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COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

Muneera Ismail

A research report submitted to the
Faculty of Health Sciences, University of the Witwatersrand, Johannesburg
in fulfilment of the requirements for the degree
of
Master of Science in Nursing

Johannesburg, 2019

DECLARATION

I, Muneera Ismail, declare this research report is my own work. It is being submitted for the degree of Master of Science (in Nursing) at the University of the Witwatersrand, Johannesburg. It has not previously been submitted for any degree or examination at this or any other university.

Signature …….

……day of …… 2019

Protocol Number: M17052

DEDICATION

To My Beloved Parents & Husband

I Could Never Have Done This Without Your Faith, Support And Constant Encouragement.

A Special Thank You To My Father Anver Ismail For All The Challenges And Sacrifices He Had To Endure Associated With My Career Choice.

Thank You For Teaching Me To Believe In Myself, In God And My Dreams.

ACKNOWLEDGEMENTS

Each step in the right direction allows you to see further in that direction

There have been a number of people who have walked alongside me during the past two years, they have guided me, placed opportunities in front of me and showed me doors that I alone would have never opened. I want to thank each and every one of them.

To all the nurses who participated in this study.

To Professor Shelley Schmollgruber and Professor Judith Bruce, for all of the assistance, guidance, mentoring, encouragement and patience in supervising this work.

To Professor Shelley for being an absolute inspiration in my life.

I am grateful to the National Research Foundation for the scholarship awarded to me during the course of my study at the University of Witwatersrand

ABSTRACT

Aim: The aim of this study was to explore and describe the values and practices of intensive care nurses towards communication interactions with critically ill patients in the adult intensive care units at a public hospital in Johannesburg.

Setting: The setting for the study was two adult intensive care units at a university-affiliated, public sector and tertiary level healthcare institution in Gauteng province, South Africa.

Research Methods: An explanatory sequential mixed methods design that comprised both quantitative and qualitative methods was used. The study was conducted in phases, phase one (objective 1 & 2) focused the qualitative component of the study while phase two (objective 3) focused on the qualitative component. The first objective (step 1) of this study was to observe and describe the frequency and content of nurses' communication interaction with intubated patients. An observational tool developed by Sayler and Stuart (1985) was used to observe patient and nurse interactions in order to achieve this study objective. The second objective (step 2) was to describe the value nurses place on communication with patients by soliciting their thoughts and feelings about communication with critically ill patients. A survey questionnaire developed by Binn (1998) was used to achieve the study objective. The third objective was to explore the nurses experience of tools and strategies used during communication with intubated patients. This was achieved by using individual semi structured interviews.

Data analysis: The quantitative data analysis was analysed using descriptive summary statistics such as frequencies, percentages, means, medians, IQR, and standard deviations. Statistical tests included Chi-square tests, Fisher's exact test, .Mann Whitney test and linear regression. Statistical testing was done on the 0.5 ($p<0.05$) level of significance. All data was analysed using the statistical software package STATISTICA version 13.2. Also, the qualitative data were analysed using the Clarke and Braun (2013) method. Themes and sub-themes were identified and reported in the narrative.

Results- Phase One – Objective 1 A total of 60 (n=60) participants were involved in this component of the study. The study comprised two steps. Step 1 involved 36 (n=36) nurses and 24 (n =24) patients who were observed to describe the frequency and content of nurses' communication interaction with intubated patients. The results demonstrated silence as the most frequently occurring action-reaction interaction. Findings also indicated that positive nurse action yields a positive patient reaction and that a negative nurse action yields a negative patient reaction, this is true for actions initiated by the patient as well.

Results- Phase One – Objective 2 involved 110 nurses who participated in a survey; findings demonstrated by a low median score was that nurse participants considered themselves to have good communication skills. Nurses agreed that they are motivated to communicate with patients who can tell them how they feel and what they need. Sedation was also believed to be a necessary component to reduce anxiety in patients who are intubated and mechanically ventilated. Nurses refuted statements relating to justifications for the reduced need to communicate with patients who are intubated. The survey revealed that nurses do not prioritise physical treatment implications. A deterrent for communication could be linked to emotional implications associated with the communication.

Results- Phase Two – Objective 3 A total of twenty (n=20) nurse participants were interviewed to explore nurses' experiences of tools and strategies used during communication with intubated patients. The findings demonstrated that communication breakdown frequently occurs due to challenges associated with alternative communication strategies, this leads to frustration for the patient and the nurses as well. A variety of alternative communication strategies were used as well as strategies to enhance comprehension of the content being communicated. The most commonly used alternative communication strategy was writing with pen and paper (65%) furthermore innovative alternatives such as the use of mobile phones were also identified. Factors affecting communication were identified to stem from nurse related factors as well as patient-related factors. Nurse related factors included being gentle, confident, repeating and keeping the patients informed. Patient-related factors included limb weakness and paralysis, cognitive deficiency and delirium, fluctuating medical condition and variations in spoken languages.

Conclusion: This study has demonstrated a disparity between nurses values and nurses practice regarding communication interactions with intubated patients. During surveys and interviews nurses have demonstrated that they are aware role of communication in patient care. However, during the observation component, it was found that nurses were silent during majority of the interactions.

Recommendations: The findings of this study provide evidence that supports the theory – practice gap in the ICUs that call for training and educational interventions. This will enhance the focus of nurses within the clinical area, and it is imperative that professional development, in terms of alternative communication strategies is carried out.

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LIST OF ABBREVIATIONS

AAC	Augmentative and Alternative Communication
ICU	Intensive Care Unit
IQR	Interquartile range
SANC	South African Nursing Council
SD	Standard Deviation
USA	United States Of America

CHAPTER ONE

OVERVIEW OF THE STUDY

1.0 INTRODUCTION

This chapter provides an overview of the study and includes the background, problem statement, research questions, purpose and objectives of the study and its significance. The researcher's assumptions and key concepts of the study are defined and explained, and an overview of the research methodology and layout of the study briefly described.

This research dissertation sought to investigate the values and practices of Intensive Care nurses regarding communication interaction with intubated patients within the South African context. Communication interaction can be defined as the exchange of information, thoughts and feelings through verbal or non-verbal communication methods (Papagiannis, 2010).

Hospitalised critically ill patients spend a considerable amount of time with the nurse allocated to their care and therefore Intensive Care nurses have a greater likelihood of engaging in some form of communication interaction with their patients and family (Liaschenko, O'Conner- Von & Peden- McAlpine, 2009**).** Communication facilitates patient and family involvement in the treatment plan as well as in the decision making process, while at the same time giving the nurse the opportunity to obtain vital information required to provide quality care in line with patient values and preferences (Braun & Clarke, 2006; Mularski, Curtis, Billings, et al., 2006).

Practice standards, as per the South African Nursing Council's scope of practice of a registered nurse (Regulation R2598 of 1984, as amended) refers to the following regarding communication "the facilitation of communication by and with a patient in the execution of the nursing regimen." Despite nursing regulations, practice standards and awareness of the importance of communication, some international researchers have demonstrated that nurses do not communicate adequately with their patients (Magnus & Turkington, 2006). The frequency of interaction is minimal and often associated with tasks (Happ, Garrett, DiVirgilio, et al., 2011; Munger, Rios, Ignowski, et al., 2012). This can lead to both short- and long-term psychological complications in the patient who is already compromised physically by critical illness, as demonstrated by several researchers internationally (Patak, Gawlinski, Fung, et al., 2004).

1.1 BACKGROUND OF THE STUDY

Patients admitted to the Intensive Care Unit (ICU) are described as being critically ill, at risk or currently experiencing a life-threatening condition and often require respiratory support (Meade, Guyatt, Cook, et al., 2001). Respiratory support involves endotracheal intubation or a tracheostomy, a treatment modality that results in patients being unable to speak (Happ, Garrett, DiVirgilio, et al., 2011).

Previously the critically ill, intubated and ventilated patient had a reduced level of consciousness, responsiveness and control due to the routine administration of sedative agents. Several international studies have demonstrated that patients who had light or no sedation administered to them had a shorter period of intubation and mechanically ventilation, shorter ICU stay and improved clinical outcomes (Samuelson, Lunderg &

Fridlund, 2006; Strøm, Martinussen & Toft, 2010). These findings have led to enhanced global awareness and changes in current practices regarding the use of sedative agents in critically ill patients.

Despite changes in sedation practices, a study by Leathart (1994) found that nurse-patient communication interactions with the sedated versus non-sedated, orientated, intubated, and the mechanically ventilated patient did not vary significantly. Despite improved physical outcomes in the ICU, patients have reported experiencing negative emotional responses, which have been associated with poor communication interactions (Bergbom-Engberg & Haljamäe, 1988; Happ, 2001; Patak, Gawlinski, Fung, et al., 2004; Samuelson, Lundberg & Fridlund, 2006). Long-term consequences include an increased incidence of delirium, anxiety, depression and post-traumatic stress disorder (Hopkins & Jackson 2006).

A seminal study conducted as early as the 1980s demonstrated that 71% of communication interactions between patients and Intensive Care nurses were brief and task orientated (Ashworth, 1980). Other studies have also found that nurses interact more frequently with patients who are perceived to be more responsive (Ashworth, 1980; Happ, 2001; Leathart, 1994)

Another study conducted almost 26 years after Ashworth's (1980) original study, revealed similar findings (Baker & Melby, 1996) as nurses interacted with their patients only 5% of the time and the communication revolved around immediate procedures and reassuring statements. Opportunities for patient-initiated communication interactions were minimal (Baker & Melby, 1996).

Intensive Care nurses do attempt to communicate with their patients using a variety of alternative communication strategies. The American Speech and Language Association (2007) classified the augmentative and alternative communication (AAC) methods as aided or unaided communication systems. Unaided communication systems rely on the user's body to convey messages and the alternative methods include gestures, body language and lip movements. An aided communication system requires tools in addition to the user's body and includes alternatives such as writing, picture boards, written or speech output devices.

Despite attempts to communicate, the communication interactions are often unsuccessful as well as time-consuming, and considering the frequency of interactions, patients often do not receive the adequate social interaction required to maintain their psychological well-being. A 2011 study, which reviewed communication difficulties and psycho-emotional distress in patients receiving mechanical ventilation, found that most of the 65 patients involved in the study rated communication as being quite challenging and the inability to communicate was found to be the most reliable predictor of psychological and emotional distress (Khalaila, Zbidat, Anwar, et al., 2011).

Various factors have been associated with the limited nurse-patient interaction. Nurses are often unable to understand the needs of their patients, and this leads to feelings of frustration, incompetence, sorrow and despair (Bergbom-Engberg & Haljamäe, 1988). Thus, it has been suggested that for nurses to prevent themselves from experiencing negative emotions, they avoid communication interaction as a coping strategy (Leathart, 1994).

Nurse's perception of the patient's condition also inhibited the frequency of nurse-patient communication interaction, as nurses would focus their attention on the physical well-being

of the patient (Hudson, 1993). A Jordanian study demonstrated that communication was not a priority despite nurse's awareness of its significance and that it could easily be "overlooked and forgotten." (Alasad & Ahmed, 2005:359) Patients did try to communicate, however this was frequently met with apprehension by the nurse and often resulted in the administration of sedative agents. The author of this study concluded that the patient's experience of communication interaction during critical illness within the ICU was dependant on the nurse caring for him/ her (Patak, Wilson- Stronks, Costello, et al., 2009).

In 2006, a study was conducted to establish the perceptions of nurse and patient communication in the ICU. The study recommended that simple augmentative communication aids be available at each patient's bedside (Magnus & Turkington, 2006). Another study conducted in Australia demonstrated that even if patients did have an alternative communication method, nurses were frequently unable to communicate as they were unfamiliar with the method (Hemsley, Sigafoos, Balandin, et al., 2001).

Inadequate training has been attributed to ineffective communication interactions with patients who are intubated and mechanically ventilated, and some researchers have recommended that Intensive Care nurses receive additional training to enhance effective communication interactions and improve patient psychological outcomes (Finke, Light & Kitko, 2008; Happ, Garrett, DiVirgilio, et al., 2011). In 2011, an American study involved training on augmentative and alternative communication techniques taught by a speech and language pathologist; 99% of the 100 participants said they would be more likely to use AAC devices after training (Happ, Garrett, DiVirgilio, et al., 2011). It was suggested that training of this nature be incorporated in nursing curricula and orientation programmes (Vento- Wilson, McGuire & Ostergren, 2015).

Nursing personnel working in the ICU are expected to provide high-quality, evidence-based practice to improve patient outcomes. Communication is essential to the establishment of the therapeutic relationship and provision of holistic patient care. Holistic patient care includes not only the technical skills and knowledge required to manage the ICU patient, but also for the nurse to be cognitive of the psychosocial aspects of critical illness (Elliott, Aitken & Chaboyer, 2007). It is essential to establish the values and practices of ICU nurses in South Africa regarding communication with intubated critically ill patients as this will provide evidence that can be used to enhance nursing practice and improve patient care.

1.2 PROBLEM STATEMENT

The problems associated with patients' inability to communicate during critical illness are well known. These patients are subjected to depersonalisation, sensory overload or deprivation and interrupted sleep patterns, ineffective communication, social isolation, and prolonged immobilisation, which complicates the patient communication ability even further. The process of nurse-patient communication in the ICU has not been well studied or measured, and without this data it is challenging to develop interventions to facilitate effective communication between the Intensive Care nurse and the critically ill, ventilated patient. No published studies to-date were found in South Africa on this topic; this study, therefore, attempted to explore and describe the values and practices of nurses towards communication with Intensive Care patients.

The study addressed the following research question:

What are the values and practices of intensive care nurses towards communicating with intubated patients?

1.3 PURPOSE OF THE STUDY

The purpose of this study was to describe the values and practices of Intensive Care nurses toward communication interactions with critically ill intubated patients in the adult Intensive Care Units of a public hospital.

1.4 OBJECTIVES

The objectives of the study were:

- To observe and describe the frequency and content of nurses' communication interaction with intubated patients.
- To describe the value nurses place on communication with patients by soliciting their thoughts and feelings about communication with critically ill patients.
- To explore nurses' experiences of tools and strategies used during communication with intubated patients.

1.5 SIGNIFICANCE OF THE STUDY

This study seeks to ascertain information that will explain adult Intensive Care nurses values and practices that influence communication interactions with critically ill patients. The state of critical illness, coma, paralysis or intubation is perceived as a barrier to effective nurse-patient communication interactions. Despite the patient's ability to communicate, it is not

possible verbally due to speech-limiting devices such as endotracheal tubes commonly used during critical illness. Nurses caring for patients unable to communicate have the particularly challenging task of interpreting language that is not vocal. The researcher believes that the completion of this study will provide a platform for further research, as well as serve as a reminder to Intensive Care nurses that communication is an essential component of nursing care even for patients who are intubated and ventilated.

1.6 RESEARCHER'S ASSUMPTIONS

The researcher's assumptions are described in the next section, under the sub-headings of meta-theoretical assumptions, theoretical assumptions and methodological assumptions.

1.6.1 Meta-theoretical Assumptions

Meta-theory is a critical exploration of the theoretical framework that has provided direction to the researcher (Polit & Beck, 2014). A theory is a group of related concepts that propose action that guides practice (Polit & Beck, 2014). Meta-theoretical assumptions are used to organise knowledge, explain the phenomenon in nursing theory and guide nursing research (Burns, Grove & Gray, 2014). In this context, the theory is understood as a system of interrelated concepts. In nursing, there are four primary meta-theoretical concepts: the person, environment, health and nursing. The researcher based this study on the following theory.

1.6.1.1 Orlando's nursing process theory

In 1961, Ida Jean Orlando published a theory titled the Dynamic Nurse-Patient Relationship. The basis of this theory is nurse and patient interaction, and makes use of the nursing process to provide positive outcomes, or patient improvement (Vandemark, 2006). The nursing process involves the assessment, diagnosis, planning, implementation and evaluation of the patient. The assumption is that patients demonstrate behaviour that might be a cry for help and in order to establish the needs of the patient, the nurse is required to make use of their own perceptions, thoughts about perception and the feeling generated from those thoughts in order to explore the meaning of the patients' behaviour. This process enables the nurse to identify the nature of the patient's distress, and provide care and help for the patients' immediate needs (Faust, 2002).

Key concepts of the theory include the function of professional nursing, presenting behaviour, immediate reaction, nursing process discipline and improvement (George, 2010).

Nursing interactions are unique to every patient and situation. Within the ICU, patients are unable to communicate their needs verbally and have to rely on alternative behaviour and methods to make their needs known. Patients may present with restlessness or anxiety, and the primary function of the professional nurse is to establish the immediate needs of the patient by associating meaning to the behaviour (Faust, 2002).

Responses to behaviour are termed a reaction. It is generated as a response to a reaction from the nurse or the patient and is based on sensory input. Perceptions promote thoughts, which generate feelings and lead to an action by the person. The desired outcome of interactions is

a change in behaviour, which can be demonstrated verbally or non-verbally (Vandemark, 2006).

In healthcare and the ICU, patients demonstrate behaviour and the Intensive Care nurse is involved in interactions to give meaning to the behaviour. Intensive Care nurses are in the position of caring for patients hourly, on a 24 hourly basis, as well as having control over aspects of the internal and external environment. The following are the meta-theoretical concepts of nursing as defined by Orlando (1961), which were used as the point of departure for this study.

- The person

The person is a developmental being with needs, perceptions and feelings, which may not be observable directly. The person is one who is under medical care and cannot deal with their needs or carry out medical treatment alone (George, 2010). In this study, the person is the ICU patient who is critically ill, intubated, and mechanically ventilated thus leading to communication deficit and the inability to communicate needs directly. The human system is described as a whole, with parts that function in unity to achieve a common purpose. Apart from the physical stressors and environmental sensory input, a significant challenge experienced by most patients who are intubated and mechanically ventilated is the inability to communicate needs and wants effectively. The patient demonstrates their needs through behaviour, and the Intensive Care nurse plays an integral role in associating meaning to the behaviour as well as facilitating the process of communication. The person involves other human systems such as the families of the critically ill individuals and the Intensive Care nurses caring for the patients.

- The environment

The theory does not define the environment, but it can be inferred as the immediate context of the patient. In this study, the environment refers to all conditions, circumstances and influences surrounding and affecting the development and behaviour of persons with particular consideration to the empathy of person and earth resources. In this study, the environment is the Intensive Care Unit setting, which is a designated area of the hospital facility dedicated to the care and management of the critically ill patient. Critically ill patients are often intubated and mechanically ventilated, and the environment as a whole is highly specialised and technological. Patients often attempt to make their needs known through behaviour and the process of communication within the ICU requires nurses to view the patient as a holistic, dynamic individual with communication needs and to associate meaning to the behaviour. Some environmental factors affect the critically ill patient, such as harsh lighting, increased levels of noise and discomfort from the critical illness or the management thereof for prolonged constant periods. The critical care environment plays host to a variety of health professionals, such as doctors, radiographers, physiotherapists, all whom may benefit from the ability to communicate effectively with the patient as well as their families.

- Nursing

Nursing involves disciplines and professional and automatic activities, as well as establishing the association between verbal and non-verbal responses, validation of perceptions, matching of thoughts and feelings with actions. It is the actions in response to individuals who suffer or anticipate a sense of helplessness. Nursing in this theory has two

components, a direct and indirect function (Vandemark, 2006). The direct function involves the initiation of the process to assist patients in the expression of specific meaning associated with behaviour in order to identify distress and ascertain the help required to relieve the distress. The indirect function facilitates the involvement of others to help patients meet their needs. The nursing problem is associated with patient behaviour or distress due to unmet needs, or the inability of the patient to communicate his/her needs. To rectify the problem, the nursing process is followed (George, 2010) and involves, 1) the patient behaviour, 2) nurse reaction, 3) nursing actions to benefit the patient. The outcome is aimed at achieving a change in patient behaviour indicating relief for the patient.

Nursing is the establishment of the meaning associated with a patient behaviour; this may be verbal or non-verbal. The Intensive Care nurse, while aiming to achieve and facilitate effective communication, needs to play a very active role in the medical management of the patient's critically ill condition. For the facilitation of the communication process to be effective, the Intensive Care nurse needs to be knowledgeable regarding the patient's communication requirements. The Intensive Care nurse practice is a combination of knowledge and skill, which develops over time through formal training or experience (Faust, 2002).

- Health

Health is a state of well-being, comfort and fulfilment (Faust, 2002). Patients within the ICU are critically ill, intubated and mechanically ventilated rendering them unable to communicate their needs and therefore present with other behaviours, which may be a plea for help. The patient’s behaviour is the stimulus for the nurse, which leads to an automatic

internal response in the nurse and their behaviour causes a response in the patient. The reactions are based on sensory input, perceptions, which promote automatic thoughts and generates feelings leading to an action by the person. Within the ICU, patients are monitored continuously by the nurse caring for them, which is essential to ascertain the needs of the patient. The nurse does not assume the needs of the patient until the needs are validated through exploration; should this not occur, clear communication stops. The Intensive Care nurse needs to be aware of the physical and psychological patient needs and aim to involve the patient regarding communication as soon as possible.

