interviewer	During handover of your critically ill patient, was there anything that you had done that made it easier for you that post handover you knew exactly what is happening?

Participant	That depends on the staff who handed over to you, as some of them know exactly what should be handed over to you and you get a concise handover with nothing left out. Things like medication that must be given is written on the chart so you know that you have to administer them, this takes a lot of time of our hands if important things required for the patient is documented on the chart.
Interviewer	Are there any issues can that can be done better to improve handover?
Participant	Many nurses lack time management, because if everyone has completed their tasks at 6h30/18h30, handover should run smoothly. I know that there are many non nursing tasks such as sluice room duties, ABG machine calibration and a lot of paper work to complete but we need to work around it.
Interviewer	Do you have any suggestions or recommendations for handover?
Participant	Yes, a strong RN should buddy with a weaker. The RN always has her work up to date so she can assist the weaker nurse to complete tasks. Each strong RN should take a weaker nurse and help her / him to ensure handover is done meticulously.
Interviewer	Thank you very much for your time.
Participant	You welcome.
Interviewer	Good morning how are you?
Participant	I am well thank you.
Interviewer	How was your night?
Participant	It was a bit tiring as a patient complicated but I am good now.
Interviewer	Thank you for accepting my consent and giving me the opportunity to interview you. I know you are probably tired and therefore will not take too much of your time. You have read my information letter and are aware of my research. Please tell me what are the current practices of handover in the critical care unit that you are working in?
Participant	During handover the biggest problem is that we trust each other too much and miss important information and physically checking the patient and lines and medication prescriptions. We later find out that medication was not given etc.
Interviewer	What challenges do you experience during or post handover?
Participant	During handover doctors come on a round and you have to stop handover and then return once you're done. It is time consuming to do the round and return to handover.
Interviewer	Do you find that when you are disturbed you forget what you were supposed to handover or do you pick up from where you left?
Participant	In terms of forgetting we have a handover book. Everything is written down so additions are written down in the book so we don't miss anything.
Interviewer	What categories of staff are present during handover?
Participant	RNs and ENs
Interviewer	Where does hand over take place
Participant	In the duty station and then proceed to the bedside. This helps staff who have come on duty after a few days to know the patient better. Then more information is given at the bedside.

Interviewer	How long does handover take?
Participant	Handover supposed to be 15 minutes but it sometimes takes 30 minutes depending on the challenges of the day, if the patients are critical or the routine at the time of handover.
Interviewer	What information do you communicate during handover?
Participant	Patient's data, diagnosis, co-morbidities, allergies, medication ordered, investigations, reactions to treatment, skin condition, new treatment, any improvement in condition, iv infusion and sites.
Interviewer	During handover, do you find that the nurse handing over to you gives you sufficient information about the patient?
Participant	Sometimes although you have to double check the information to confirm it is correct.
Interviewer	Do you find that you have the time to go back and check this data post handover especially for critically ill patients?
Participant	It is challenging, but a must as it becomes your responsibility post handover and you sometimes find discrepancies.
Interviewer	Do other members of the multidisciplinary team partake in handover?
Participant	No
Interviewer	Besides the ICU chart what other documents do you use for handover?
Participant	All the patient's documents, equipment
Interviewer	Do you experience any problems with handover, such as medication omissions, iv infiltration or pressure injuries?
Participant	Yes i cannot lie as we do experience these problems such as infiltrated iv lines, skin beaks not handed over
Interviewer	Do u have any recommendations for handover?
Participant	It takes compassion to give a good handover. The nurse must dedicate her time to handover, the handover book helps prevent omissions
Interviewer	For how long do you have the handover book in place?
Participant	About 5 years on and off
interviewer	Is there anything else you would like to say about handover?
Participant	Handover is a challenge in ICU as the area is very unpredictable and a handover without problems. There is timeframe to start handover and you cannot handover and go off duty.
Interviewer	Have you ever experienced a nurse walking out on you during handover?
Participant	Yes it does happen. They give excuses that they are rushing and they leave without handover. You then have to call them to get a handover.
Interviewer	Thank you very much for your time.
Participant	Thank you.
Interviewer	Good day how are you doing?
Participant	I am good thank you and you?
Interviewer	I am good thank you. Thank you for accepting my consent and allowing me to interview you. How has your day been thus far?
Participant	Much better than yesterday.
Interviewer	From all the interviews i have done thus far, i would like to know about the handover processes in ICU with regard to SWOT, strengths,