1.6.2 Theoretical Assumptions

Theoretical assumptions involve the theories and beliefs that are used as a point of departure for a study, and includes the operational definitions.

The following theoretical assumptions applied to this study.

- Patients' inability to communicate verbally may manifest in alternative behaviours; this may indicate unmet needs of the patient.
- Effective communication is a prerequisite to the facilitation and promotion of health.
- The ICU patient yearns to be communicated with, as well as be able to communicate with those around them.
- The patient is unable to state the nature and meaning of his/her distress without the help of the nurse, or without the nurse first having established a helpful relationship with the patient.
- Patients are unique and individual in how they respond.

- Being unable to be communicated with is a significant source of patient stress, anxiety and frustration.
- Alternative communication strategies are often not taught to the Intensive Care nurse, thus making implementation thereof tricky and frustrating for the nurse as well.

To facilitate understanding of the patient's behaviour, the Intensive Care nurse needs to promote communication strategies and only make use of sedatives through accurate clinical judgement. The communication process requires Intensive Care nurses to be knowledgeable, skilled and competent, as well as place emphasis on the communication needs of the patient. The nursing process guides nursing behaviour and can facilitate understanding of patient behaviour. The focus on the physical needs of the patient being prioritised needs to be addressed by the involvement of the Intensive Care nurses, and placing of emphasis on the communication requirements of patients who are intubated, mechanically ventilated and unable to communicate verbally. The objective of patient and nurse interaction is to facilitate the needs of the patient to be met and is based on obtaining an observable patient outcome.

1.6.2.1 Operational definitions

The lists of terms for the purpose of this study are defined as follows:

- **Critically ill patient**

The American Association of Critical Care Nurses (AACCN, 2014) defines critically ill patients as "those patients who are at high risk for actual or potential life-threatening health problems." In this study, critically ill patients refers to those admitted to the ICU to be

supported with sophisticated technology and treatment which requires intense monitoring, with the aim to prevent or rescue from complications that are life-threatening.

- **Intensive Care Unit (ICU)**

An Intensive Care Unit (ICU) is a designated area in a hospital that is equipped with sophisticated technological equipment and specialist healthcare professionals who are responsible for the care of critically ill patients (Baldick, 2015).

- **Intensive Care Nurse**

An Intensive Care nurse is a professional nurse who has undergone additional training and education with an accredited nursing education institution and registered by the South African Nursing Council (SANC) **(**De Beer, Brysiewicz & Bhengu, 2011).

- **Communication interactions**

Communication interactions refer to the process of being with and talking to other people, and the way people react to each other (Fleischer, Berg, Zimmermann, et al., 2009). In this study, the primary goal of nurse-patient interactions is to understand the healthcare needs of critically ill patients.

- **Augmentative and alternative communication**

Augmentative and alternative communication (AAC) is the name given to a range of interventions designed to supplement or replace verbal communication. Two types of AAC exist, unaided and aided communication methods. Unaided AAC methods make use of the user's body to communicate and includes methods such as gestures, body language and sign language. Aided AAC methods make use of tools or devices to facilitate communication and includes low-tech options, such as pen and paper, picture boards, alphabet boards, as well as high tech options, such as speech and written output devices (Beukelman & Mirenda, 2013).

- **Values**

Values refer to principles or standards of behaviour, one's judgement of what is important in life. Values have major influence on a person's behaviour and attitude and serve as broad guidelines in all situations. It can be defined as important and lasting beliefs or ideals shared by the members of a culture or group about what is good or bad and desirable or undesirable (Stevenson & Waite, 2011). In this study, the overarching concept is values, which incorporate behaviours and attitudes.

- **Attitudes**

Richards & Schmidt (2013) defined attitudes as the way one behaves toward somebody that showed how that person was thinking or feeling Van Achterberg, Schoonhoven and Grol (2008) stated that attitudes refer to a mental state organised through experience, exerting a directive influence upon the individual’s response to all situations in which it was related.

For this study, attitudes refer to nurses' thoughts or feelings regarding nurse-patient communication interactions in the ICU.

- **Practices**

Practices refers to the actual application or use of an idea, belief or method; a way of doing something the usual or expected way in a particular organisation or situation. It develops from nurses' time in clinical practice and self-reflection that allows pre-conceived notions and expectations to be confirmed, refined or disconfirmed in real circumstances (Benner, 1984). For the study, practices refers to the Intensive Care nurse's direct participation, application and observation of nurse-patient communication interaction in the ICU.

1.6.3 Methodological Assumptions

Assumptions describe concepts, and are principles accepted as being real based on logic or custom without proof (Polit & Beck, 2014). Methodological assumptions are statements taken to be true even without scientific verification (Burns, Grove & Gray, 2014).

The researcher believes that nursing is the science of caring and which aims to involve the patient at every step of the process of recovery from critical illness to efficiently facilitate wellness and prevent illness. According to Polit and Beck (2014), the most refined way to acquire knowledge in an area is to conduct it in a disciplined framework, such as in the domain of Intensive Care nursing. Nursing research influences the current and future of nursing, and is an essential component of incorporating evidence-based practice to improve patient care. It applies to the ICU context where the patients need to be involved in the

communication process throughout the process of critical illness and recovery. Communication as a key focus has been overlooked and not well researched within the South African context.

The researcher conducted this study to gain an understanding of the current values and practices of Intensive Care nurses regarding interactions with patients with communication impairment. The outcome of this research may also address limitations in the current body of knowledge regarding communication interactions with this specific group of patients, as well as aid the development of strategies to improve the communication interactions process.

1.7 OVERVIEW OF THE RESEARCH METHODOLOGY

The research methodology refers to the blueprint that guides a study to ensure control over the factors that could interfere with the desired outcomes (Burns, Grove & Gray, 2014). A sequential explanatory mixed methods design was used to achieve the objectives of the study. The study respondents were primarily Intensive Care nurses practicing in adult ICUs of a 1200 bed capacity, university-affiliated hospital and tertiary institution in Johannesburg. The ICUs included were the Trauma and General ICUs.

Ethical clearance and permission to conduct the study were sought from the relevant university research committees, the Department of Health and the hospital. Participation in the study was voluntary, and participants were free to withdraw at any time. After permission was granted by the hospital and relevant ICU nurse managers, consent was obtained from the Intensive Care nurses who agreed to participate in the study.

The study comprised two sequential phases, namely a quantitative phase (Phase One) followed by a qualitative phase (Phase Two). In Phase One, data was collected using an observation tool (Sayler & Stuart, 1985) and a self-administered survey questionnaire (Binn, 1998). Descriptive and inferential statistics were used to analyse the results of the study. Reliability of the study was maintained by ensuring the researcher was the sole collector of data, the sample size was achieved purposively and the data verified by a biomedical statistician to ensure accuracy of the findings. The validity of the research was achieved by ensuring the data collection instruments were verified by ICU clinical and education experts, to fit into the South African context.

In Phase Two, data was collected using semi-structured interviews. Qualitative thematic analysis was used to analyse the data (Braun & Clarke, 2006). Concepts of credibility, reliability, dependability and confirmability were used to maintain the trustworthiness of the study. The accuracy of the study was enhanced by ensuring the researcher was the sole collector of the data, with an inquiry audit by the supervisor, the sample size was achieved purposively, and data was verified by participants through member checking. An audit trail was done by experienced researchers to ensure truth of the findings.

1.8 OUTLAY OF THE DISSERTATION

The dissertation entails the following chapters in which the research is described:

Chapter One: Overview of the study

Chapter Two: Literature review

Chapter Three: Research methodology

Chapter Four: Findings of the study

Chapter Five: Discussion of findings and limitations

Chapter Six: Conclusion, future directions and recommendations

1.9 SUMMARY

This chapter gave an overview of the study. Firstly, the background was described, followed by the problem statement, the research questions and the purpose of the study, the objectives and a discussion of the researcher's assumptions. Key concepts were defined and explained. An overview of the research methodology and outlay of the dissertation were briefly described.

In the next chapter, the review of the literature will be discussed in detail.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, the researcher will review literature that currently exists concerning the process of communication, which occurs between the intubated and mechanically ventilated patient and the Intensive Care nurse. Communication is defined and the process explained. The impact of communication interactions on the psychological and physical well-being of the patient, the contribution of the ICU environment towards stress of the patient along with the promotion of social isolation are explored. Factors that influence the nurse's ability to communicate with the intubated and mechanically ventilated patient, as well as alternative strategies of communication, will be discussed.

Brink, Van der Walt & Van Rensburg defined a literature review in 2012 as a systematic search of literature to establish precisely what is known about the topic within the current literature. Burns, Grove and Gray (2014) have explained that a literature review is a systematic approach that involves the process of identification, retrieval and bibliographical management of studies, to locate information on the topic, synthesise conclusions and identify areas for future research.

The purpose of this literature review is to conduct an appraisal of the scholarly work currently available on the topic and enhance the researchers understanding thereof. This will enable the researcher to establish the current state of knowledge, identify areas that require

additional research as well as allow the researcher to determine where the study fits into the existing body of knowledge **(**Brink, Van der Walt & Van Rensburg, 2012).

The literature review will also appraise and provide the foundation for the qualitative aspect of this study, especially regarding the collection of data and the analysis thereof.

2.2 COMMUNICATION

Communication is a fundamental component of human interaction, which promotes the establishment of relationships. Communication is a dynamic and complex process that involves a referent, sender, content and a receiver. The process does not exist in isolation of the primary concepts previously mentioned, but includes some variables such as interpersonal variations, body language, culture, gender and language. Communication refers not only to the content that is being conveyed, but also to the feelings and emotions associated with the content. Communication refers to non-verbal and verbal communication methods (Kozier, Erb, Berman, et al., 2008).

Communication is an essential skill required by all nurses to gather assessment data, teach, persuade and express caring and comfort. This ability facilitates the development of the therapeutic nurse-patient relationship. The therapeutic relationship develops when the nurse and the patient come together in the moment, which results in harmony and healing (Stickley & Freshwater, 2002). However, for this to be established the nurse and patient need to partake in the process of communication as described below.

2.2.1 Process of Communication

The referent is the stimulus that promotes the initiation of the communication process; this includes information, emotion, ideas or actions. Communication is initiated by the sender who puts the content to be communicated into a form for it to be transmitted. A key component is a message to be communicated; this is the information that is sent or expressed by the sender. The message should be clear, concise and appropriate for the person receiving it. The channel of communication describes the means by which the message is conveyed, and includes facial expressions, body language, the tone of voice and touch. Messages can be communicated using a variety of channels, which can be verbal or non-verbal communication methods. The receiver, also known as the decoder, is the person for whom the message was intended. The receiver needs to analyse and interpret the message received, and provide feedback. Communication is an ongoing process and feedback is the process where the receiver returns a message to the sender (Kozier, Erb, Berman, et al., 2008).

Effective communication is the outcome of this process, where the receiver receives the message, interprets and understands it in the same manner as the sender intended (Kozier, Erb, Berman, et al., 2008). The process of communication within the ICU differs significantly, in that the patient is critically ill, intubated and mechanically ventilated, thus inhibiting the conventional verbal method of communication.

2.3 COMMUNICATION WITH THE CRITICALLY ILL PATIENT

In the next section, the critically ill, intubated and mechanically ventilated patient is discussed, and the way this influences the process of communication.

A patient is referred to as a person who requires medical care, however the critically ill patient is "one who presents with multiple and severe medical or surgical conditions, often requiring life support using intubation and mechanical ventilation" (Nilsen, Sereika & Happ, 2013, 6). The procedure involves the placement of a flexible plastic tube into the trachea to maintain the airway from the mouth to the lungs (Laakso, Markström & Hartelius, 2009). The American College of Emergency Physicians (ACEP, 2012) defines a critical illness or injury as "one that acutely impairs one or more vital organ system, resulting in a high probability of imminent or life-threatening deterioration in the patient's condition. These conditions require advanced critical care services, which involve members of the healthcare team who are directly involved in the delivery of medical care to the critically ill patient. Failure to institute immediate medical or surgical interventions may result in life-threatening deterioration in the patient's condition."

During intubation, the endotracheal tube cuff is inflated just below the vocal chords. Thus, the tube blocks the larynx and affects the production of speech in the conventional method of communication, consequently patients are at risk of being unable to communicate effectively with healthcare providers and family (Laakso, Markström & Hartelius, 2009; Nilsen, Sereika & Happ, 2013).

The magnitude of the number of patients who are unable to communicate effectively can be demonstrated by a review of data on those intubated and mechanically ventilated annually. Internationally, Happ, Garrett, Tate, et al., in 2014, examined the number of patients who were intubated and mechanically ventilated nationally in the USA; the figure of 790 257 patients annually was derived from national estimates. Within the South African context, large portions of the patients admitted to ICU's are intubated and mechanically ventilated.

Reasons for admissions to the ICU as per data collected at Chris Hani Baragwanath Academic Hospital in the year 2000 revealed that 50% of adult admissions were trauma related, the remaining 50% of admissions were made up of medical cases and a small proportion were obstetric and gynaecological cases. Critically ill patients are subject to immense physical and psychological stressors exacerbated by the inability to communicate (De Beer, Brysiewicz & Bhengu, 2011).

2.3.1 Psychological Effects

Some international researchers aimed to establish the psychological and physical experiences of patients who were critically ill, intubated and mechanically ventilated. The research, which was found to affect patient psychological outcomes, will be discussed first followed by physical effects.

A comprehensive study conducted by Alguindy, Mohamed & Gado, in 2014, at an Egyptian hospital aimed to establish the psychological and physical experiences of patients who were mechanically ventilated. Fourteen participants informed the study. The findings were divided between the psychological and physical effects of mechanical ventilation on the patient.

Psychological effects on the patient included feelings of shock and being afraid of the apparatus. Patients experienced feelings of insecurity and proximity to death (Alguindy, Mohamed & Gado, 2014) and described feelings of being unable to endure and wanting the endotracheal tube to be removed as soon as possible. Participants also felt powerless, which was associated with the patients' self-care deficit, limited mobility and impaired

communication. Patient participants often felt restricted regarding the information they had received and described having an increased spiritual relationship with God during the period of mechanical ventilation (Alguindy, Mohamed & Gado, 2014).

A Swedish study conducted in 2013, in which eight patient participants who were intubated for at least 24 hours were interviewed, revealed that patient's inability to communicate effectively led to a sense of vulnerability and powerlessness (Engström, Nyström, Sundelin, et al., 2013). Studies by several other researchers also revealed that patients experience feelings of loneliness, isolation, panic and frustration (Engström, Nyström, Sundelin, et al., 2013; Foster, 1990; Grap, Blecha & Munro, 2002; Samuelson, Larsson, Lundberg, et al., 2003). An American study conducted with 29 recently extubated patients demonstrated that 86% of the patient participants experienced some degree of frustration relating to communication (Patak, Gawlinski, Fung, et al. 2004). Similarly, Happ (2001) reviewed the meaning of non-vocal behaviour in the critically ill patient, which demonstrated that a relationship exists between the inability to communicate effectively and feelings of panic, sleep disturbances, insecurity and increased levels of stress.

International researchers have demonstrated that patients who were intubated and mechanically ventilated experienced the inability to communicate as their leading problem (Hofhuis, Spronk, Van Stel, et al., 2008). The inability to communicate was associated with patients developing anxiety, frustration and agitation (Happ 2001; Nilsen, Sereika & Happ, 2013). Patients who experience agitation and anxiety have similar symptoms to those who are in pain or delirious (Campbell & Happ, 2010). Studies revealed that between 30.8% (Kress, Gehlbach, Lacy, et al., 2003) to 80% (Chlan, 2003) of ICU patients experience anxiety, which has been associated with difficulty sleeping and the inability to communicate

(Claesson, Mattson & Idvall, 2005; Bergbom- Engberg & Haljamăe, 1993). The inability to communicate is associated with feelings of pain, loss of control, depersonalisation, fear, distress and frustration (Stein- Parbury & McKinley, 2000).

Similar findings were demonstrated in a descriptive, correlational study conducted in the USA with 31 participants and their experiences of communication while mechanically ventilated. Patients experienced significant negative emotional responses due to their inability to communicate. One patient said, “Being on the ventilator was the worst thing in the world, but not being able to talk was horrid” (Hofhuis, Spronk, Van Stel, et al., 2008, 311). A significant proportion of patients (40%) who are admitted to the ICU do not survive and often spend their last moments of life unable to communicate their last wishes due to being intubated and mechanically ventilated (Happ, Tuite, Dobbin, et al., 2004). This further promotes the belief that research of this nature is conducted as a baseline to establish areas of improvement for patient-nurse communication within the South African context.

A more recent study, which looked at the lived experiences of 12 patients with critical illnesses in the ICU, found patients felt trapped, voiceless and imprisoned. One patient explained, “My voice was gone, and with it my identity.” Consistent with previous studies, and more than three decades of research, it was demonstrated that patients still experienced feelings of fear, loss of control, uncertainty, hopelessness and aggression, and felt objectified and had a heightened sense of death (Tembo, Higgins & Parker, 2015, 176).

2.3.2 Physical Effects

Regarding physical effects, patients reported apprehension, discomfort, a burning feeling, breathlessness and a strangling feeling associated with the presence of the endotracheal tube, feelings that are exacerbated during suctioning. Seventy nine percent of patient participants in this study experienced mouth dryness, pain was frequently experienced due to strapping to keep the endotracheal tube in position, which was reported to be too tight (Alguindy, Mohamed & Gado, 2014), and pain relief was a challenge as patients found themselves unable to explain what they were experiencing. One patient narrated how he tried to explain what he wanted, but the nurse did not understand, and he finally came to the point where he just gave up (Patak, Gawlinski, Fung, et al., 2004).

2.3.3 Intensive Care Environment

The critically ill patient is plagued with psychological and physical stressors, while at the same time finding themselves in an unfamiliar environment, the ICU. The mere presence within the ICU has been an important cause of stress for patients (Fredriksen & Ringsburg, 2007).

A study was conducted in 2007 and described the experiences of the body within the ICU, stressful situations and the experiences of pain were associated with sweating, dilated pupils, increased systolic blood pressure, hyperventilation, restlessness and an increase in heart rate. These sympathetic nervous system responses were linked to patients' feelings of deprivation and loss of control (Fredriksen & Ringsburg, 2007). Patients experienced a loss of meaningfulness. Meaningfulness helps man understand a situation and helps explain existence. The critically ill patient is not able to move physically from the stress-causing

situation, however, in overwhelming situations, the mind may provide an escape by removing itself from the body with its thoughts (Fredriksen & Ringsburg, 2007; Wenham & Pittard, 2009). Similarly, a systematic review of 26 international articles in 2013 revealed that patients frequently experienced the transformation of perception and unreal experiences of dreams (Cutler, Hayter & Ryan, 2013). The study went on to evaluate the impact technical equipment had on the stress level of the patient. Stress responses varied and were dependant on patient perception of the equipment; some patients saw its presence as security and the promise of life, while others experienced the fear of being bound to it (Fredriksen & Ringsburg, 2007).

The ICU is a highly mechanical environment, where machines exist to support and monitor almost every organ. These machines generate noise and produce alarms when limits as per settings have been exceeded, and all these affect the sensory input received by the patient within the ICU. Noise is defined as "any unwanted or undesirable sound which is subjectively annoying or disrupts performance and is physiologically and psychologically stressful." (Kam P.A.C, Kam A.C & Thompson, 1994, 982) The sound is measured in decibels (dB), and the World Health Organization has recommended an average of 30 dB for hospital background noise and that noise of less than 40 dB should not be exceeded at night. Noise in the ICU frequently averages significantly higher, at between 60 and 70 dB with peaks of up to 90 dB, levels that do not vary between the day and night periods (Berglund, Lindvall & Schwela, 1999; Wenham & Pittard, 2009). As noise levels increase, essential sounds are no longer audible leading patients to experiencing a sense of meaninglessness (Fredriksen & Ringsburg, 2007). Patients are constantly exposed to a significant amount of noise, which impairs their ability to sleep, and exposure to alarms which are often switched off without explanation leading to an increase in patient anxiety.

The sleep-wake cycle is linked to the light-dark cycle, and the patient's normal cycle can be altered due to prolonged lighting, which frequently occurs in the ICU and limited exposure to natural light. Another important factor to consider is that patients remain in the supine position for a prolonged period providing a different harsher experience of exposure to light. Patients inevitably are unable to differentiate between day and night, which further exacerbates disorientation (Wenham & Pittard, 2009).

2.4 FAMILY INVOLVEMENT

Activities of the ICU healthcare team are centred round the patient, but patient-centred care demands that patients be involved in the decision-making process (O' Connell & Landers, 2008). Patient-centred care is defined as the delivery of care to a patient that incorporates patients' lived experiences and scientific knowledge in every aspect of healthcare while respecting the patient's right to self-determination based on mutual trust, knowledge and the sharing of information (Mc Cormack, 2003).

Traditionally, ICU patients are not involved in their care as the healthcare team views them as being critically ill, sedated or unable to communicate (Hagland, 1995), thus requiring the involvement of the patients family.

In situations where patients are unable to be involved in their care, healthcare professionals need to involve members of the patient's family to facilitate effective care in line with the patient's values and practices (Beeby, 2000; Høye & Severinsson, 2010**;** Michie, Miles & Weinman, 2003). A scoping review conducted in 2016 reviewed family involvement in the ICU setting. Five key areas of involvement were identified and placed onto a scale between

most passive and most active regarding involvement. Presence was rated as the most passive involvement with communication and receiving information in the middle of the spectrum and finally contribution to care, where the family were actively involved in the care of the patient being rated as the most active. The categories of family involvement exist along a progressive continuum from most passive to most active, and are not mutually exclusive (Olding, McMillan, Reeves, et al., 2016).

The administration of sedation, analgesia and even paralytic agents is sometimes necessary to optimise treatment of the critically ill patient who is mechanically ventilated. A study conducted in 2007 demonstrated prolonged administration of sedation was associated with an increased incidence of delirium in the mechanically ventilated patient, as well as the increased time on the ventilator and prolonged ICU stays (Pun & Ely, 2007). The administration of some drugs has been known to alter the perceptual grasp of patients and affects their ability to recall events, resulting in delirium (Skrobik, Leger, Cossette, et al., 2013; Truman & Ely, 2003). Best practice suggested adjustments in the sedation practices to facilitate patient involvement and improve psychological and physical patient outcomes.

2.5 PATIENT INVOLVEMENT

As practices change regarding sedation, the number of patients able to communicate while intubated and mechanically ventilated is increasing. A massive 53.9% of all ventilated patients were found to be alert, awake and responsive regarding the ability to communicate (Happ, Garrett, Tate, et al., 2014). A study done in the USA found the trauma ICU had the highest population of communicating adults (69.9%), while neuro ICU had the least (40.82%) (Happ, Garrett, Tate, et al., 2014). Findings of a retrospective study also found that

78.1% of patients who were intubated and mechanically ventilated remembered having trouble speaking, with 82.7% of the patient participants rating communication as difficult (Rotundi, Chelluri, Sirio, et al., 2002). The fact that an increasing number of patients remember having trouble speaking and are affected long-term psychologically, due to the inability to engage effectively in communication interactions, further highlights the problems experienced by patients and the need for improved nurse-patient communication.

2.6 NURSE FACTORS

Despite patients being increasingly able to communicate with the nurse caring for them, effective communication remains a challenge for patients and nurses alike. The factors that influence the nurse's communication interaction with the critically ill, intubated and mechanically ventilated patient will be discussed below.

The formal establishment of the ICU took place during 1950s, and patients who had survived critical illness often manifested with psychological complications, which were not evident in the other general hospital patients. In 1959, a study associated the delirium patients experienced with the lack of sensory input (Engel & Romano, 1959). This study was done at a time when healthcare workers thought communication with patients was irrational (Lazarus & Hagens, 1968). The inevitable psychological complications were later renamed ‘ICU Syndrome’ and symptoms included paranoia, hallucinations, memory disturbances and confusion (Lazarus & Hagens, 1968). A seminal study was conducted in 1980, in which the communication interaction between nurses and patients across five ICUs were analysed (Ashworth, 1980). The researcher made use of participant observation to determine manner, content and amount of interactions that occurred between 39 patients and 112 nurses. The

patients' perception of the communication interaction was obtained through structured interviews. Interviews were conducted with nurses to establish factors that nurses believed influenced communication. Findings revealed that 71% of the interaction consisted of short-term, task-related information, commands and short-term questions. Increased communication interactions were associated with the patients' ability to communicate, and the majority of the communication interactions were nurse-orientated and the communication interaction was minimal (Ashworth, 1980).

2.6.1 Limited Nurse-patient Communication Interaction

Despite seminal studies providing evidence of limited nurse-patient communication interaction (Ashworth, 1980) and three decades of research, the inability of the nurse and patient to communicate effectively persists. Several international researchers have highlighted that ICU nurses spend a limited amount of time communicating with their patients (Boscart, 2009; Dithole, Sibanda, Moleki, et al., 2016; Happ, Garrett, Tate, et al., 2014). The extent of the limited communication interaction was highlighted in a study, which found that nurses spent only 5% of their time communicating with their patients (Baker & Melby, 1996).

2.6.2 Content of Nurses Communication

A British study analysed what nurses were saying to their unconscious patients. The researcher observed participants over four-hour sessions. Sixteen Intensive Care nurse-patient interactions were evaluated (Elliott, Aitken & Choboyer, 2007). The content of the communication interactions were categorised into four levels of interaction: (1) plain

description intended procedure, (2) description of the intended procedure and expected sensation, (3) explanation of the rationale for the procedure with reassurance expected sensation, (4) deeper display of awareness of patient's individuality. The majority of the communication interactions were from category 1, and the frequency of this type of interaction increased when a medical investigation needed to be carried out, accentuating that communication is primarily task-orientated (Elliott, Aitken & Choboyer, 2007).

2.6.3 Prioritised Physical Care

The dynamics of the patient determine the activities of nurses within the ICU; the situations vary but often require the nurse to be involved in the management of technology, routine activities and the prioritisation of physiological needs (Tay, Gurvitch, Wijesinghe, et al., 2011). Researchers suggest that working in the highly mechanical ICU environment shifts the art of caring from nurses to the machinery providing the physiological support of the patient, to the point where 'care' becomes the responsibility of the machine and the nurse's care is reduced to pressing buttons and analysis of digital data (Stickley & Freshwater, 2002). Of the nurses involved in a 2015 study regarding factors that facilitate or interfere with the process of nurse-patient communication, 20.54% stated their interventions were aimed exclusively at the physical care of the patient (Saldaña, Pinilla Alarcon & Alvardo Romero, 2015). Munger, Rios, Ignowski, et al. (2012) conducted a literature review regarding the barriers of communication with intubated patients and found the priority was given to medical equipment to the point where patients were seen as objects. Nurses often used physiological cues to identify the physiological needs of the patient, however, the majority of the interactions in which the patient was anxious resulted in the administration of

sedatives or analgesia, which impaired the patients cognition but improved the physiological cues; patients were given limited opportunity to make themselves understood (Happ, 2001).

Studies have demonstrated that Intensive Care nurses often neglected the psychological well-being of their patients (Asbury, 1985; Tosch, 1988). These findings were associated with Maslow's hierarchy of needs, which states that only once the patient's survival needs are met do his/her psychological needs become increasingly salient. The ICU is a highly mechanical environment, and the emphasis is often placed on the physical well-being of patients (Hudson, 1993). This was associated with the Intensive Care nurse being focused on the physiological indicators of the patient during critical illness initially, with the focus on psychological wellbeing following. Happ, Garrett, DiVirgilio, et al. (2011) attributed this to a lack in the time available. Researchers have also recommended that Intensive Care nurses exercise patience when engaging in communication interactions with their patients (Patak, Wilson- Stronks, Costello, et al., 2009), but this is often not possible due to time constraints. Another researcher suggested that patients who spent a long time in the ICU had a significantly greater opportunity to engage in communication interactions as they became more medically stable (Nilsen, Sereika & Happ, 2013).

Ninety-two per cent (92%) of 112 Columbian nurses who took part in a study were found to consider communication as important (Saldan, Pinilla Alarcon & Alvarado Romero, 2015). This was echoed by a phenomenological hermeneutic guided study conducted in Jordan, which took place across three ICUs and had 28 Intensive Care nurses as participants (Alasad & Ahmed, 2005). The findings indicated that critical care nurses believed that communication was important and an essential part of nursing care, however communication within the critical care setting was not applied adequately or consistently. A theme identified

by the researcher was that the practice of communication, despite its significance, remained minimal and Intensive Care nurses admitted it could be easily forgotten (Alasad & Ahmed, 2005). This begged the question, why is it that qualitative research described nurses being aware of the importance of communication but quantitative studies revealed limited communication interaction?

2.6.4 Values and Attitudes of Nurses

The values and attitudes of all nurses vary, and studies demonstrated that some Intensive Care nurses preferred to take care of a patient who was unresponsive. Information provided was based on the perception of what the nurse felt was important rather than as a standard of care. Researchers have attributed the preference to care for an unresponsive patient, or to engage in minimal communication interaction, as a coping mechanism for nurses to protect their own mental and emotional health (Munger, Rios, Ignowski, et al., 2012).

2.6.5 Coping Mechanisms

Intensive Care nurses sometimes failed to understand what it was the patient wanted to express even after multiple attempts to understand their patient's needs. Ninety three percent of Intensive Care nurses would experience feelings of frustration and even consider themselves incompetent; feelings of despair, distress and sorrow were also experienced (Alasad & Ahmed, 2005). The patients admitted to the ICU have high mortality rates, and in some cases, nurses may distance themselves from such patients to prevent negative feelings (Turnock & Kelleher, 2001).

2.6.6 More Responsive Patients

Previously researchers demonstrated that the frequency and content of communication interactions do not vary. A patient who is awake and able to communicate is communicated with just as much as the patient who is completely sedated. This was demonstrated in two studies, which replicated each other in different patient population groups (Ashworth, 1980; Leathart, 1994). Newer studies, such as a study conducted by Alasad & Ahmed (2005) in Jordan that reviewed communication interactions between nurses and patients within the ICU, found that unconscious patients received less verbal communication interaction than the verbally responsive patient. This was later demonstrated by Munger, Rios, Ignowski, et al. (2012), which attributed less patient communication to less nurse communication.

2.6.7 Experience of the Nurse

Years of experience was demonstrated to affect the frequency and nature of communication interaction. Studies found that 67% of less experienced Intensive Care nurses when faced with a newly ventilated patient who was awake would start by saying hello to the patient then turn to the nurse for the report, while more experienced Intensive Care nurses introduced themselves to the patient and inform of the nursing care and their condition (Bergbom-Engberg & Haljamäe, 1993). The researchers also found that nurses with more experience within the ICU had better communication skills as they had already become accustomed to practicing within the mechanically sophisticated environment (Bergbom-Engberg & Haljamäe, 1993).

2.7 ALTERNATIVE COMMUNICATION METHODS

Several researchers have found that frequently used alternative communication methods included head nods, gestures and mouthing words (Ashworth, 1980; Happ, Tuite, Dobbin, et al., 2004; Leathart, 1994). Less frequently used methods were writing and the use of writing boards, and the use of high technology devices was rare. A 2002 observational study focused on the use of gestures as an alternative communication technique. Gestures were often used to alert the nurses of the patients' basic needs, and the nurse was often quickly able to understand the patient (Connolly, 1992). Physical restraints are often used to prevent disruption of medical equipment in the majority of the adult ICU admission, and this inhibits patients' ability to make use of alternative communication techniques to respond (Happ, 2001; Menzel 1998)

Patients often make use of alternative communication methods, especially non-verbal communication techniques such as mouthing, nodding, gestures and writing. However, these methods were found to require excess energy and are fatiguing and emotionally draining for patients (Ashworth, 1980; Carroll, 2004; Conolly & Shekelton, 1991; Engström, Nyström, Sundelin, et al., 2013; Fitch, 1998; Happ, 2001; Leathart, 1994; Manzano, Lubillo, HenrIques, et al., 1993; Menzel, 1998; Stein- Parbury & McKinley, 2000).

The American Speech and Language Hearing Association (2007) defined and categorised the various methods of AAC as either being unaided or aided communication systems. Unaided communication systems rely on the user's body to convey messages such as gestures, body language and sign language. Aided communication systems require the use

of tools in addition to the user's body, such as paper and pen, communication boards, devices that produce speech or written output.

Although all these alternatives do exist, nurses need to be knowledgeable about how these alternatives are to be used as well as identifying the method that will work best for the patient. It was for this reason that Patak, Wilson- Stronks, Costello, et al., in 2009, made a call to action to encourage nurses to conduct a patient communication assessment, which comprises of an assessment of patient literacy, linguistics, cultural, behavioural and physical barriers. The assessment was also aimed at the identification of challenges and making the appropriate referrals to specialists. The researchers also made recommendations for standardised training to be implemented for healthcare providers (Patak, Wilson- Stronks, Costello, et al., 2009)

In order for alternative communication techniques to be used effectively, the nurse needs to be competent in the use of the alternate method as well as have time to teach it to the patient. A situation could arise where the nurse is left to teach the patient something he/she was never taught (Bergbom- Engberg & Haljamäe, 1993; Magnus & Turkington, 2006). Another challenge nurse's face is that each patient requires a personalised alternative communication technique assessment to identify which technique is to be used (Happ, Tuite, Dobbin, et al., 2004).

2.8 THE NEED FOR TRAINING

Several researchers have found that ICU nurses receive inadequate training regarding assessment and application of alternative communication techniques. A 2015 Columbian

study demonstrated that less than half of the nurses who worked within the ICU had training regarding the management of intubated and mechanically ventilated patients, let alone knowledge on alternative communication strategies (Ääri, Tarja & Helena, 2008; Guilhermino, Care, Inder, et al., 2014; Saldaña, Pinilla Alarcon & Alvarado Romero, 2015).

Competence in the critical care setting is developed through formal education, experiential learning, continuous professional development and reflective practice (Elliott, Aitken & Chaboyer, 2007).

World-renowned communication researcher Mary Beth Happ attributed the challenges faced by nurses and patients to the absence of staff educational systems regarding communication with mechanically ventilated critically ill patients. This was a finding consistent throughout all her research conducted on this topic. In an attempt to mitigate and prevent the negative experiences of the patients and nurses relating to communication, strategies to improve the communication interaction need to be developed (Happ, 2001). This led the researcher to develop an interventional study with the focus on teaching Intensive Care nurses the skills and providing them with the knowledge to facilitate communication with non-speaking, critically ill patients. This well-known study is known as the SPEACS trial. The study, conducted in the USA, involved 89 intubated patients, who were awake and responsive but unable to speak, and 30 ICU nurses (Happ, Garrett, Tate, et al., 2014).

The areas of focus included frequency, initiation, success, quality and ease. The researchers looked at these aspects before the implementation of the intervention to establish baseline data. Interventions involved three phases as described by the researcher. Nurse-patient communication was observed and evaluated regarding the focus areas mentioned above.

Participants in Phase One were the usual care group, where nurses did not receive any additional training and had minimal communication material available to them. Participants in Phase Two attended a four-hour training session, and a cart with communication supplies was provided to the ICU. Participants in Phase Three attended the four-hour training session, a two hour class on electronic AAC devices, communication supplies provided to the ICU, patients were paired with an electronic communication device, low tech tools and care plan guidelines after assessment by a speech and language pathologist (Happ, Garrett, Tate, et al., 2014).

Findings revealed that the frequency of communication improved in the intervention groups as well as attempts to clarify information. An improvement was noted regarding the length of communication and the successfulness about communication about pain and other symptoms. The involvement of the speech-language pathologist also attributed to the nurse's perception about the ease of communication (Happ, Garrett, Tate, et al., 2014).

In an intervention study in Botswana (2017), the researcher conducted interactive workshops that involved activities such as role-play, demonstrations and group discussions. Emphasis was placed on nurse’s ability to identify patient’s communication abilities and the implementation of an intervention best suited to the patient. Nurses who took part in the study felt empowered and more comfortable to make use of alternative communication methods (Dithole, Sibanda, Moleki, et al., 2016).

2.9 SUMMARY

This chapter reviewed the concept and process of communication and how the process of communication within the ICU differs. The reasons for this, as well as the implications on the patient, were discussed and the impact of being within the ICU was also analysed. In some cases where the patient is unable to participate in their care, the family needs to be involved. Some concepts have been researched to investigate the reasons behind the limited communication interactions between the nurse and the patient. Some alternatives have been made available, and the need for training has been highlighted. In an attempt to improve communication, intervention studies have been carried out and improved nurse knowledge noted.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In this chapter, the researcher describes the research design chosen to address the research questions, the methodological aspects of sampling, data collection tools, data analysis and interpretation. Aspects regarding validity, reliability, trustworthiness as well as ethical considerations feature in this chapter.

3.2 RESEARCH PARADIGM

The research paradigm refers to a set of basic beliefs that underlie the researcher's actions concerning the question under investigation (Polit & Beck, 2014). The paradigm that underpins this study is that of pragmatism. Pragmatists believe that the problem is as important as the methods used, and the researcher makes use of the most appropriate approaches to understand the problem. Based on pragmatism, the researcher believed in identifying the cause of the problem in order to reveal the best solution. In this manner, the choice of research methods and procedures remained at the discretion of the researcher who decided on what would best answer the research question.

Pragmatism was found more suitable for this study as it is concerned with identifying problems and solutions in a practical manner that attempts to distance itself from preconceived notions. The pragmatist view of inquiry is open to multiple realities, and it orientates itself to the solution of practical problems occurring in the real world. In this way,

the researcher had freedom of choice and did not commit to one approach alone, rather looking at different approaches to collecting and analysing the data, with the aim of best answering the research question. In addition, the pragmatic approach allowed the researcher to have a wider and deeper understanding of the research problem than if a single approach had been used. Pragmatism also enabled the researcher to involve different participants to get multiple views on the topic under study.

For this study, both objective and subjective data generated through quantitative and qualitative methods produced a better representation of the actual situation of nurse-patient communication interaction in the clinical setting. This approach guided the study based on the research question for the development of knowledge through deduction and induction. It allowed the researcher to identify a value-orientated lens geared towards improving reality and in this instance, improving clinical practice.

3.3 RESEARCH DESIGN

The choice of research design flows directly from the particular research questions under investigation. The research design used for this study was a mixed method design, which is defined as a method that focuses on collecting, analysing and mixing quantitative and qualitative data in a single study. The central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone.

The quantitative phase included observations and closed-ended questions, which limited the researcher to collecting just enough information to address the basic aim of the study. By

adding the qualitative phase, the researcher had the option of open-ended questions to elaborate on the problem.

For the purpose of this study, the researcher applied a sequential, explanatory design, which was found to be more appropriate for a number of reasons. To begin with, the researcher conducted the study in two phases. This enabled the researcher to get back to participants to collect qualitative data in the second phase, after collecting quantitative data in the first phase. The quantitative data provided a general picture of participants' attitudes and practices of communication interaction with intubated patients, while the qualitative data generated more in-depth coverage of participants' views. Furthermore, the sequential method allowed the researcher to probe the question in a way that best suited the research aim. The researcher was able to develop and put emphasis on the new questions that arose from the quantitative findings, which could not be answered using quantitative data. This enabled the researcher to probe potential problems and solutions in more depth and detail. The data were collected and at the same time analysed, which made the study more manageable for the researcher.

3.4 RESEARCH SETTING

The study was conducted in a natural setting, namely two adult ICUs of one university-affiliated and public sector hospital in Johannesburg. These units are considered level III ICUs (SASA, 2013), which provide highly specialised services for medical, surgical and trauma patients from a wide range of specialities in the hospital and direct emergency admissions. On average, the level of illness severity (SAPS II) of patients admitted to these units is 34.7 (SD 12.53) points, and average length of stay is 8.54 (SD 17.01) days

(Schmollgruber, 2015). The nurse to-patient ratio is one-nurse to one-patient over a period of 24 hours in all the units. These units however, exclude admission of patients with neurosurgical conditions, coronary care and cardiothoracic situations.

3.5 PHASES OF RESEARCH

3.5.1 Phase One: Process of Quantitative Data Collection

This phase involved two steps as explained in the following sections.

Table 3.1 Summary of study phases

Objectives	Data collection	Sample and Population	Data analysis	Data integration
Phase One – step 1: To observe and describe the frequency and content of nurses' communication interaction with intubated patients.	*Data collection:* observation tool	*Population:* Patients (n = 24) & nurses (n = 36) in ICU *Sample:* Purposive sample	Descriptive and inferential statistics	Mixing both Phase One and Phase Two (quantitative and qualitative data)
Phase One – step 2: To describe the value nurses place on communication by soliciting their thoughts and feelings about communication with critically ill patients.	*Data collection*: Survey questionnaire	*Population*: Intensive care nurses in ICUs (n = 110) *Sample*: Convenience sample	Descriptive and inferential statistics	
Phase Two – step 3: To explore nurses experiences of tools and strategies used during communication with intubated patients.	*Data collection:* Individual interviews	*Population:* Intensive Care nurses in ICUs (n = 20) Sample: Purposive sample	Braun & Clarke (2006) method for qualitative analysis.	