	weaknesses, opportunities and threats. I know that you have many years of experience in ICU and i know that you will be able to relate SWOT to handover in ICU. Lets start with some strengths. What do you see as a strength in handover in the critical care unit?
Participant	A holistic approach of the patient where we handover to the entire team so the strength is that the entire team is aware of all the patients in ICU and have an idea of the diagnosis and management of all patients, so with that when doctors do rounds or the nurses are on break, another colleague can easily do the doctor's round as they have clinical information of the patient.
Interviewer	How long does handover take place?
Participant	Maximum 30 minutes
Interviewer	Who attends the handover?
Participant	RN's, EN's and ENA's
Interviewer	Are there any members of the multi disciplinary team that attend handover such as doctors, dieticians, physiotherapists?
Participant	No.
Interviewer	What do you see as weakness to handover.
Participant	Handover is only done with the nursing team however if the multidisciplinary team attended handover it would be better as it would be a holistic approach to the patient's care. If you have 2 or 3 doctors attending to the patient like a cardiologist or a physician who do independent rounds and give orders, sometimes these orders can contradict each other, so as a nurse and the patient's advocate you have to approach the doctors with theses contradictory orders, therefore it would be nice to have the MDT available at handover to avoid this.
Interviewer	What are the barriers to handover?
Participant	Firstly its a language barrier between the staff and sometimes with the patient. Staffs' cellphones are not switched off or on silent during handover. I believe when you are taking over there shouldn't be any interruptions as it is about ethics at the end of the day. During handover staff have their own conversations which is a barrier. Also telephones ringing, but with regard to that, if the day shoft is taking over at least one member from the night shift team should be at the duty station to answer the phones until handover is done. Another interruption is the unit manager will disrupt handover instead of waiting until handover is completed to address issues that she has.
Interviewer	Do you find that some of the staff members, day or night, feel rushed as they need to go off duty or maybe they had went off duty earlier and asked someone else to handover and you find that you are not getting all the information as you have returned from your weekend off and you do not know the patient.
Participant	Yes we have experienced this on multiple times. The specific nurse that is handing over the patient does not know the full history of the patient, relevant information has been missed out.
Interviewer	How often does this happen?
Participant	Frequently but the issue has been addressed.
Interviewer	Do you find that there is a difference in the way you receive handover

	from different staff members such as EN agency/permanent, RN trained, Rn Experienced, agency/permanent and is there a big difference overall or there is a big problem with just agency staff?
Participant	Yes, with agency staff they want to rush handover in comparison to permanent staff who are perhaps more familiar with the policies and procedures, as they are less rushed during handover.
Interviewer	Do you find that the agency staff have a don't care a damn attitude to handover?
Participant	Yes
Interviewer	Is there anything else that you can consider as a weakness to handover?
Participant	Some of the nurses are not familiar with the diagnosis of the patient they are nursing. This will result in them not knowing what signs and symptoms the patient will present with which is a weakness. The other thing is poor knowledge of medication as there are plenty of generics on the market and if you are unsure make use of the mims which is readily available. They are also unsure of contra indications of medication.
Interviewer	During your experience in handover in the critical care unit, how often have you experienced a medication incident, iv phlebitis or a pressure ulcer that was not handed over which you discovered post handover?
Participant	It does not happen often but has occurred. With the handover process at this hospital, after duty station handover you are allocated to your specific patient and you should do a clinical examination of your patient during handover to check for this,. Previously the whole team used to go from bed to bed for handover where a staff member was allocated to check on different aspects of the patient and documentation which worked out better.
Interviewer	What are the opportunities of handover for you or your team?
	If staff are not familiar with an uncommon diagnosis or medication itt can be taught on the spot.
Interviewer	Are there any threats to handover?
Participant	Nursing is ongoing and handover is there to ensure continuity of care.
Interviewer	Are there any recommendations that you can make for handover?
Participant	Bedside handover is better than duty station handover.
Interviewer	Is there anything you would like to say with regard to handover process and if there can be any improvements in comparison with your previous work places or is it better at this institute?
Participant	Allocation of staff should be done by the night or day shift as the team leader has an idea of the teams skills.
Interviewer	How many times a day do you have hand over?
Participant	Only once on day shift or night shift. If you are going on breaks, you hand over to your colleague to watch over your patient or if the doctor comes on a round what to do. Handover should be done at midday to ensure orders are carried out.
Interviewer	Do you have any questions or would like to say anything?
Participant	No.
Interviewer	Thank you very much for your time.
Participant	No problem.