3.5.1.1 Step I: Observation study

The *first objective* of the study was to observe and describe the frequency and content of nurses' communication interaction with intubated patients. Step 1 addressed the first objective of the study.

3.5.1.1.1 Research participants

The research participants for this study comprised patients and nurses in the trauma and general ICUs at the selected institution.

Purposive sampling was used to recruit study participants. This was done by conscious selection of patients who met the requirements of sampling criteria set out by the researcher. The nurses who were assigned to care for these patients were asked to volunteer to participate in the study. Consent from the patients and nurses involved were obtained with a good conscience as part of an integrated study after information on the study was provided (*see Appendix A* and *Appendix B* for the information letter and consent form given to patients respectively, *Appendix D* for nurses). The observations were carried out over a period of four months.

Following a discussion with a statistician, a minimum of 24 (n = 24) patients and 36 (n = 36) nurses were decided upon. These calculations were based on 5% margin of error and 95% confidence level out of a number of patient observations in 5-minute intervals and the number of nurses across three shifts as determined by designated observation periods.

Inclusion criteria for the patients included:

- a patient who is unable to communicate verbally due to endotracheal intubation and mechanical ventilation;
- receiving treatment in either trauma ICU or general ICU;
- aged 18 years and older;
- patient or relative informed consent; and
- an expected length of stay in ICU >36 hours.

3.5.1.1.2 Data collection instrument

The observation tool developed by Sayler and Stuart (1985), identified in the literature, was used to achieve the study objectives. Five local domains experts, i.e. medical specialists and critical care trained nurses, registered nurses and nurse education experts conducted verification of the instrument to be eligible in the South African context.

The data collection tool contains 12 action categories and 29 reaction categories (see *Appendix C*). As interaction involves reciprocal interaction, categories described nurse action and patient reaction, and patient action and nurse reaction. Nurse action was identified as interaction initiated by the nurse, which elicited a reaction from the patient. Conversely, patient action represented interaction initiated by the patient that elicited a reaction or response from the nurse.

For this study, positive communication was defined by Sayler and Stuart (1985, 20) as "the transmission and reception of a message that was marked by, or indicative of acknowledgement, reassurance, acceptance, approval or affirmation." Negative

communication was defined as “the transmission and reception of a message that expressed rejection, refusal, denial, negation or prohibition. It may be marked by features of hostility or withdrawal” (Sayler & Stuart, 1985, 21). Applying these definitions, “a (+) or negative (-) sign was assigned to each action and reaction choice for use in data analysis and interpretation” (Sayler & Stuart, 1985, 22).

The categories of content of the observation tool (Sayler & Stuart, 1985) was developed from the literature and a small group of experts in communication strategies, Intensive Care and methodology reviewed and rated content tool for clarity, validity and comprehensiveness based on the methods described by Burns, Grove and Gray (2006). It was tested by the developer on an independent sample in the original study and found to be reliable and accurate (Sayler & Stuart, 1985).

3.5.1.1.3 Data collection process

The researcher assumed the role of participant observer during the nurse-patient interaction to assess what and how nurses communicate with critically ill patients. For consistency, only the researcher collected the data during observation of the nurse-patient interactions (see *Appendix C*). To ensure reliability of the findings, the researcher received training on the use of the tool. The training was conducted by the researchers’ supervisor. A pilot test was conducted during the proposal development phase of the study; the findings of the pilot study were excluded from the main results. Observations of nurse-patient interaction included assessment of frequencies and content of the, a) patient’s reaction towards nurse’s actions, and b) nurse’s reactions towards patient’s actions.

Each nurse was observed while providing care to mechanically ventilated patients. The observations of nurse-patient interaction was conducted daily between 07h00 and 12h00 weekdays, and 19h00 and 21h00 for evening shifts, for two consecutive days for one patient unless there were constraints that impeded observation, at 20 minute-intervals. During the initial observations, the researcher observed nurse-patient interactions during the first 15 minutes to acquaint herself with the observation process and recorded the nurse-patient interaction during the last 5 minutes of the observation time. The researcher positioned herself in a way to see nurse-patient interaction without interruption from other healthcare providers.

3.5.1.2 Step 2: Survey study

The *second objective* of the study was to describe the value nurses place on communication with patients by soliciting their thoughts and feelings about communication with intubated patients. Step 2 addressed the second objective of the study.

3.5.1.2.1 Research participants

The research participants were Registered Intensive Care nurses practicing in adult trauma ICU and general ICU at the selected institution.

A preliminary retrospective record review undertaken in May 2017 indicated there was approximately 125 (N = 125) nurses practicing in the ICUs of the selected institution.

Following discussion with a statistician, and based on the fact this was a survey study, it was decided it would be better to include the total sample (n = 110). Non-probability convenience sampling was used.

Inclusion criteria for the nurses included:

- registered by the South African Nursing Council with additional qualifications in Intensive Care nursing or its equivalent qualification as Medical Surgical Nursing in the category of critical care;
- registered by the South African Nursing Council (SANC) as a professional registered nurse; and
- more than six months clinical experience in the selected ICU.

3.5.1.2.2 Data collection instrument

A survey questionnaire developed by Binn (1998), identified in the literature, was used to achieve the study objectives. Five local domains experts, i.e. medical specialists and critical care trained nurses, registered nurses and nurse education experts conducted the verification of the instrument to be eligible in the South African context.

The questionnaire contained two sections. The first section collected demographic data, and section two employed questions to assess the value and practices of nurses about communication interactions with intubated patients. This section comprised 26 items, and each item was rated on a 5-point Likert type scale, ranging from 1 = strongly agree, 2 = agree, 3 = unsure, 4 = disagree, and 5 = strong disagree. The total scores of the questionnaire

ranged from 26 to 130 points. The lower the score, the more nurse participants were in agreement with the statement and vice versa (s*ee Appendix E*).

In addition, the questionnaire was further sub-divided into four subscales according to Binn (1998), as follows:

- *Communication preferences and beliefs,* which included items Q2, Q3, Q4, Q21, Q22, Q23, Q24 , Q25 and Q26. This subscale score ranged from 9 to 45 points.
- *Emotional implications*, which included items Q10, Q11, Q12, and Q13. This subscale score ranged from 4 to 20 points.
- *Nursing tasks*, which included items Q5, Q6, Q7, Q8, Q9, and Q19. This subscale score ranged from 6 to 30 points.
- *Treatment implications*, which included items Q14, Q15, Q16, Q17, Q18, and Q20. This subscale score ranged from 6 to 30 points.

Face and content validity of the survey questionnaire was developed from the literature and a small group of experts in critical care reviewed and rated the contents in the original study (Binn, 1998). In addition, the Cronbach alpha value for the scale items in the questionnaire was reported by the developer in the original study as 0.89 on all the questions (Binn, 1998).

3.5.1.2.3 Pilot testing

A pilot test was done before commencement of the main study. Five (n = 5) nurse respondents who were working in another suitable ICU at the same study site participated in the pilot test. The purpose of the pilot test was to ensure the wording of the statements on

the questionnaire, which was developed in the United States of America, would be clearly understood by nurse respondents in the South African study.

The results of the pilot test revealed the statements were clearly understood by the respondents, and it took approximately 15 to 20 minutes to complete the questionnaire. No changes or modifications were made to the original questionnaire, and the main study was allowed to proceed. The findings of the pilot test were not included in the main study.

3.5.1.2.4 Data collection process

The researcher visited the ICUs and reviewed the respective unit's staff duty roster for selection of potential participants. The respondents who agreed to participate in the study were given an information letter outlining the study and its procedures by the researcher. As this was a written survey, written consent was waivered, and it was stated on the information letter that return of the questionnaire would imply consent to participate in the study. The study was anonymous, however the participants were asked to provide information about age, gender, qualification and experience. The researcher visited the ICUs on a daily basis to remind participants to complete the questionnaire, this was done over a duration of one month. The questionnaires were completed anonymously by participants. Participants returned the completed questionnaires by placing them in a self-addressed envelope and placing them into a sealed box, which was only opened once the data collection period was completed. The researcher negotiated a suitable area to place the sealed box with the nurse unit manager in the respective ICU.

3.5.2 Phase Two: Process of Qualitative Data Collection

The *third objective* was to explore and describe nurses' experiences of tools and strategies used during communication. Step 3 addressed the third research objective.

3.5.2.1 Research participants

Purposive sampling was used to recruit research participants. This sampling method was chosen because the researcher wanted to involve nurses who were willing and able to communicate their viewpoints. This was done by conscious selection of nurses who met the requirements of the sampling criteria set out by the researcher.

Inclusion criteria for the nurses included:

- Registered by the SANC with additional qualifications in Intensive Care nursing or its equivalent qualification as Medical Surgical Nursing in the category of critical care;
- Registered by the SANC as a professional registered nurse; and
- More than six months clinical experience in the selected ICU.

It was expected that a minimum of 15 to 20 participants would be interviewed. Data continued until saturation of information was achieved.

3.5.2.2 Data collection strategy

The primary method of data collection used in this part of the study was semi-structured interviews *(*see *Appendix I*), which are commonly used for qualitative research, and which tend to be more structured than unstructured interviews. This allows a level of flexibility for the researcher to explore unexpected issues raised by participants, to develop and decide on topics to be explored (Holloway & Wheeler, 2010), as well as covering topics in the interview guide (Green & Thorogood, 2014).

For this study, an interview guide was developed to facilitate the interviews (see *Appendix I*). The interview guide contained a list of approximately six topic areas to be explored, with related questions. The questions were aimed at soliciting information from participants about working with people in ICUs who are conscious but unable to speak. Other aspects included what they saw as barriers to effective communication and use of alternative communication tools commonly recommended in the literature as AAC systems. The questions were open-ended, and consisted of probes and follow-up questions, which allowed the researcher to achieve depth and detail during the interview.

In qualitative studies, the researcher serves as the instrument. Creswell (2009) stated that this is founded on the principle of observer, note-taker, interviewer and interpreter of the data collected. The researcher is an experienced nurse practitioner in this field of study and the study site was affiliated to the university where the researcher is currently registered as a postgraduate Master's student.

3.5.2.3 Data collection process

Semi-structured interviews were used to collect the data. Those participants who had expressed an interest in the study had been given an information letter *(*see *Appendix F*) , a demographic form, a consent form *(*see *Appendix G*) and an audiotaping consent form (see *Appendix H).* An appointment was made prior to conducting the semi-structured interviews, with participants choosing the venue and time most appropriate and suitable to them. Interviews were conducted in a private seminar room in close proximity to the respective ICUs.

A non-threatening environment was ensured by welcoming participants in a friendly manner. After the participants settled and were comfortable, the researcher posed the first question on the interview guide (s*ee Appendix J*):

> *"Tell me about your experiences working in ICU with people who are conscious but unable to speak?"*

After the opening question was asked, the participants were allowed to reflect on their thoughts before proceeding. Participants were encouraged to speak freely at their own pace. Facial expressions and body language were used as cues to indicate whether the participants wanted to verbalise, disagree or were uncertain about any aspect in the discussion. Based on the cues given by participants, follow up questions and topics were introduced from the interview guide (see *Appendix I*). These included what they saw as barriers to effective communication in this population and whether they had experience working with specific tools and strategies commonly recommended in the literature as AAC systems. Throughout

the semi-structured interview, the participants were encouraged to reflect on their own experiences of working in the ICU with the last conscious patient who was unable to communicate.

An informal conversation style was maintained throughout the semi-structured interview. An attentive listening skill was enhanced by maintaining eye contact and note taking was considered as necessary. Probes were used to maintain clarity by following up on open-ended contributions, such as *"Can you tell me more about that?" "What do you mean when you say that?" and "Can you explain how that happens?"* Summarising the most important points was done at the end of the semi-structured interview, and the participants were given the opportunity for final comments. The semi-structured interviews lasted between 30 minutes to one hour.

3.6 DATA ANALYSIS

Data analysis refers to the systematic organisation and synthesis of research data (Burns, Grove & Gray, 2014). Through data analysis, the researcher categorised and summarised the data that had been obtained in order to derive meaning.

3.6.1 Phase One: Quantitative Data Analysis

3.6.1.1 Step 1: Observation Study

Descriptive and comparative statistics were used for analysing the data. Data related to objective 1 were captured onto a worksheet grid with X and Y axis listed as choices in the left margin and reaction in the upper margin. The nurse and patient interactions were observed as positive (+) and negative (-) actions and reactions respectively. These were displayed as frequencies and two-by-two tables. Statistical tests included Chi-Square analysis to look for associations in nurse action and patient reaction, and patient action and

nurse reaction. Testing was done on the 0.05 level of significance. The statistical software STATISICA version 13.2 was used.

3.6.1.2 Step 2: Survey study

Descriptive and comparative statistics were used for analysing the data. Data related to objective 2 (primary objective) were captured onto an Excel spreadsheet for entry into the statistical software STATISTICA version 13.2. 110 respondents were included in the analysis. Two secondary objectives were set for the analysis of the data.

(1) To determine how nurses communication with intubated patients is influenced by their: communication preferences and beliefs, emotional implications, nursing tasks and treatment implications.

(2) Is there an association between years of experience and nurses communication with intubated patients

To answer secondary objective 1, descriptive statistics were computed for each of the items in the Binns' survey. Descriptive statistics were presented as medians and interquartile ranges due to the distribution of each of the items in the survey. A Shapiro Wilk test was used to determine the distribution of all the 26 items on the survey. A Shapiro Wilk test is a test of data normality with a null hypothesis that states that the data are normal. A p-value of less than 0.05 on the Shapiro Wilk test indicates that we reject the null hypothesis in favour of the alternative hypothesis that states that the data are skewed. A p-value of more than 0.05 on the Shapiro Wilk test indicates that the null hypothesis is true (Razali & Wieh, 2011).

Total scores for each of the Binns' survey subscales described in the data management section were obtained by totalling the patient's scores on each subscale. In addition average subscale scores were obtained in and presented as either means and standard deviation (SD) or median and IQR depending on the distribution. The distribution of the data for each of the four subscales and the total Binns' survey score was determined by computing a Shapiro Wilk test and a histogram, the results are presented in **Figure 4.1 to 4.5**. The descriptive statistics of each of the subscales are presented in **Tables 4.7 and 4.8**.

To answer secondary objective 2, a Mann Whitney test was computed between nurses with less than 10 years of nursing experience and nurses with more than 10 years of nursing experience for the following subscales: communication preferences and beliefs, emotional implications and treatment implications. For the nursing tasks subscale a t-test was computed. A Mann Whitney test is used to compare differences between two independent groups that are not normally distributed while a t-test is used to compare differences between two independent groups that are normally distributed (Ruxton, 2006).

The results are presented in **Table 4.9**. The association between years of experience and nurses communication with intubated patients was further investigated, this time adjusting for other demographic information collected such as nurses' gender, age, and position. Linear regression models were fitted with the outcome being the subscale scores. The results are presented in **Table 4.10 to 4.15**.

3.6.2 Phase Two: Qualitative Data Analysis

A thematic approach to analysis was selected to analyse the data in this study. The approach was based on the six-step phases of thematic analysis outlined by Braun and Clarke (2006). Each step is briefly discussed.

- Step 1: Familiarisation with the data

This step required the researcher to be fully immersed and actively engaged in the data by firstly transcribing the interactions and then reading (and re-reading) the transcripts and/or listening to the recordings. Initial ideas should be noted down. It is important the researcher has a comprehensive understanding of the content of the interaction and has familiarised herself with all aspects of the data. This step provides the foundation for the subsequent analysis.

- Step 2: Generating initial codes

Once familiar with the data, the researcher must then start identifying initial codes, which are the features of the data that appear interesting and meaningful. These codes are more numerous and specific than themes, but provide an indication of the context of the conversation.

- Step 3: Searching for themes

The third step in the process is the start of the interpretive analysis of the collated codes. Relevant data extracts were sorted (combined or split) according to overarching themes. The researchers thought process should allude to the relationship between codes, subthemes and themes.

- Step 4: Reviewing the themes

A deeper review of identified themes follows where the researcher needs to question whether to combine, refine, separate or discard initial themes. Data within themes should cohere

together meaningfully, while there should be clear and identifiable distinctions between themes. This is usually done over two phases, where the themes need to be checked in relation to the coded extracts (phase 1), and then for the overall data set (phase 2). A thematic 'map' can be generated at this step.

- Step 5: Defining and naming the themes

This step involves 'refining and defining' the themes and potential subthemes within the data. Ongoing analysis is required to enhance the identified themes further. The researcher needs to provide theme names and clear working definitions that capture the essence of each theme in a concise and succinct manner. At this point, a unified story of the data needs to emerge from the themes.

- Step 6: Writing up

Finally, the researcher needs to transform his/her analysis into an interpretable piece of writing by using vivid and compelling extract examples that relate to the themes, research question, and literature. The report must relay the results of the analysis in a way that convinces the reader of the merit and validity of the analysis. It must not go beyond a mere description of the themes that portray an analysis supported with empirical evidence that addresses the research question.

3.7 TRUSTWORTHINESS

The term trustworthiness refers to the degree of confidence qualitative researchers have in their data assessed using criteria of credibility, dependability, confirmability and authenticity (Polit & Beck, 2014).

3.7.1 Credibility

De Vos, Strydom, Fouche, et al. (2011) state that credibility is concerned with the truthfulness of the findings. For this study, semi-structured interviews, tape recordings and verbatim transcriptions assisted in ensuring credibility. Additionally, member checking was used to ensure credibility of the study; the researcher provided feedback to participants after

emerging interpretations and then obtained participants responses regarding credibility of the collected data (Polit & Beck, 2014).

Transcribed data were shared with participants to ensure accuracy of transcriptions. Member checking was done and all participants agreed that the content of the transcripts was a true reflection of their views and experiences. The supervisor also reviewed the transcripts against the developed themes to assess whether the researcher's interpretations truly represented the realities of the participants (Polit & Beck, 2014).

3.7.2 Dependability

Dependability relates to the reliability of the data over time and different conditions, and refers to the details and information of the study. Consequently, this allows others to reach the same conclusions by replicating the methods of a researcher (De Vos, Strydom, Fouche, et al., 2011). In this study, transcriptions were discussed by the researcher and supervisor to confirm the authenticity and accuracy of the actual data as recorded during the interviews. The methodology and methods of data collection and data analysis were verified by the supervisor, and were clearly stipulated and transparent to enhance study dependability.

3.7.3 Confirmability

Confirmability refers to objectivity and potential for congruence between two or more independent people about the accuracy, relevance and meaning of data (Polit & Beck, 2014). Consequently, the findings of this study were reviewed by the researcher's supervisor and co-supervisor in order to remove her own opinions and focus directly on the data (De Vos, Strydom, Fouche, et al., 2011).

The link between the raw data, findings and interpretation was confirmed by the supervisors through an audit trail of the tape recordings and transcripts. Themes and sub-themes were developed by the researcher in agreement with the supervisor, who checked that transcripts resembled raw data (De Vos, Strydom, Fouche, et al., 2011).

3.7.4 Transferability

In qualitative research, transferability demonstrates the ability for research findings to be transferred or applied in other settings by providing sufficient data in the final research report (Polit & Beck, 2014). The researcher provided detailed information on how participants were selected, how data were collected, analysed and interpreted. Information from several sources in the literature review was also included in this study to enhance transferability and for the reader to decide on the applicability of the findings (Green & Thorogood, 2014). Thick detailed descriptions on data collection and data analysis are provided for the reader to decide on the possibility of transferability (De Vos, Strydom, Fouche, et al., 2011).

3.8 RELIABILITY AND VALIDITY

3.8.1 Reliability

In quantitative research, reliability of a measure represents the consistency of measures obtained in the use of a particular instrument; it is an indication of the random error in the measurement method (De Vos, Strydom, Fouche, et al., 2011). Reliability was maintained by ensuring consistency with the data collection instrument by using the same questionnaire administered by the researcher alone. The raw data was verified on the second round of data entry of data capturing for statistical analysis and accuracy. Reliability was maintained by using the same questionnaire as was used in the original studies. A pilot testing procedure was carried out before the survey study to ensure the phrases of the questionnaire were clear and understood by the participants in the South African context.

3.8.2 Validity

In quantitative research, validity refers to the extent to which the instrument actually reflects the abstract construct being examined (Burns, Grove & Gray, 2014). Two validated questionnaires were used in the quantitative phase of the study; the researcher adhered strictly to the guidelines provided by these authors (Binn, 1998; Sayler & Stuart, 1985). The semi-structured questions that were used in the individual interviews in the qualitative phase of the study were developed from sources in the literature review also included in this study.

3.9 ETHICAL CONSIDERATIONS

Ethical issues in research are standards of ethical conduct to safeguard the study subjects and integrity of the research process (Polit & Beck 2014). Ethical considerations will be discussed under the following headings: informed consent, permission to conduct research, confidentiality and anonymity, dissemination of findings and data management.

3.9.1 Informed Consent

The process of obtaining informed consent can be described as procedures and mechanisms for the protection of human rights of the participants (Brink, Van der Walt & Van Rensburg, 2012). The researcher ensured informed consent by providing all participants with an information letter and allowing them sufficient time to read it as well as the informed consent (see *Appendices A, B, D, E, F, G* and *H*). Participants were informed that their participation in the study was voluntary and that they could decline to answer any question as well as to discontinue participation in the study at any time. All participants were given the opportunity to ask questions of the researcher. All participants were provided with a copy of the information letter to keep in their possession should they wish to contact the researcher at a later stage.

3.9.2 Permission to Conduct Research

Ethical clearance to conduct research was obtained from the Committee for Research on Human Subjects (Medical) of the University of the Witwatersrand (see *Appendix K*). Permission to conduct the study was obtained in writing from the Hospital's Chief Executive Officer and Director of Nursing Services (see *Appendix L*), and verbal permission was obtained from the nurse unit managers of the respective ICUs. Permission to conduct the study was obtained from the Postgraduate Research Committee in the School of Therapeutic Sciences at the Faculty of Health Sciences (see *Appendix M*).

3.9.3 Confidentiality and Anonymity

Confidentiality and anonymity of the participants were ensured by using code numbers during data collection and reporting, and research generated code numbers during interview

recording. Participation in the study was voluntary and participants were allowed to withdraw at any time without penalty (see *Appendices A, D,* and *F*).

3.9.4 Dissemination of Findings

The research findings were used in a dissertation the researcher submitted as a full requirement for the Master's degree. Access to the dissertation will be through the library at the university. Another platform for dissemination of findings will be academic journals where the researcher will write and submit papers for publication. Moreover, the findings of this research will be distributed to the clinical settings in the study hospital.

3.9.5 Data Management

Management of all research material was ensured through safekeeping in a locked private place by the research supervisor at the university. A backup copy is available and kept on the computer, access to which is through a password only available to the researcher and supervisor. After six years, the stored data will be destroyed by shredding hard copy documents and permanently deleting all electronic data and interview recordings from flash drives and hard drives.

3.10 SUMMARY

This chapter addressed the methodological process and methods that have been applied in the execution of the study. The research design was based on the objective of the study. This chapter has also included justification of the research approach, sampling, data collection and data analysis. The findings obtained from the data are presented in Chapter four.

CHAPTER FOUR

FINDINGS OF THE STUDY

4.1 INTRODUCTION

This chapter outlines the findings of the study, which have been presented in two sections, namely quantitative findings and qualitative findings. The quantitative findings, Phase One, are illustrated by descriptive statistics and followed by inferential statistics. The qualitative finding, which is Phase Two, were explained by thematic analysis. Qualitative findings are explained after the quantitative findings.

4.2 PHASE ONE: QUANTITATIVE FINDINGS

Findings in this phase involved two steps as explained in the following sections.

4.2.1 Step 1: Observations of Nurse-Patient Interactions

4.2.1.1 Demographic data of the patient respondents

This section related to the respondents demographic data, which comprised four items and included gender, age, reason for admission and use of mechanical ventilation, which were obtained by the researcher from the patients ICU charts.

Table 4.1 Demographic data of the patient respondents for the total sample (n = 24)

Categories	Frequency	Percentage
Gender		
Male	14	58.3%
Female	10	41.7%
Age		
<20 years	4	16.7%
21 to 29 years	6	25.0%
30 to 39 years	8	33.3%
40 to 58 years	3	12.5%
>75 years	3	12.5%
Reason for admission		
Medical	11	45.8%
Surgical	13	54,2%
- scheduled surgery	8	33.3%
- unscheduled surgery	5	20.8%
Mechanical ventilation		
Yes	22	91.7%
No	2	8.3%

Of the total sample (n = 24), the majority (58.3%: n = 14) of the respondents were male, and females accounted for 41.7% (n = 10). One third (33.3%; n = 8) of the respondents were in the 30 to 39 age category, followed by 25% (n = 6) and 16.7% (n = 4) in the 20 to 29 and <20 years of age categories, respectively. It can be extrapolated from the findings that male patients predominated in the sample. However, opposite higher and lower frequencies were indicated in the <20 to 39 and 40 to >75 (75.0% vs. 25.0%) age categories, implying in terms of age distribution this is a younger patient population.

In terms of reason for admission to ICU, the majority (54.2%: n = 13) of the respondents were surgical cases, and 45.8% (n = 11) were medical. Of all the surgical cases, one-third

(33.3%; n = 8) of respondents were scheduled cases, and 20.8% (n = 5) were unscheduled. It can be extrapolated from the findings that surgical patients predominated the sample. However, between surgical categories, opposite higher and lower frequencies were indicated in the scheduled and unscheduled (33.3% vs. 20.8%) surgery categories, implying that in terms of surgical distributions, this is an elective surgery population. In this study, 91.7% (n = 22) of the respondents were mechanically ventilated.

4.2.1.2 Nurse-patient communication interaction

The instrument used in this study was the Nurse-Patient Communication Interaction Observation Tool, developed by Sayler and Stuart (1985). The researcher adhered to the instructions provided by the authors to analyse the total scores from the instrument computed by adding 12 action categories and 29 reaction categories.

In order to facilitate the discussion in a coherent manner, the findings are presented in two parts, namely a) nurse action and patient reaction, followed by b) patient action and nurse reaction, which are presented in Tables 4.2 and 4.3 respectively.

Table 4.2 Distribution obtained for nurse action and patient reaction choices (n = 260)

	PATIENT REACTION CHOICES	No response (-)	Smile (+)	Nods head (+)	Hostile physical gesture (-)	Non-hostile gesture (-)	Turns away from nurse (-)	Continues behaviour resulting in praise (+)	Does not continue praised behaviour (-)	Becomes agitated because nurse is unable to understand (-)	Appears confused and wants clarification (+)	Does not follow directions or commands (-)	Attempts to follow directions or commands (+)	Expresses negative feelings about following directions (-)	Grimaces in response in pain, etc. (-)	Cries (-)"
NURSE ACTION CHOICES																
Social conversations (+)		10	4	8												
Praises or encourages (+)		10	8	2				6	1							
Verbally clarifies a non-verbal message (+)				4						1						
Asks questions (+)		4		11												
Explains a procedure performed (+)		19		27			4				4					
Gives direction (+)		2		3	3		2					3	11	1		
Gives commands (-)					1	4						1	4	5		
Criticising or indicating disapproval (-)		5					2									3
Silence during initiation of care (-)		21		1		1									5	
Silence during administration of patient care (-)"		45		3	4										5	

Key: (+) = positive communication; (-) = negative communication

In this study, the most commonly observed action-reaction interactions was the nurse's "*silence during the administration of patient care*" with "*no response from the patient.*" This interaction was observed 45 (n = 45) out of 260 (n = 260) times. Furthermore, the interaction

was observed when four (n = 4) patients became "*hostile"* and five (n = 5) "*grimaced in response to pain during prolonged silence."* "*Criticising or indicating disapproval*" occurred as a nurse action choice on 10 (n = 10) occasions, while all patient reactions were negative (-). Five (n = 5) did not respond, two (n = 2) patients "*turned away from the nurse*" and three (n = 3) patients "*cried.*" In addition, the nurse found it necessary on 15 (n = 15) occasions to "*clarify*" what she had observed or to "*ask a question.*" All these behaviours were considered positive (+).

Table 4.3 Distribution for patient action and nurse reaction choices (n = 47)

NURSE REACTION CATEGORIES	Answers questions (+)	Touches patient then carries out patient's request (+)	Says she is too busy at the time but will return(+)	Folds arms across chest and makes no verbal response to patient (-)	Responds in an angry manner (-)	Responds in a firm manner (-)	Carries out request without speaking to patient (-)	Carries out request and speaks congenially to patient (+)	Does not respond to patient (-)	Ignores inappropriate behaviour (+)	Verbally reprimands patient (-)	Leaves patient (-)	Acknowledges the patient and accepts behaviour (+)	Clarifies non-verbal communication by asking questions (+)"
PATIENT ACTION CHOICES														
Initiation of non-verbal communication (+)	5		3	1	5	3		3	2	1	2	2		15
Expresses hostility or anger (-)"					2				5		3			

Key: (+) = positive communication; (-) = negative communication

In this study, patients initiated interaction with the nurse 47 (n = 47) times, and the nurse responded negatively (-) each time. Of the 28 positive patient initiated interactions, 15 (n = 15) received negative reactions from the nurse.

- Patient reaction to nurse action (n = 260)

In order to establish the association between patient and nurse interaction, a two-by-two contingency table was created and the Chi-square test done. Testing was done at 5% ($p<0.05$) level of significance.

Table 4.4 Observed type of interaction for patient reaction to nurse action

	Patient reaction		
	Positive (+)	Negative (-)	Total
Nurse Action			
Positive (+)	95	52	147
Negative (-)	12	101	113
Total	107	153	260

(Chi-square test 76.95; $p<0.000$)

The results of Chi-square testing (X^2) demonstrated that a **statistically significant ($p<0.000$)** association existed between **type of patient reaction** and **nurse action ($X^2 = 76.95$; $p = <0.000$).** This means **positive nurse action yielded positive patient reaction**, and **negative nurse action yielded negative patient reaction**.

- Nurse reaction to patient action (n = 47)

When testing for the difference between types of interaction for nurse reaction to patient interaction, a two-by-two contingency table was created and the Fisher's Exact test was employed to provide this statistic. Testing was done at 5% ($p<0.05$) level of significance.

Table 4.5 Observed type of interaction for nurse reaction to patient action

	Nurse reaction		
	Positive (+)	Negative (-)	Total
Patient Action			
Positive (+)	28	15	43
Negative (-)	0	4	4
Total	28	19	47

(Fisher's Exact test 0.0217; p<.05)

The results of the Fisher's Exact test demonstrated a **statistically significant (p<0.000)** association existed between **type of patient action** and **nurse reaction (p=<0.05).** This means a **positive patient action tended to yield a positive nurse reaction, and vice versa**.

4.2.2 Step 2: Survey Study

4.2.2.1 Demographic data of the nurse respondents

This section related to the nurse respondents' demographic data, which comprised five items. Items included gender, age, experience in ICU, position and additional qualification in ICU, which was obtained by the researcher from the respondents self-administered questionnaires. Results of this process are summarised in Table 4.6.

Table 4.6 Demographic data of the nurse respondents for the total sample (n = 110)

Categories	Frequency	Percentage
Gender		
Male	20	18.2%
Female	90	81.8%
Age		
<25 years	8	7.3%
25 to 30 years	23	20.9%
31 to 40 years	37	33.6%
41 to 50 years	28	25.5%
51 to 60 years	11	10.0%
61 to 65 years	3	2.7%
Experience in ICU		
<1 year	12	10.9%
1 to 5 years	37	33.6%
6 to 10 years	30	27.3%
11 to 15 years	17	15.5%
>15 years	14	12.7%
Position in ICU		
Professional nurse	56	50.9%
Agency nurse	22	20.0%
Unit manager	4	3.6%
Shift leader	27	24.6%
Clinical facilitator/mentor	1	0.9%
Additional qualification		
Yes	84	76.4%
No	26	23.6%

Of the total sample of 110 (n = 110), females accounted for 81.8% (n = 90) and males 18.2% (n = 20). The largest group (33.6%; n = 37) of respondents were between the ages of 31 to 40 years, followed closely by 25.5% (n = 28) and 20.9% (n = 23) in the 41 to 50 and 25 to 30 age categories, respectively. It can be extrapolated from the findings that female nurses

predominated. Between ages categories indicated higher and lower frequencies in the <25 to 40 and 41 to 65 (61.8% vs. 38.2%) age groups, implying this is a young nurse population.

The largest group (33.6%; n = 37) of respondents had between 1 and 5 years of experience in ICU, followed by 27.3% (n = 30) and 15.5% (n = 17) in the 6 to 10 and 11 to 15 years categories, respectively. It can be extrapolated from the findings that nurses have vast amounts of ICU nursing experience. However, between years of experience categories indicated opposite higher and lower frequencies in the less than 10 (<10) and more than 10 (>10) (71.8% vs. 28.2%) years groups, implying this is a less than highly experienced nurse population.

Of the total sample (n = 110), a close majority (50.9%; n = 56) of the respondents were professional nurses in full time employment, and only 20.0% (n = 22) were agency nurses. In addition to their normal responsibilities in patient care, 24.6% (n = 27) of the respondents acted as shift leaders.

In this study, 76.4% (n = 84) of the respondents held an additional qualification in Intensive Care nursing. It can be extrapolated from the findings that Intensive Care qualified nurses predominate in the sample.

4.2.2.2 Nurse-patient communication

The total sample comprised 110 (out of 125) respondents who were registered nurses practicing in the ICUs. This yielded a response rate of 88.0%, which is acceptable for a survey study.

The instrument used in this study was the Nurse-Patient Communication questionnaire developed by Binn (1998). The researcher adhered to the instructions provided by the author to analyse the survey item scores, and a total score on the survey was computed by adding all 26 items.

Table 4.7: Summary statistics on the Binns' Survey for the study nurses (n=110)

Item	Statement	Median	IQR
1	I have good communication skills in general.	1	1-2
2	It is a patient's response that motivates me to communicate.	2	1-2
3	I prefer to take care of patients who tell me how they feel and what they need.	3	2-4
4	I prefer to take care of patients who don't talk because I don't have to talk to them.	4.5	4-5
5	I get anxious when I have to take care of a non-communicative patient.	4.5	4-5
6	I get frustrated when an intubated patient tries to communicate with me.	4	2-5
7	I find that communication devices such as picture boards and pen and paper are a source of frustration for nurses.	4	3-5
8	I find that communication devices such as picture boards and pen and paper are a source of frustration for patients.	3	3-4
9	If I encourage communication with my ICU patient I could foster a relationship that may be painfully ended at discharge or death.	4	2-5
10	Communication is low on my priority list when the patient is very sick.	4	2-5
11	I can perform nursing tasks more efficiently if I don't communicate with my patients.	4	4-5
12	I feel that verbal communication is an unnecessary part of the nursing process when caring for a non-communicative patient.	4	4-5
13	I keep communication with my ICU patient to a minimum so that I can focus on the high tech equipment, monitors and machines without distractions.	4	3-5
14	If I establish a communicative relationship with my non-communicative patients they may want to interact frequently and there is no time for that in the ICU.	4	3-5

15	Decreased environmental stimuli is the best treatment for anxiety in a patient who is intubated, paralyzed, unconscious, or neurologically impaired.	3	2-4
16	Little communication is the best treatment for anxiety in a patient who is intubated, paralyzed, unconscious, or neurologically impaired.	4	2-5
17	Sedation is the best treatment for anxiety in a patient who is intubated paralyzed, unconscious or neurologically impaired.	3	2-4
18	I keep my ICU patients sedated to prevent ICU psychosis.	4	4-5
19	When a patient is non-communicative, orientation to place, time and events is useless information for him/her to have to deal with.	4	4-5
20	ICU patients become discouraged, and do poorly, when they are aware of how sick they are.	3.5	2-4
21	It is not necessary for me to introduce myself to patients who are intubated and conscious.	5	4-5
22	It is not necessary for me to introduce myself to patients who are unconscious.	5	4-5
23	If the patient cannot acknowledge understanding, there is no reason for me to explain procedures before performing them.	5	4-5
24	It seems likely, that if a patient cannot verbally respond, he or she is unaware of the surroundings and communication is pointless.	5	4-5
25	I am less likely to initiate communication with a patient whom I don't think will respond.	4	3-5
26	I am less likely to initiate communication with a patient whom I don't perceive understands me.	4	4-5

Table 4.7 shows the summary statistics on the Binns' survey for the nurses who participated in the study. A high median score indicates disagreement with the items meaning communication with intubated patients is not affected by the item listed. A low median score indicates agreement with the items meaning communication with intubated patients is affected by the item.

The items with the lowest median score (score of 1 -2) were items number 1 and 2. Item number 1 had a median score of 1 (IQR: 1-2) meaning nurses agreed that they have good communication skills in general. Item number 2 had a median score of 2 (IQR: 1-2) meaning nurses agreed that it is a patient's response that motivates them to communicate.

Items with a high median score (score of 4 -5) were item 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 16, 18, 19, 22, 23, 24, 25 and 26. These scores indicate that the nurses were not deterred from communicating with intubated patients for the reasons listed on the item statements. Of these items, item 21-24 have the highest median scores (median =5). This means that nurses were in disagreement with the following statements:

- It is not necessary for me to introduce myself to patients who are intubated and conscious.
- It is not necessary for me to introduce myself to patients who are unconscious.
- If the patient cannot acknowledge understanding, there is no reason for me to explain procedures before performing them.
- It seems likely, that if a patient cannot verbally respond, he or she is unaware of the surroundings and communication is pointless.

Distribution of the Binns' survey subscales

Each of the subscales with the exception of 'Nursing tasks' were skewed. Figure 4.1 to 4.5 below shows the distribution of each of the subscales and Shapiro Wilk test results.

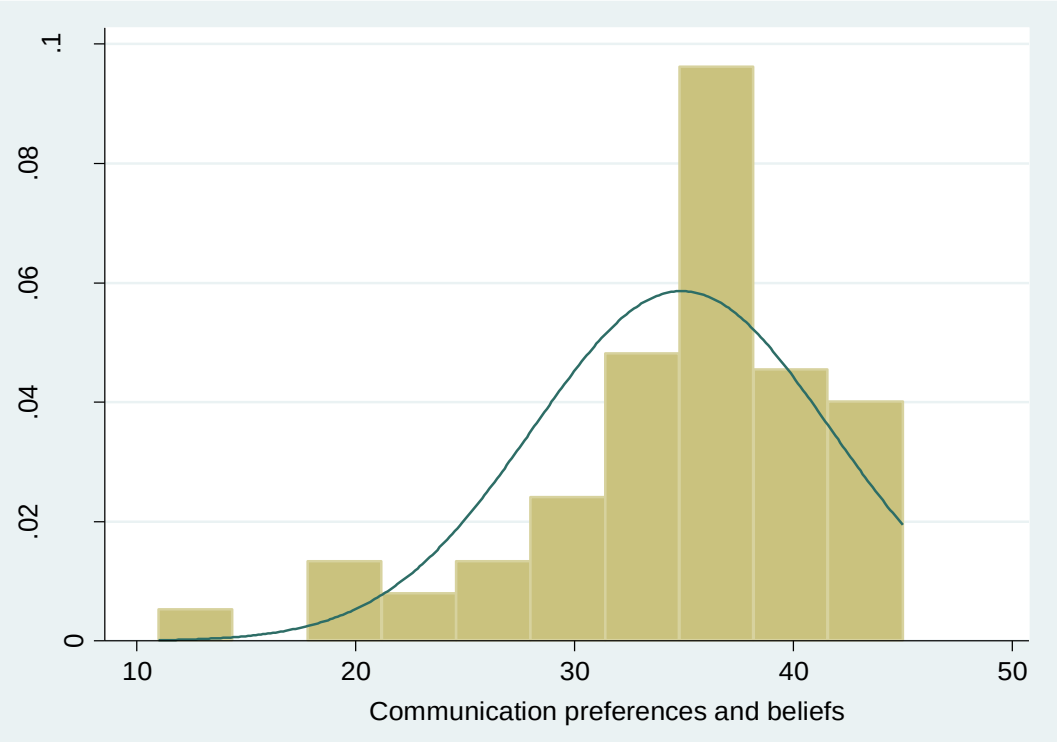


Figure 4.1: Distribution of nurses' responses to the influence of communication preferences and beliefs in communication with intubated patients. The data are left skewed (Shapiro Wilk p-value = 0.000)

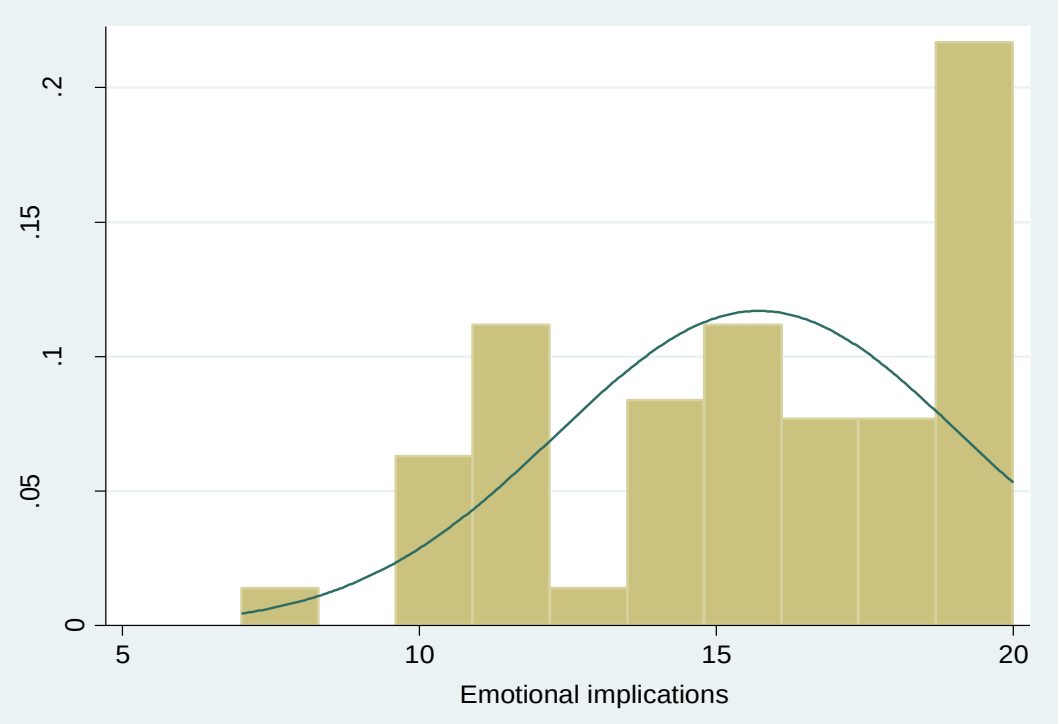


Figure 4.2: Distribution of nurses' responses to the influence of emotional implications in communication with intubated patients. The data are left skewed (Shapiro Wilk p-value = 0.006).