Interviewer	Good afternoon how are you doing?
Participant	I am well how are you?
Interviewer	I am good thank you, thank you for allowing me to conduct my interview with you. You have read my information letter and know about my topic and given me consent, so if you can tell me about the handover processes in ICU by telling me about the strengths you gather from the handover process.
Participant	Handover starts at at 645am and we check drugs. Once done and all the staff have arrived the nightshift leader does a comprehensive handover of all the patients at the duty station. Here we identify critically ill patients or high acuity patients. Post handover we also get a handover of faulty equipment or anything that needs to be handed over to the unit manager. The shift leader then allocates us according to our scope of practice and experience to a patent, thereafter we go individually to the patient and take over from the night staff whilst doing an assessment of the patient, checking the charts and correcting any errors found such as iv sites or pressure ulcers with the night shift nurse, check that prescriptions are complete. The strengths with regard to the handover process, is a shared responsibility between the night and day shift staff but the strength is identifying and impart your knowledge during the process.
Interviewer	Who are the members that are present during handover?
Participant	On day shift it is 2 ICU trained nurses, with an experienced RN, EN's and ENA's. With the night shift it is same. If the shift leader misses out anything the staff present can rectify this immediately.
Interviewer	Are there any members of the multidisciplinary team present?
Participant	No.
Interviewer	What are some of the weaknesses of handover? Have you ever experienced a rushed handover and found a pressure injury or medication incident, where the patient came in with a pressure sore from home and now you are being accused of the incident?
Participant	Yes with an infiltrated iv, but I have ensured that the night staff rectified the problem before she went off duty as she did not assess the iv site.
Interviewer	Any medication errors or omitted doses?
Participant	Yes, there has been omitted doses but it was recorded why it was omitted. There were instances were medication was given at the incorrect times but it was identified immediately and sorted out.
Interviewer	What about pressure ulcers?
Participant	No issues.
Interviewer	During handover you discuss the patient's name, age comorbidities, what else do you discuss?
Participant	I start with the physical assessment starting with the skin, iv, wound, invasive lines, cauti forms, cvp checklist, doctor's orders, medication administered, blood results and flow chart, I ask how was the patient through out the night.
Interviewer	Have you ever experienced that whilst taking over from the nurse she is in an awful hurry to go home or you are in a hurry to go home and

	you find you are not getting what you want to hear from the handover or you are not giving off what you are supposed to? You are just given a brief hand over.
Participant	When the nurse is in a hurry I am guilty of that and many people will tell you that I always ask detailed questions, I may come across as rude but I expect a detailed handover as I always stay back and make sure my handover entries are very detailed and make sure that I do a thorough check of all my documents before I leave. I don't rush off so i don't expect the other person to rush off.
Interviewer	Have you ever had that experience?
Participant	Yes, but I make them stay unfortunately.
Interviewer	Are there any opportunities from handover?
Participant	Yes, identification of things that are not recognised or missed during the shift. If you pick up things that were not done or incorrectly done it enhances the quality of care for that patient.
Interviewer	So do you find that there are many learning opportunities from handover?
Participant	Definitely.
Interviewer	Are there any threats that are posed during handover, which you may have experienced when you started in the critical care unit?
Participant	When you are a RN in the ward and handover it is as detailed as ICU. So when I first started in ICU I thought how am I going to handover this patient and this big chart but then it comes naturally after you know what to do because everything is related to your patient who is in your care during the 12hours so I haven't had any threats. If I had missed out anything i was always corrected in the correct manner.
Interviewer	What are the barriers to handover?
Participant	Communication is one of the barriers as we have Zulu speaking nurses who are not fluent in English and therefore that is a barrier. Also the level of knowledge is a barrier because I maybe ICU trained and you may be an EN and you may not understand what I am speaking about like an ABG etc, so the level of knowledge is a barrier. Those are the two that are common in the handover process.
Interviewer	Do you experience any disturbances during handover that you find when you are handing over, the phone is ringing and disturbing you?
Participant	Yes, also sometimes we drift away handover such as talking about an issue in another context which is a disturbance or the phones ringing, also staff talking amongst themselves is a disturbance or when the patient is ringing the bell and you have to leave handover to attend to the patient.
Interviewer	Would you like to say anything about handover or have any recommendations?
Participant	Our handover process is good as it is detailed at the duty station and bedside. I prefer when we all go together from bed to bed where each staff is checking a different aspect of the patient as it worked out better and faster where everyone is identifying and looking at it. That will be a recommendation to do bed to bed and omit the overall handover in the duty station.
Interviewer	Are there any other recommendations that you may have?

Participant	No.
Interviewer	Thank you very much for your participation.
Participant	Thank you.

Appendix 7 : Editing certificate

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Masters thesis:

Handover processes and practices of critically ill patients between nursing staff from the intensive care units of private hospitals in the Ethekwini District, Kwazulu-Natal.

I confirm that I have edited this thesis for writing style, clarity, language, sentence structure and layout. The document is formatted according to the prescribed guidelines. I returned the document to the author with track changes. The author remains responsible for the correct application of the changes in the text and references.

I am a freelance editor specialising in proofreading and editing of academic documents. I have a Doctorate Degree in Nursing from Durban University of Technology. I have a Master's Degree in Business Administration (Public Health) and a Master's Degree in Health Sciences. I have a Diploma in Proofreading and Copy Editing with Distinction from the Blackford Institute, UK.

I wish the student all the best.

13 July 2021

DR NELLIE NARANJEE DATE

Appendix 8: Turnitin Report