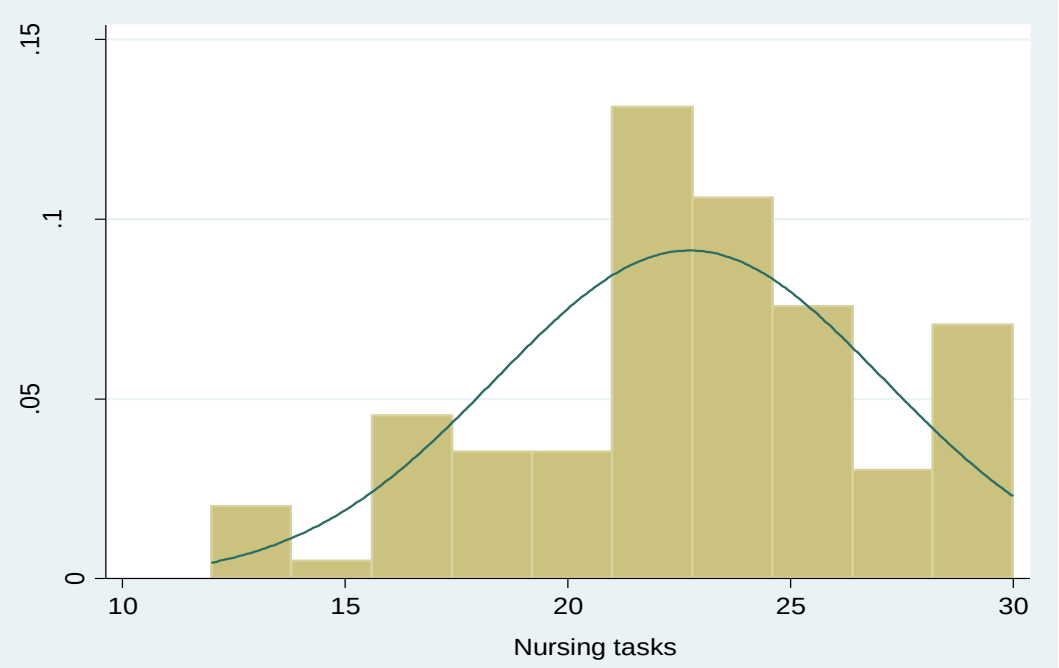


Figure 4.3: Distribution of nurses' responses to the influence of nursing tasks in communication with intubated patients. The data are normal (Shapiro Wilk p-value = 0.322).

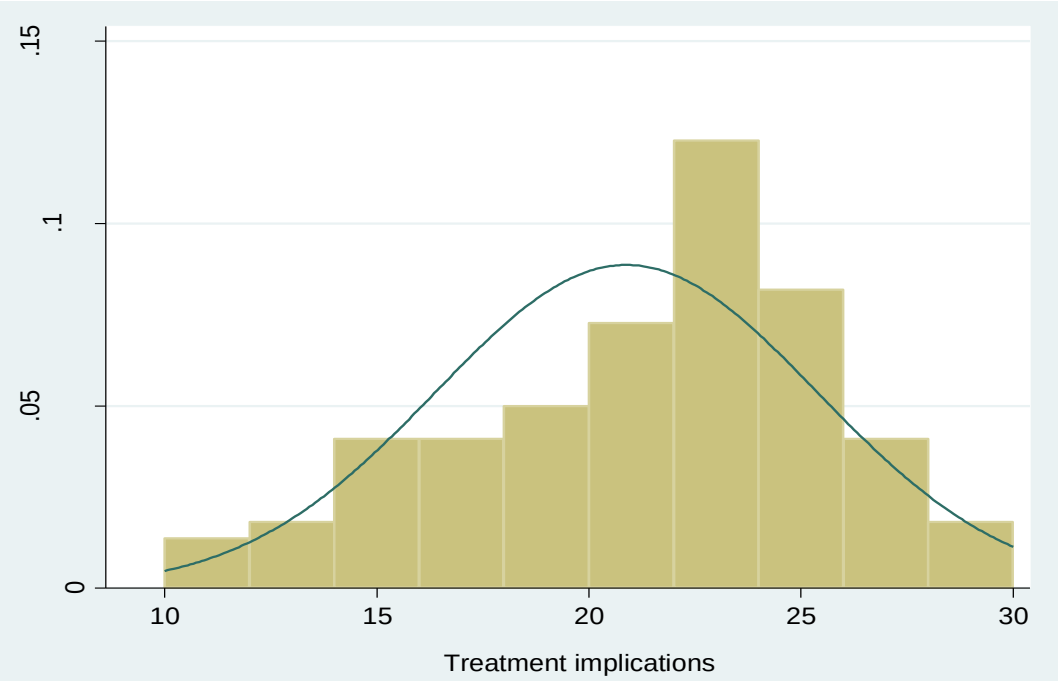


Figure 4.4: Distribution of nurses' responses to the influence of nursing tasks in communication with intubated patients. The data are skewed (Shapiro Wilk p-value = 0.005).

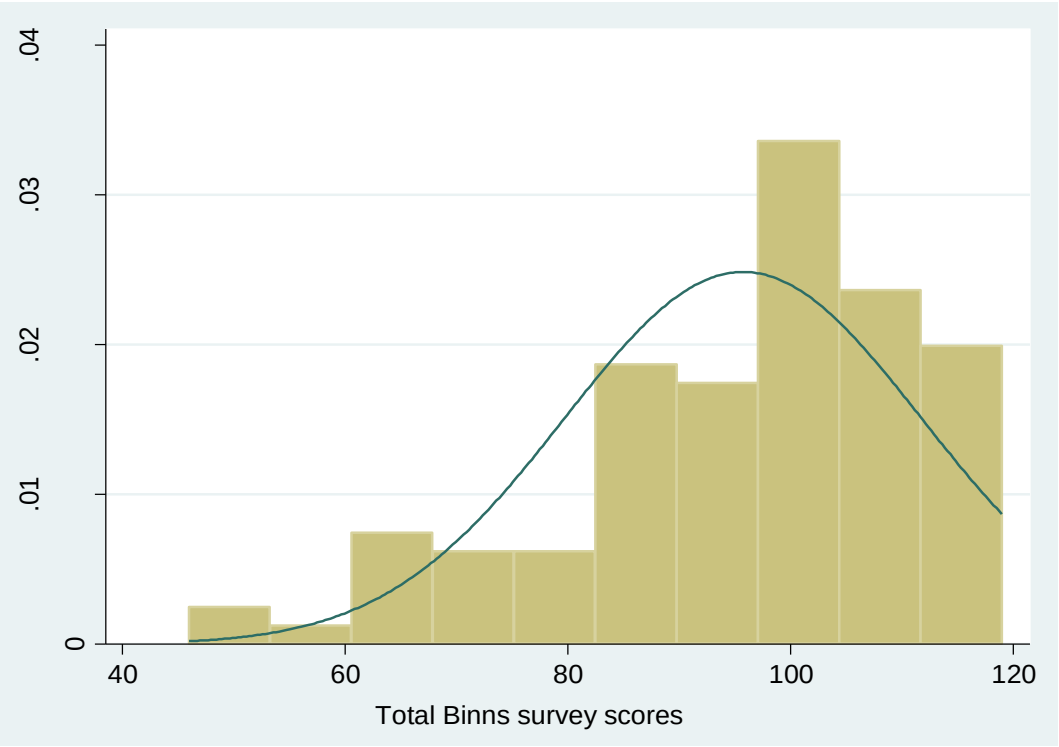


Figure 4.5: Distribution of nurses' responses to the influence of nursing tasks in communication with intubated patients. The data are left skewed (Shapiro Wilk p-value = 0.000).

Table 4.8: Descriptive statistics of the Binns' survey subscales for the nurses (N=110)

Subscale	**Median score**	**IQR**	**Range of scores**
Communication preferences and beliefs	37	32-39	11-45
Emotional implications	16	13-19	7-20
Treatment implications	22	18-24	10-30
Total Binns' Survey scores	89	89-108	26-130
	Mean score	**SD**	**Range of score**
Nursing tasks	23	4.37	12-30

Table 4.9: Descriptive statistics of the Binns' survey subscales for the nurses (N=110)

Subscale	**Median score**	**IQR**
Communication preferences and beliefs	4.11	3-4
Emotional implications	4.00	3-5
Treatment implications	3.67	3-4
	Mean score	**SD**
Nursing tasks	3.83	0.72

Table 4.8 and Table 4.9 show the descriptive statistics of the Binns' survey subscales. The total subscale score in Table 4.7 are simply presented and will not be commented on because each subscale is based on a different number of Items (Binns, 1998). The highest average subscale score was obtained for the communication preferences and beliefs subscale (median: 4.11; IQR: 3-4) and the emotional implications score (median: 4.00; IQR: 3-5). **All subscale scores were greater than the neutral point (score of 3) hence there was an overall agreement on all items.**

Table 4.10: Comparison of nurses' communication with patients by years of nursing experience

Subscale	Median score (IQR)	Mann Whitney p-value
Communication preferences and beliefs		
<10 years nursing experience	4.11 (3-4)	0.2940
≥10 years nursing experience	4.11 (3-4)	
Emotional implications		
<10 years nursing experience	3.75 (3-5)	0.0674
≥10 years nursing experience	4.25 (4-5)	
Treatment implications		
<10 years nursing experience	3.83 (3-4)	0.4927
≥10 years nursing experience	3.-67 (3-4)	
	Mean score (SD)	**T-test p-value**
Nursing tasks		
<10 years nursing experience	3.55 (0.11)	0.0021*
≥10 years nursing experience	3.98 (0.09)	

Key: * = statistical significance

Table 4.10 shows a difference in nurses' communication to intubated patients based on years of experience. The table shows that there was a significant difference between nurses communication based on the nursing tasks subscale and the nursing years of experience (p=0.0021). Nurse with more than 10 years of nursing experience were more likely to disagree to items that make up the nursing tasks subscale score than nurses than had less than 10 years of nursing experience.

Table 4.11: Linear regression analysis results for the association between years of nursing experience and nurses' communication (based on communication preferences and beliefs) with intubated patients adjusting for nurses' gender age and position.

	Regression coefficient	p-value	95 % Confidence interval	
			Lower limit	Upper limit
Years of nursing experience				
<10 years	-2.13	0.208	-5.48	1.21
≥10 years	Base			
Age (years)				
<25	-2.20	0.454	-8.01	3.61
25-30	-0.56	0.776	-4.44	3.32
31-40	Base			
41-50	-1.83	0.314	-5.42	1.76
51-60	0.23	0.924	-4.61	5.07
61-65	-5.05	0.234	-13.42	3.32
Position in ICU				
Agency worker	Base			
Unit manager	-2.12	0.265	-5.88	1.64
Clinical facilitator	-0.12	0.943	-3.48	3.24
Qualification with SANC				
Yes	Base			
No	-1.21	0.494	-4.71	2.29

Table 4.11 shows no difference between years of experience and nurses communication based on communication preferences and beliefs with intubated patients when adjusting for nurses' gender and age.

Table 4.12: Linear regression analysis results for the association between years of nursing experience and nurses communication (based on emotional implications) with intubated patients adjusting for nurses' gender age and position.

	Regression coefficient	p-value	95 % Confidence interval	
			Lower limit	Regression coefficient
Years of nursing experience				
<10 years	-1.19	0.162	-2.87	0.49
≥10 years	Base			
Age (years)				
<25	-0.27	0.856	-3.18	2.65
25-30	-0.49	0.617	-2.44	1.46
31-40	Base			
41-50	-0.37	0.684	-2.17	1.43
51-60	0.70	0.567	-1.73	3.13
61-65	-2.17	0.308	-6.37	2.03
Position in ICU				
Agency worker				
Unit manager	-0.21	0.829	-2.09	1.68
Clinical facilitator	0.15	0.858	-1.53	1.84
Qualification with SANC				
Yes	Base			
No	-0.30	0.734	-2.06	1.45

Table 4.12 shows no difference between years of nursing experience and nurses' communication based emotional implications with intubated patients when adjusting for nurses' gender and position.

Table 4.13: Linear regression analysis results for the association between years of nursing experience and nurses communication (based on nursing tasks) with intubated patients adjusting for nurses' gender age and position.

	Regression coefficient	p-value	95 % Confidence interval	
			Lower limit	Regression coefficient
Years of nursing experience				
<10 years	-2.75	0.008*	-4.78	-0.72
≥10 years	Base			
Age (years)				
<25	-3.01	0.094	-6.53	0.52
25-30	-0.77	0.516	-3.13	1.58
31-40	Base			
41-50	-1.53	0.167	-3.71	0.65
51-60	-0.16	0.912	-3.10	2.78
61-65	-5.37	0.038*	-10.45	-0.29
Position in ICU				
Agency worker	Base			
Unit manager	-0.44	0.702	-2.72	1.84
Clinical facilitator	0.06	0.95	-1.98	2.10
Qualification with SANC				
Yes	Base			
No	0.49	0.65	-1.64	2.61

Key: * = statistical significance

Table 4.13 shows that there was a significant difference between nurses communication based on the nursing tasks subscale and the nursing years of experience (p=0.008) and age categories (p=0.038). Nurse between 61 to 65 years of age (p = 0.038) were more likely to disagree to items that make up the nursing tasks subscale score than nurses than had less than 10 years of nursing experience (p=0.008).

Table 4.14: Linear regression analysis results for the association between years of nursing experience and nurses' communication (based on treatment implications) with intubated patients adjusting for nurses' gender age and position.

	Regression coefficient	p-value	95 % Confidence interval	
			Lower limit	Regression coefficient
Years of nursing experience				
<10 years	-0.35	0.758	-2.61	1.91
≥10 years	Base			
Age (years)				
<25	1.59	0.424	-2.34	5.52
25-30	0.72	0.587	-1.90	3.35
31-40				
41-50	-0.47	0.701	-2.90	1.96
51-60	0.57	0.731	-2.71	3.84
61-65	0.77	0.787	-4.89	6.43
Position in ICU				
Agency worker	Base			
Unit manager	0.50	0.699	-2.04	3.04
Clinical facilitator	0.47	0.684	-1.81	2.74
Qualification with SANC				
Yes	Base			
No	0.10	0.932	-2.26	2.47

Tables 4.10-4.14 show the association between nurses' communication with intubated patients (for each of the four subscales) and the nurses' years of experience adjusting for nurses' gender, age and position. The tables show that when adjusting for other demographic factors there is no association between years of experience and nurses communication with intubated patients.

4.3 PHASE TWO: QUALITATIVE FINDINGS

This section presents qualitative findings from interviews with registered nurses practicing in the two ICUs at the selected study site.

4.3.1 Demographic Data of the Participants

Twenty (n = 20) participants were interviewed until it was determined saturation was reached. Table 4.16 displays the demographic data of the 20 participants.

Table 4.15: Demographic data of the nurse participants for the total sample (n = 20)

Categories	Frequency	Percentage
Gender		
Male	6	30.0%
Female	14	70.0%
Age		
<25 years	1	5.0%
25 to 30 years	3	15.0%
31 to 40 years	1	5.0%
41 to 50 years	10	50.0%
51 to 60 years	5	25.0%
Number of years practicing in the ICU		
<1 year	1	5.0%
1 to 5 years	4	20.0%
6 to 10 years	6	30.0%
11 to 15 years	6	30.0%
>15 years	3	15.0%
Position in ICU		
Professional nurse	10	50.0%
Unit Manager	3	15.0%
Shift leader	5	25.0%
Clinical facilitator	2	10.0%
Additional registered qualifications (besides ICU nursing specialisation)		
Yes	7	35.0%
No	13	65.0%

Females accounted for 70.0% (n = 14) and males 30.0% (n = 6) of the total sample (n = 20). The largest group (50.0%; n = 10) of participants were between the ages of 41 to 50 years, followed by 25.0% (n = 5) and 15.0% (n = 3) in the 51 to 60 and 25 to 30 age categories, respectively. The largest (30.0%; n = 6) group of participants had between 6 to 10 and 11 to 15 years of experience in ICU, respectively. Most (50.0%, n = 10) of the participants were professional nurses in full time employment, and more than one third (35.0%; n = 7) held additional registered qualifications besides Intensive Care nursing specialisation.

4.3.2 Emergent Themes

This section focuses on findings that emerged from participants' experiences of the tools and strategies used during communication interactions with intubated patients in ICU. The main prevailing issues included a breakdown in communication, limiting communication attempts, and impact of communication difficulties, using expressive strategies, comprehension strategies, nurse-related factors and patient-related factors. These seven categories generated three (3) themes, which provided the fundamental structure of the findings of the study and included:

- Experiences of communicating – the current situation.
- Strategies and tools for improving communication.
- Factors enhancing or inhibiting communication strategies.

Each of these themes is presented and discussed in detail, substantiated by verbatim quotations from interview transcriptions in the context in which they were expressed, to support observations and conclusions drawn by the researcher and to give them meaning. Following standard procedures for reporting interview data, typical statements made by

participants are set in italics as spoken. Table 4.17 displays the themes and sub-themes that emerged from the data.

Table 4.16 Summary of themes and sub-themes

Themes	Sub-themes
4.3.2.1 Experiences of communicating – the current situation	4.3.2.1.1 Breakdown in communication
	4.3.2.1.2 Limiting communication attempts
	4.3.2.1.3 Impact of communication difficulty
4.3.2.2 Strategies and tools for improving communication	4.3.2.2.1 Expressive strategies
	4.3.2.2.2 Comprehension or understanding
4.3.2.2 Factors enhancing or inhibiting communication strategies	4.3.2.2.1 Nurse-related factors
	4.3.2.2.2 Patient-related factors

4.3.2.1 Theme One: Experiences of Communicating – The Current Situation

The first theme produced three sub-categories, which are linked to the experiences of communicating – the current situation. These include a breakdown in communication, limited communication attempts and impact of communication difficulty.

4.3.2.1.1 Breakdown in communication

A common factor reported by the nurse participants was a breakdown in communication. Many nurses were concerned about the inability to understand what the patient said.

One nurse explained:

> *"We do try to understand. You are going through all those things in your mind, but you're not getting it …]."*
>
> Participant 2

Several nurse participants reported that despite a number of communication attempts, they are still unable to understand what the patient is trying to communicate. One nurse explained,

> *There's often patients whom I have got to say, I am …sorry I really don't understand what you are saying".*
>
> Participant 16

Within any health establishment informed consent is an integral component of patient care, communication breakdown poses a risk to the upholding of this patient right.

One nurse stated, "*Remember that we have got consent forms, and in my experience I feel that you cannot make the patient just sign without explaining what is on the consent the nature of the operation and going through each and every line of that consent…*"

Participant 11

4.3.2.1.2 Limiting communication attempts

Some participants described patients as being unwilling to engage in communication at times because of fatigue or emotional factors. Some nurses described situations where they limited communication with patients.

"I find when patients are so sick they don't want to be having this long conversation about so and so … it's quite simple like I'm thirsty, I'm hot or I want to go to the toilet."

Participant 6

"…initially it's all about short conversations like two or three words, and that's it. We [nurses] *are quite good at working out these things."*

Participant 1

The interview data revealed different situations where nurses reported limiting their communication attempts with patients. One nurse described this as follows,

"Patients who are intubated and awake are recovering. It means they won't be that way for long, so it's quite easy to stick to simple yes/no questions, just looking at their facial expressions and body language."

Participant 5

Another nurse explained,

"Most patients are fine with that because we say to them just relax, we orientate them and tell them the tube's coming out. You just have to show respect and be calm."

Participant 6

As these patients are not so ill, it appears it is easier for nurses to guess or anticipate their basic needs rather than attempting to introduce other forms of communication.

The interview data also revealed other kinds of patients in ICU who tend to be not so co-operative. One nurse mentioned in her unit that nurses avoided being allocated long-term patients because they find communication more challenging. This was said,

> *"You know these patients can be difficult …no one really wants to go there, it's arduous work. I think people are not that confident in their communication skills. These patients tend to get frustrated and demanding very quickly, and many nurses struggle with that."*
>
> Participant 5

One nurse spoke openly about avoiding conversations by use of sedation and analgesia,

> *"In all honesty, you just don't have time to be standing there for half an hour trying to work out patient's whole conversation …so when they become restless we do give them some drugs to calm them."*
>
> Participant 7

4.3.2.1.3 Impact of communication difficulty

All the nurse participants expressed particular concern for their patient's psychological status. One nurse felt that *"all emotional and psychological stressors were a big part of the nursing care of patients in ICU and are often neglected."*

Participant 9

Several participants mentioned patient's frustration because of an inability to speak, or from a breakdown in communication with the nurse. One nurse described the emotional distress she attributed to her patient being unable to speak.

> "*When we got the patient off sedation especially in the early stages …you know he would be moving his mouth like he wanted to talk …so he would get so frustrated, he would get angry, and he would cry because he could not talk. He just couldn't hear his own voice."*
>
> Participant 8

Similarly, another one added,

> *"The biggest thing for my patient was the frustration …when we woke her up she would be moving her mouth like she wanted to talk …so she would get so frustrated, she would get angry, and she would continuously bang on the cot sides. She was convinced she lost her voice."*
>
> Participant 7

Most of the nurse participants expressed limited emotional responses. Four participants reported experiencing an emotion about patients who were intubated and unable to speak.

One of these nurses admitted to negative feelings or spoke of emotions in detail. She spoke of getting so frustrated and running out of patience when she was unable to understand a patient's message.

"You know after we have tried absolutely everything we do get a bit frustrated because we don't know what their complaint is, or …what they want from us …that's really so difficult."

Participant 19

Another nurse also explained,

"I say just tap on the bed to let me know when I get to the one you want. So they kind of tap and then you say, Oh okay you've got pain and they like NO and then they get angry because I got it wrong…you do sort of run out of patience and that is so."

Participant 18

4.3.2 Theme Two: Strategies and Tools for Improving Communication

The second theme was divided into two sub-themes that are linked to strategies and tools for improving communication. These include expressive strategies and comprehension strategies.

4.3.2.1 Expressive communication

Expressive communication refers to the many ways in which people express themselves – in this instance, acutely ill patients who are intubated and unable to speak.

The expressive communication support includes AAC systems that are used to assist patients to communicate their needs and wants. These methods support both, comprehension and expression of messages. Table 4.15 displays these results.

Table 4.17: Expressive strategies reported as used

Method	Frequency	Percentage
Writing with pen and paper	13	65.0%
Gestures	11	55.0%
Yes/No questions	9	45.0%
Communication boards – alphabet	5	25.0%
Communication boards – pictures	2	10.0%
Lip reading	2	10.0%
Mobile phone	2	10.0%

- Writing with pen and paper

Thirteen nurse participants who were interviewed recalled using writing with pen and paper with ICU patients. One nurse reported that writing is not an effective method in the ICU, attributing this to the amount of sedation used coupled with the use of physical restraints. This was said.

> *"I don't think writing works very well. A lot of them are drowsy, their hand to eye coordination is off, and because of the tube Endotracheal Tube [ET] or position [physical restraint], they are in. They find it difficult to write."*
>
> Participant 5

Other participants agreed,

> *"…even if they are able to write …the other thing is [when] you make them loose they would most probably will extubate [removal of ET tube] themselves …"*

Participant 16

> *"If they are restless and **not** going to pull at the tubes …we can untie them and give them paper and a pen to write what they need …"*

Participant 20

From the findings mentioned above, the suggestion is that the use of physical restraints may be a norm in the ICUs. This could be a barrier for expressive communication when writing with pen and paper.

- Yes or no questions

Nine nurse participants recalled using questions with yes/no responses. One participant explained,

> *"…asking them* [patients] *simple questions and getting them to nod* [head] *or blink* [eyes] *if they agree or disagree."*

Participant 5

- Gesture

Eleven nurse participants reported using gestures and sign language in the ICU. One nurse explained,

"…when the patient can't move their lips [mouth words] …pen and paper and the gestures works well …"

Participant 10

One participant cautioned that signs (gestures) could be differently understood when patients don't share the common language used in the institution. This was said,

"…there are different signs for pain …if I say this to you like [thumbs up] …you will know it's I'm okay …a patient from another country thinks something different …"

Participant 7

- Lip reading

Two nurse participants who were interviewed recalled using lip reading in the ICU. One nurse explained,

"It's just difficult …to communicate …most of the time you find patients want to say something and they are moving their lips …it's difficult to read lips. I can't read lips."

Participant 16

Other participants agreed.

"It is difficult when the patient is trying to speak with everything in their mouth …the tubes and the tongue are moving up and down …the lips don't even come together."

Participant 7

"Also it depends on whether we [nurses and patients] pronounce the words the same or properly …"

Participant 2

- Communication boards

Nine participants reported that communication boards are less helpful and less frequently used in ICUs. They believed the main reason is that patients or their nurses do not understand the application of these boards. One nurse explained,

"… when I used ABC [alphabet board] for him [patient] to try and spell …he got very frustrated because I was not fast enough to see they [words] went H E L P …it could have been something serious that was not understood ... I even used it on a Chinese patient …it turned up that she understood no English."

Participant 9

In contrast, other participants agreed that picture boards worked quite well.

"I must say that the pictures worked quite well …"

Participant 6

"A long time ago we used it ...they [occupational therapist] left it for one patient that we had. So after that, I have not seen any one leaving a board for us."

Participant 15

"*…I even drew simple pictures of the basic things a patient might need like thirsty, catheter …even a toilet, in the event the patient wanted this."*

Participant 3

- Mobile Phones

Two nurse participants who were interviewed recalled using mobile phones in the ICU. One participant explained,

"…he wanted to talk …I could not understand ... I said try mouthing words with your lips. I will ask simple questions and you can nod [head] yes or no …he wanted to talk. Later on he saw …my cell [mobile] *phone, he asked to use it and typed me a message".*

Participant 5

Another commented,

"…I sensed he had needs that he wanted to tell me … Later when the family visited him, I saw him using a cell [mobile] phone to type messages to them. I asked him if I could WhatsApp and then he can tell me what he was trying to tell me. I was then able to understand his need."

Participant 19

4.3.2.2 Comprehension strategies

Two nurse participants recalled using comprehension supports in the ICU. This is what they said,

> *"..always introduce yourself to the patient, tell them you are a nurse so and so, tell them what happened and that they are in ICU …if you get good eye contract, you can touch them and then decide on what method you want to use to communicate with them."*
>
> Participant 8

> *"…I think the idea behind so many strategies is to have one that works best for you … if something works better than the other and if the one outweighs the other to best establish a good rapport with the patient."*
>
> Participant 10

Another participant agreed.

> *"Most important …is good eye contact …in front of the patient they must know you are talking to them …Try speaking slowly, show them, move your mouth as much as possible …If you show patience, you will find understanding."*
>
> Participant 1

From the findings mentioned above, it is clear that nurses used strategies to support patients' comprehension. They mentioned using the patient's name, touch, locking their gaze with the patients. Finding the best method of communication is essential to obtaining an understanding.

4.3.3 Theme Three: Factors Enhancing or Inhibiting Communication Strategies

The third theme produced two sub-themes that are linked to factors enhancing or inhibiting communication strategies. These include nurse-related factors and patient-related factors.

4.3.3.1 Nurse-related factors

Two nurses spoke of a set of communication behaviours that created an environment conducive to communication. This included the importance of keeping calm and confident, being positive, being clear and slow in speech pattern, using good eye contact, being repetitive in what you say, and giving constant reassurance. This was what they said,

> *"I think this is really easy to go ahead and talk to the patient …like telling them you are their nurse …noticing how they react to you …being confident but gentle in voice and touching skills shows compassion ...It helps them to relax."*
>
> Participant 1

> *"…for me good eye contact is important …was there a little grimace when you turned the patient, saying to them you are doing well [or not so well today], noticing how they reacted when the family came in …or other things you do."*
>
> Participant 2

Many participants emphasised the need to repeat information and attributed this to large amounts of sedation given to patients in ICU. One participant explained,

"…they [patients] *are awake and not really awake like half sleeping from all this sedation …when you tell them what happened … waking up again they can't remember where they are or what has happened. We start all over again because they can't remember".*

Participant 2

Three nurses mentioned orientating the patients to what happened to them and what was going to happen, such as *"the tubes coming out, I am your nurse, you're …in hospital, you have had an accident, you can't talk because you have a breathing tube".*

Participant 5

Another explained,

"…there was a very restless patient …just transferred here …we talked in short sentences like I said we are going to take the tube out, I also showed her which tube and she became calm and relaxed. When the tube came out, she said today it happened and she was very grateful."

Participant 6

Familiarity with the patient was a facilitator of effective communication by three participants. This was about ease of lip reading, pointing and writing.

"*When you get to know these patients, and you know what works better for them, then you'll get it."*

Participant 1

Patients learn quickly how to send messages of concern to their nurses. One nurse explained,

> *"If they are awake they will ask for paper and a pen then they will write…a lot of time they will learn how to explain with the hands. It depends on how comfortable they are communicating with you and how you respond."*
>
> Participant 3

Another nurse stated they were learning new things about their patients every day. This is what she said,

> *"We have just come to realise …when he* [patient] *taps his two fingers together …it means he is feeling okay …to say his not feeling well today he turns his hand upside down. We are still working on the fact that I would be able to understand when he mouths me".*
>
> Participant 9

4.3.3.2 Patient-related factors

- Limb weakness and paralysis

Four participants mentioned limb weakness as a barrier. One participant explained,

> *"If the patient becomes restless we will give them a piece of paper, they write something that means a lot to them …it makes no sense to me because I can't read it and they get frustrated and even angry because I don't understand what they wrote."*

Participant 4

Three participants stated their patients were trying to write messages of concern. When they looked at it, the writing was slanting all over the page, and they couldn't understand what the patient needed from them.

Another explained,

> *"For three days …this patient just cried …thinking she can write and tell me what is worrying her I gave her a piece of paper and pen on a clipboard …it was then that we realised she was paralysed because she could not write. I felt terrible because I did not pick this up before."*

Participant 7

- Cognitive deficiency or delirium

Only two nurse participants described cognitive deficiency or delirium as making communication difficult, and felt this was caused by sedation. One nurse commented,

> *"I don't get her …she pulls on things* [intravenous lines, ET tube and urine catheter] *and even tries to hit me. When I look at her it is like she is far away looking at something else. I think she is confused …like delirium that is it."*

Participant 11

- Fluctuating medical condition and fatigue

Four participants mentioned acutely ill patients have a fluctuating medical condition, often experiencing fatigue and inability to concentrate, which have an effect on communication.

One participant explained,

> *"There you are in the middle of a conversation …they've* [patient] *fallen asleep …they don't have the energy because of their medical condition …they struggle to communicate or even look at a chart."*
>
> Participant 9

Another also commented,

> *"Initially they* [patients] *are so weak they can't even hold a pen and write or they have a poor hand to eye coordination …some can't even move their lips when attempting to mouth words …they are so tired and just want to sleep"*
>
> Participant 4

- Different spoken languages

Five nurse participants reported a lack of common language between the patient and the nurse as a barrier to effective communication.

One nurse described,

> "*Spending a long time attempting to read a patient's mouthing attempts. Later she discovered the patient was not English speaking*".
>
> Participant 7

Another nurse explained strategies she used when faced with a patient who did not share a common language.

"*Asking family to write down a list of need words in Portuguese to enable the patient to point to the one she needed or wanted".*

Participant 1

Two nurses did not find a lack of common language as a barrier due to the fact they had familiarised themselves with languages other than their own. One nurse explained,

"I have learnt many words in other languages like to cough, to swallow or to turn. This is very basic and what we want our patients to do. I feel one can only understand what's wrong when you speak another person's language."

Participant 2

Although the lack of common language was reported to exacerbate communication difficulties in intubated patients, it appears from the findings that this, to some extent, could be overcome.

4.4 SUMMARY

This chapter presented and analysed the findings of the study, as broken down into themes, categories and sub-categories for the qualitative phase. The findings of the quantitative phase, where the data were collected from observations and questionnaires were presented in the form of tables. Chapter Five discusses the results of the quantitative and qualitative data analysis in relation to relevant studies.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 INTRODUCTION

This chapter provides a discussion of the findings of this study. Data, which was collected qualitatively and quantitatively, will be explored, and the chapter will conclude with a summary of South African nurse's practices towards communication with patients who are intubated and mechanically ventilated.

5.2 DISCUSSION AND FINDINGS

5.2.1 Phase One: Quantitative Discussion of Findings

Two steps will be involved in the discussion of findings for this phase. Step 1 will review the findings of the observation of nurse-patient interaction, and step 2 the survey component.

5.2.1.1 Step 1: Observation of nurse-patient interactions

The primary objective of this component of the study was to observe and describe the frequency and content of nurses' communication interaction with intubated patients.

Nursing actions are guided by the nursing process. The nursing process is an internationally accepted method and a scientific method to guide procedures and facilitate quality care between the nurse and patient. The process has been defined as a systematic and dynamic

way in which to deliver nursing care. The process entails five interrelated steps: assessment, diagnosis, planning, implementation and evaluation. Each component requires the establishment of an effective communication action-reaction method, this, in turn, leads to the development of a therapeutic relationship (Parahoo, 2014).

Within the ICU, the establishment of this relationship is often hindered as nurses and patients are unable to communicate in the conventional method of verbal communication. Despite the availability of alternative communication methods, challenges relating to communication are frequently encountered by patients and the nurses caring for them.

This study was able to demonstrate that the most frequent action-reaction interaction was nurse silence during the administration of care, with no response from the patient. These results are comparable to those of Baker and Melby (1996), who made use of an observational tool, and indicated that ICU nurses spent an average of only 5% of their time communicating with their intubated patient. A 2012 student review revealed that nursing students had witnessed ICU nurses carrying out some invasive tasks, such as suctioning, without any warning or explanation, another interesting finding demonstrated by this study was that nurses preferred to care for patients that were not responsive and associated this with minimal communication requirements of the patient (Munger, Rios, Ignowski, et al., 2012). Findings of Happ, Garrett, DiVirgilio, et al. 2011, demonstrated that 20% of all nurse-patient interactions did not require an explanation and were statements, and it was for this reason that silence during care was not recorded as negative behaviour in that study.

This study found that procedures were explained on a number of occasions by the nurse. Patients would either respond with no response, head nods, turn away from the nurse or

appear confused and wanting clarification. This information ought to be standardised in terms of the explanation provided to patients and not based on what the nurse deems significant. The explanation of procedures was associated by Happ, Tuite, Dobbin, et al. in 2004, as being associated with interventions. Most of the action-reaction interactions were based on the care of the patient and an increase in interventions by the nurse was often associated with an increase in the frequency of communication interactions. In terms of patient response, Alguindy, Mohamed and Gado (2014), demonstrated that patients often felt restricted regarding the information that they were provided with and did not understand. A patient participant in a study by Patak, Gawlinski, Fung, et al. (2004) explained how during the time that he was intubated he tried to explain to the nurse what he wanted. The nurse was unable to understand and the patient eventually gave up all attempts to communicate. Engström, Nyström, Sundelin, et al. (2013) study revealed that patients' inability to communicate led to a sense of vulnerability and powerlessness.

This study found that nurse silence during the administration of care in some cases resulted in patient hostility and grimacing in response to pain. A similar reaction was elicited from the patient when the nurse criticised or indicated disapproval at a patient action. These findings were comparable to an American study, conducted by Patak, Gawlinski, Fung, et al. in 2004, which demonstrated through interviews with 29 recently extubated patients that 86% of all intubated patients experience some degree of frustration in communicating their needs while intubated and mechanically ventilated. Nurse silence could be a coping mechanism since patients admitted to the ICU have high mortality rates, this coping mechanism could also stem from nurses not wanting to experience negative emotions such as incompetence, despair and frustration when unable to effectively communicate with the patient (Alasad & Ahmed, 2005; Turnock & Kelleher, 2001).

Patients were observed to initiate the communication interaction with the nurse, the nurse clarified or asked the patient a question (n= 15) to ensure that what the patients was trying to communicate was understood correctly. This was a recommendation of Fredriksen & Ringsburg, 2007, that nurses make time and use clarification strategies to communicate with the patient and ensure that the conveyed message is understood. Patak, Gawlinski and Fung et al. (2004) also recommended that nurses approach their patients with a kind and patient demeanour and try to understand and provide the individual communication needs of the patient.

This study clearly demonstrates that a positive nurse action tended to yield a positive patient reaction and that a negative nurse action tended to yield a negative patient reaction. This was the same regarding the nurse reaction to the patient action. Other researchers did not demonstrate this association.

5.2.1.2 Step 2: Survey

The primary objective of stage 2 was to describe the value nurses place on communication by soliciting their thoughts and feelings about communication with critically ill patients.

Item 1 and 2 yielded the lowest median score. Indicating that nurses agreed and considered themselves as having good communication skills. The findings of this study revealed that nurses believed that they have good communication skills, however these results should be viewed with caution as nurse respondents often tend to overestimate their abilities when being assessed using a survey data collection method (Fricker & Schonlau, 2002). Despite the findings demonstrated by this study, several other studies have found that one- third of

all communication exchanges between patients and nurses were partially conveyed or abandoned (Alasad & Ahmed, 2005; Bergbom- Engberg & Haljamăe 1993; Magnus & Turkington, 2006).

The nurse respondents were also in agreement with the statement; patient responses motivates me to communicate and disagreed with statements regarding the nurse being less likely to initiate communication who would not respond. Similarly Ashworth (1980), Leathart (1994) and Happ (2001) found that nurses were more likely to have positive and more frequent interactions with ventilated patients when they were perceived by the nurse to be more responsive.

Finding revealed that nurses were in disagreement with the statement regarding their preference to care for a patient who does not talk. Contrary to this are the findings of Alasad and Ahmed (2005), who demonstrated nurse preference to care for unconscious patients. This occurs as the unconscious patient is viewed as "lighter" workload since the nurse does not have to respond to the communication and communicated needs of the conscious patient (Alasad and Ahmed, 2005).

High median scores were obtained regarding statements referring to nurse anxiety when caring and communicating with non- communicative patients. A study by Leathart (1994) illustrated that the communication patterns demonstrated by ICU nurses are a learnt behaviour, which is created to protect the nurse from anxiety and stress. This leads to the depersonalisation of patients and the implementation of ritualistic care; care becomes dependant on the clinical patient indicators rather than individualised patient needs.

Ritualistic care is the development of a nurse routine independent of the patient for carrying out care tasks such as bathing, suctioning, etc.

Findings demonstrated that nurses did not agree with statements associating communication and alternative communication techniques to frustration. However Jordanian, Swedish and British studies have revealed that nurses became frustrated and even considered themselves incompetent due to communication difficulties with intubated patients and admitted avoiding communication (Alasad & Ahmed, 2005; Bergbom- Engberg & Haljamăe 1993; Magnus & Turkington, 2006).

Nurse participants also disagreed with statements regarding ending a relationship with the patient who may be discharged or die from the ICU. Turnock & Kelleher (2001) suggested that nurses avoid communicating with patients as a coping mechanism in highly stressful situations as well as a method to avoid attachment with patients who have a poor prognosis and may die.

The survey findings demonstrated that nurses did not agree with the statement regarding the prioritisation of the patients physical care. However many studies have highlighted that nurses placed priority on the physical care of the patient and often neglected the psychological needs of the patient (Ashworth, 1980, Turnock & Kelleher, 2001). Previous research findings were attributed to Maslow's Hierarchy of Needs, which suggests that once the survival needs of a patient have been met, the psychological needs of the patient become more salient (Llenore & Ogle, 1999; Hagland, 1995).

Nurse participants were not in agreement with statements regarding time constraints within the ICU or that they are able to better perform tasks if communication is not required. This is contrary to the findings of Munger, et al., 2012, who found that nurses within the ICU are often engrossed in the complex equipment and thus have limited opportunity to communicate with their patients.

Nurses disagreed with statements regarding little communion and constant sedation being the best treatment to manage patient anxiety and ICU psychosis. This was supported by several researchers, previously sedation and analgesia were routinely administered to intubated and mechanically ventilated patients to maintain comfort, reduce pain and anxiety (Pun & Ely, 2007) however, these drugs have been associated with side effects such as fatigue, weakness, confusion and prolonged ventilator time. Studies have demonstrated the benefit of patients having a spontaneous awakening trial; this has been associated with a marked reduction in the number of days that patients remain intubated and ventilated (Allen & Alexander, 2012), as well as a decrease in the incidence of delirium (Girard, Kress, Fuchs, et al., 2008).

Interestingly despite the finding of this study and previous studies in support of minimal sedation Patients who participated in a 2004 American study reported that attempts to communicate were interpreted as apprehension by nurses and resulted in the administration of sedatives and morphine. The use of medication as a chemical restraint often perpetuated the problem it was trying to solve in the first place (Patak, Gawlinski, Fung, et al., 2004).

Patients inability to communicate and/or understand were not factors that nurses viewed as factors that could hinder communication from the nurse. Thus minimal patient

responsiveness and the perception of the nurse that the patient could not understand, would not limit the communication interaction. This highlights nurses' awareness of the significance of communication with non-communicating patients who are unable to respond.

The highest median scores were obtained for statements regarding the nurse introducing themselves to the patients that were intubated and conscious or unconsciou. This would imply that nurses strongly believed that they should introduce themselves to the patient whom they are caring for however, previous studies have demonstrated that nurses often have limited nurse – patient interaction and that the nurse often does not introduce themselves to the patient that is intubated conscious or unconscious (Munger, Rios, Ignowski, et al., 2012).

Nurses participants in this study strongly disagreed with the statement "If the patient cannot acknowledge understanding, there is no reason for me to explain procedures before performing them.". Findings emphasised that nurses were aware of the need and importance of explaining all procedures whether the patient was responsive or not. This was supported by a study by Elliott, Aitken & Chaboyer (2007), who found that nurses often did provide unconscious patients with a plain description of the intended procedure.

Nurses also disagreed with the statement that communication is pointless where the patient is not aware of his/ her surrounding and is unable to communicate verbally. Similarly several researchers have demonstrated that nurses consider communication as important for holistic patient care, however this is not consistently applied within the ICU setting (Alasad & Ahmed, 2005, Saldan, Pinilla Alarcon & Alvarado Romero, 2015).

Analysis of results with categorical variables regarding years of experience, age, gender and additional qualifications did not yield any statistical significance; this despite the numerous international studies, which have attributed significance to the above mentioned variables. As newer nurses start practising in the ICU, they need to familiarise themselves with complex equipment such as ventilators, chest tubes, intracranial pressure monitoring devices. This increases the workload of the new, less experienced nurse and can shift the focus from holistic patient care to task-orientated care (Hagland, 1995). Nurses may find themselves engrossed in the equipment, which may lead to them finding it more challenging to transition to being caring and compassionate when there is a lack of verbal communication (Munger, Rios, Ignowski, et al., 2012). This was confirmed by the findings of a report by Aari, Tarja & Helena (2008) and Guilhermino, Care, Inder, et al. (2014) regarding how ICU nurses perceived the current education provided on mechanical ventilation. These studies found that graduating nurse students commence their ICU experience with limited knowledge of mechanical ventilation and lack the skills of practicing, hence the focus on the technical aspects of caring for the ICU patient (Ääri, Tarja & Helena, 2008; Guilhermino, Care, Inder, et al. 2014).

5.2.2 Phase 2: Findings from the Qualitative Study

The primary objective of this component of the study was to explore nurses' experiences of tools and strategies used during communication with intubated patients.

5.2.2.1 Theme One: Experiences of communicating – The current situation

- Breakdown in communication

This study demonstrated that despite attempts to communicate, whether nurse or patient initiated, communication interactions are often unsuccessful. The message being communicated is often not understood. Effective communication is an essential component of patient care and for communication to be effective, the information must be complete, accurate, timely, unambiguous and understood by the patient (Wilson-Stronks, 2008). A patient described how he was unable to speak when he needed to the most (Patak, Gawlinski, Fung, et al., 2004).

The inability to speak has led to limited patient involvement in their own care and this brings to the fore the aspect of nurses obtaining patient consent for procedures and that a challenge may exist in this regard.

A senior nurse manager explained that consent was an integral and key focus for all those who worked in that department. However, findings revealed that nurses provide patients with information, but were unable to establish what the patient was trying to say, posing a risk in terms of the obtaining of consent to carry out procedures. Nurse participants even went on to explain that in some situations the nurse would seek consent but not wait for the patient to respond, as they are unable to understand the needs of the patient.

Some nurse participants even explained how consent would be overlooked in cases where the nurse provided the patient with information, but the patient refused the procedure. The

procedure would be carried out because the nurse believed it would be beneficial or necessary for the patient. This was described by a nurse who spoke of patient suctioning. Alternative communication strategies do exist, however challenges exist regarding the use thereof. Ultimately, the inability to communicate results in frustration as well as other negative emotions for the nurses who are unable to understand the needs of their patients.

- Limiting communication attempts

Communication interactions were limited by the patient, who was described by nurse participants as being unwilling to engage in lengthy communication interactions. This was associated with the patient's condition, fatigue or emotional factors associated with admission to the ICU and the administration of sedation. Nurse participants explained how critically ill patients often require simple, quick interactions. These interactions were based on the needs of the patient, and were often simple to understand and did not require lengthy conversations.

Another finding was that patients who were going to be extubated "soon" and had difficulty communicating would be reassured by the nurse as the "tube would be out soon." Since the patient is going to be extubated soon, the need for the implementation of an alternative communication technique is limited.

Nurse participants explained how they would not have time to establish what the patient was trying to communicate and would often give the patient a drug to calm them. This was in keeping with findings of Happ (2001), who demonstrate that nurses would often administer sedation or analgesia to a patient when they become anxious. This often inhibits

communication interaction and limits the patient in terms of opportunity to make themselves understood (Happ, 2001).

Nurse managers and a few nurses who took part in the interview explained how nurses prefer to be allocated to "a patient that is flat," the reason being that the nurse would not have to communicate with the patient. Caring for an unconscious patient is often viewed as being lighter regarding workload since they do not have to respond to the needs of a conscious patient (Alasad & Ahmed, 2005).

Some nurse participants explained how communication interaction is also dependent on the personality of the patient. Nurse participants described how some patients were reserved and quiet, while others, “especially the foreign ones,” would be demanding and require instant assistance. Other patients would try to communicate their message without giving up, while others would withdraw after a short period. Heath (1989) reported that patients are desperate to make themselves understood by the nurses who usually dismiss these attempts at communication. However, other studies have demonstrated that patients experience negative emotions related to the inability to be understood, and on many occasions give up on interacting and wait for the next shift (Patak, Gawlinski, Fung, et al., 2004; Bergbom-Engberg & Haljamäe, 1993). This may be indicative that communication is dependent on nurse personality as well as that of the patient. Some participants in this study described how they felt like years of experience and training had nothing to do with the nurse-patient communication interaction and attributed it to the personality of the nurse as well as the nurse’s values. An American study on patients’ experiences of being intubated and mechanically ventilated, demonstrated that the nurse caring for the patient actually

influenced the type of communication experience the patient would have (Patak, Gawlinski, Fung, et al., 2004).

During the researcher's data collection period, nurses would be at the nurse's station or the central monitor and the patient left alone; patients were even taught how to call for attention by banging on the sides of the bed. This was noted in two of the four units and could be attributed to variations in the design and structural layout of the ICU. Patients left alone have reported experiencing feelings such as being trapped, alone and secluded. Patak, Gawlinski, Fung, et al., in 2004, recommended that nurses inform their patients about their environment, when they will be alone and when the nurse would return.

- Impact of communication difficulty

Nurse participants pointed out that during the state of critically illness patients are unable to communicate their needs and wants effectively and this has been associated with psychological implications. Studies of patient experiences within the ICU reveal a significant relationship between the inability to talk and feelings of panic and insecurity (Bergbom Engberg & Haljamăe, 1988), sleep disturbances and stress (Ashworth 1980; Pennock, Crawshaw & Kaplan, 1994). Another study also corroborated these findings and demonstrated that self- esteem, the severity of illness, difficulty with communication and the number of days of intubation were associated with feelings of anger, worry and fear (Menzel, 1998). Bergbom- Engberg and Haljamăe, in Sweden (1993), explained how some patients would withdraw temporarily and no longer wished to communicate; 78% of the research population experienced this. Patients would also experience feelings of irritation (59%),

withdrawal (30%), sorrow and despair (11%), stress and frustration (7%), while 4% would respond in anger and panic due to being unable to make themselves understood.

Nurse participants often described how patients would become frustrated with the nurse's inability to understand their needs. This was also demonstrated by a study by Patak, Gawlinski, Fung, et al. (2004), where patient experiences were reviewed and revealed that 86% of all intubated patients experience some degree of frustration relating to communication interactions. Nurse participants described patients as not being aware that they were unable to talk. This was especially prevalent in nurses who worked in units with planned surgical interventions. All of the nurses mentioned the need for a pre-orientation for the patients so that they would be aware of their inability to speak post-operatively. This is of great significance as one nurse participant pointed out that post surgery, a patient thought she had lost her ability to speak and became very anxious.

Nurses' inabilities to communicate effectively with their patients have been associated with feelings of helplessness, frustration and inadequacy. Some nurse participants, who participated in interviews, explained how they would try to understand what it was that the patient was asking for. However, on some occasions, the communication process proved to be a futile exercise. Almost all the nurse participants described how they would attempt to communicate with their patients despite them being intubated, but they inevitably ended up not understanding each other. Fifty percent of the nurse participants reported being frustrated by the inability to understand the needs of the patients. Bergbom- Engberg and Haljamăe demonstrated this in a Swedish study in 1993, where 27 nurses were interviewed; despite their repeated attempts to communicate with their patients, sometimes they failed to understand what the patient wanted to express. Ninety three percent of the nurses felt

frustrated and sometimes considered themselves to be incompetent and felt powerless. Nurses experienced feelings such as despair, sorrow and distress. In order to limit such negative emotions, nurses may distance themselves from the patient and avoid communication interaction.

5.2.2.2 Theme two: Strategies and tools for improving communication

- Expressive communication

In this study, it was revealed that nurse participants made use of 14 alternative communication strategies in an attempt to enhance communication interactions with their patients. The most frequently used alternative communication method was writing with pen and paper (65%), followed by gestures (55%), yes/no questions (45%), communication boards – alphabet (25%), communication board – pictures (10%), lip reading (10%) and mobile phone (10%).

Nurse participants described writing with a pen and paper as an alternative communication strategy that was efficient and straightforward. However, some challenges have been associated with patients using this method of alternative communication. Nurse participants pointed out that the writing would often be illegible due to patients being ‘drowsy,’ ‘hand-eye coordination being off,’ patients not always able to write due to their position, and lastly, the challenge of illiteracy. Writing has often been reported as useful in ICU (Hurtig & Downey, 2009; Rodríguez & Davis, 2015), but studies have shown that writing is seldom used, particularly with pen and paper (Ashworth, 1980; Happ, 2001). Consistent with these findings, studies conducted by Connolly (1992) and Kaut, Turcott & Lavery (1996) found

that writing was often not an effective method of alternative communication as patients are often too weak or poorly positioned and often lack the concentration necessary to spell.

An innovative solution, which was suggested by patients, was the use of the cell phones, which enabled the nurse and the patient to communicate. The patient was able to type the intended message, and the nurse was able to read the message and provide the appropriate response. Predictive text alleviated the challenge faced by the illegibility of patient handwriting and the inability to spell. One nurse participant raised the concern regarding infection control within the ICU, she pointed out that we could wipe down items with the appropriate cleaning material. Additional research is required with regards to the use of cell phones as an alternative communication method.

Nurses who believed writing was a good alternative communication method also pointed out that they were reluctant to make use of it due to the risk of patients' self-extubating themselves while unrestrained. A nurse participant described the use of restraints as follows, *'... it has become a norm in the ICU where they restrain patients, irrespective of whether they are co-operative or not….'*

This was echoed in the research findings of Happ (2000), Leathart (1994), Menzel (1998) and Connolly (1992), who pointed out that restraints are commonly used within the critical care setting to prevent impairment of life-impairing technologies. The use of restraints often inhibited other alternative communication techniques, which required patients to make use of their hands.

More than half of the nurse participants in this study suggested gestures as an alternative communication strategy. A gesture is a form of non-verbal communication in which visible bodily actions communicate particular messages, either in place of or in conjunction with speech. Happ, Garrett, DiVirgilio, et al. (2011) and Leathart (1994) reported that gesture is often used in the ICU. This method of alternative communication was easy to use and effective for some nurses, however some nurses pointed out that gestures may have different meanings for different patients. Gestures were also reported to be used in conjunction with other alternative communicative strategies. Gestures and its use as an alternative communication method was often impaired by the use of restraints.

The asking of questions was also mentioned by the nurse participants as an alternative communication strategy. However, this limits the patients to being able to communicate, as the content is limited to the questions posed by the nurses. The researcher attempted to clarify how information would be obtained from the patient and this was frequently met with silence during the interview.

This study's findings were thus consistent with those of Patak, Wilson- Stronks, Costello, et al. (2009), who demonstrated that nurses would often make use of simple yes/no questions instead of identifying the appropriate alternative communication strategy for the individual patient. The findings also indicate that asking of this type of questions limited the patient's response to predictable messages that are in line with the clinician's expectations; conversely asking of questions is also recommended as it requires the least amount of energy to be answered.

The participants also suggested lip reading as being an alternative; however many nurses openly stated that lip reading was difficult and almost impossible due to all the devices in the patient's mouth. The pronunciation of words as well as the language variations made lip reading difficult. This was consistent with the findings of Happ's 2001 study, which revealed that lip reading was a difficult form of alternative communication.

Alphabet boards were mentioned as a communication strategy Meggs (1992) defines any arrangement of letters, word, symbols, or pictures designed as a communication board to aid a person whose expressive language ability is inadequate. . However, none of the nurse participants found it to be useful and pointed out that it was difficult to use and required patients to spell out what they required. Limitations of this method included language and the speed at which the patients spelt out the words. Garrett (2016) noted that communication boards are recommended for patients with varying levels of cognitive ability.

In 1988, an American study compared patient and nurse satisfaction regarding their communication interactions, during the postoperative intubated period following cardiac surgery. Nurses in the control group of the study were made to rely on creativity and experience to establish a communication method while the nurses in the experiment group were taught how to make use of a communication board and made use of it as a communication method during the postoperative period. Findings revealed that a planned communication method increased patient satisfaction but did not impact on nurse satisfaction (Stovsky, Rudy & Dragonette, 1988). The use of picture and communication boards was often limited to its availability, as the board would be brought in by the speech therapist and then removed from the ICU at the end of the session.

High tech output devices are electronic devices that use automated displaying and synthetic voices, these include speech and written output devices (Beukelman & Mirenda, 2013). This type of alternative communication method is not readily available in the public hospital setting of South Africa.

Low-tech devices are a more cost effective alternative compared to high tech options and are more readily available. These include pen and paper, picture boards, communication boards, gestures and sign language (Beukelman & Mirenda, 2013). However despite the availability of low-tech alternatives, researchers have demonstrated them to be ineffective. These strategies have been described as being fatiguing and frustrating in patients who are intubated (Menzel, 1998; Ashworth, 1980; Connolly, 1992; Leathart, 1994; Happ, 2000; Carroll, 2004).

- Comprehension strategies

These are strategies used to promote understanding of something and are employed by nurses to facilitate the communication process. Comprehension refers to an understanding of something that is happening, or about to happen (Harvey & Goudvis, 2007) – in this situation the message being communicated in the ICU. Some participants in this study described how it felt like years of experience and training had nothing to do with the nurse-patient communication interaction and attributed it to the characteristics of the nurse as well as the nurse's attitude towards communication. Participants mentioned making use of eye contact, touch, speaking slowly, nurse position about the patient, movement of the mouth so words were clear. In 2004, a study that reviewed the lived experiences of intubated and

mechanically ventilated patients demonstrated that the nurse influenced the patients' communication interactions (Patak, Gawlinski, Fung, et al., 2004).

This study also found that nurses were aware that body language influences communication between patients and nurses. Nurse participants explained how nurses should *"smile"* at the patient and *"not look as if they were always in a hurry.*" These findings were concurrent with the findings of Patak, Gawlinski, Fung, et al. (2004), who recommended that nurses approach their patients with a kind and patient demeanour and try to understand and provide the individual needs of the patient.

5.2.2.3 Theme three: Factors enhancing or inhibiting communication strategies

- Nurse-related factors

Nurse participants explained the importance of creating an environment conducive to communication. Some nurse behaviours contribute to the establishment of this environment, and nurse participants in this study mentioned behaviours such as being confident and gentle, and showing compassion. Introducing yourself to the patient is an essential component of the establishment of the therapeutic relationship, as well as keeping the patient informed of the procedures that will be carried out on an ongoing basis. Pullen & Mathias (2010) went on to highlight five key areas that should be emphasised to facilitate the establishment of this environment; these included introducing yourself to the patient, maintaining professional boundaries, actively listening to your patient, maintaining eye contact and ensuring patient privacy.

Due to the large amount of sedation that patients receive, it is essential to establish if the patient is awake before beginning the conversation. It is also important for the nurses to exercise patience when communicating with patients, but also repeat the information to ensure the patients have heard the message as it was intended. Explain what has happened to the patient, as some are not aware of what caused them to be admitted to the ICU. Long-term patients allow more time for the nurse to establish patient preferences and abilities regarding communication, and the meaning associated with the gestures that patients make (Patak, Wilson- Stronks, Costello, et al., 2009).

- Patient-related factors

Nurse participants describe patients as being weak and unable to engage in communication interaction. The incidence of ICU acquired weakness is very prominent within the ICU (40%), and patients are often unable to control their limbs (Appleton, Kinsella & Quasim, 2015). The incidence has been associated with five central risk factors, including multiple organ failure, muscle inactivity, hyperglycaemia and the use of corticosteroids and neuromuscular blockers (De Jonghe, Lacherade, Sharshar, et al., 2009). This has an impact on the ability to use alternative communication strategies such as writing. Paralysis was also identified by a nurse participant when attempting to make use of alternative communication strategies that required the use of the patient's upper limbs.

Apart from the physical impairments, cognitive consequences also occur amongst 30 to 80% of patients. Cognitive impairments include problems with memory, attention, mental processing, speed, planning, problem solving and visual spatial awareness (Desai, Law & Needham, 2011; Hopkins, Weaver, Collingridge, et al., 2005; Hopkins & Jackson, 2006).

All these factors are important components required by patients to establish what needs to be communicated and how it should be communicated.

It was also clear from all the data collection that nurses focus on the patient's medical treatment plan, especially if the patients' medical condition is fluctuating. Participants stated their priority regarding caring for their patient would be to save and maintain life. Patients who were critically ill were described as not even being human, let alone having psychological needs.

Controversially, communication with patients who are improving clinically, even no longer intubated and mechanically ventilated, is minimal. A nurse manager explained how critical care nurses sit far away from their patients and avoid communication. Consistent with the findings of this study, was a study done by Turnock & Kelleher (2001) and Ashworth (1980), which revealed that once patients' physiological needs have been met and where their psychological care should take greater priority, this often does not occur. Turnock and Kelleher's observational study revealed that some nurses would move away from the clinically improving patient to assist a colleague with a more dependent patient. This was associated with the nurse being less interested in the clinically improving patient, and the nurse perhaps considering the patient no longer interesting. Llenore and Ogle (1999) associated this with patients' decreased dependence on nurses, as they moved closer to a possible transfer to the wards. The nurse on duty in the ward will inevitably take care of a greater number of patients and have limited time to communicate.

According to an American study (Nilsen, Sereika & Happ, 2013), it was demonstrated that a marked increase in nurse-patient communication could be attributed to the increased length

of patient stay within the ICU. It was suggested that earlier in the patient's admission to ICU, communication was limited due to surgery, sedation, patient illness acuity, interruptions for tasks and procedures, while later in the patient's stay, they are more medically stable and nurses become more familiar with the patient. This marked increase was noted after 23 days of a patient remaining in the unit and within the South African public hospital context, often not seen (Schmollgruber, 2015).

Some researchers explored the relationship between nurse-patient communication and the number of days a nurse would be allocated to the same patient. Literature provided conflicting findings - Happ (2000) and Bergbom- Engberg & Haljamãe's (1993) found an increase in nurse-patient communication when the nurses were allocated to the same patient for an extended period, while Hall (1996) found no significant relationship between the two variables.

Nurse participants in this study described some challenges associated with the nurse-patient communication. A challenge noted by all of the nurse participants was language. South Africa has a diverse population with eleven official languages as well as 1.7 million foreigners living in the country according to stats SA. Nurses spoke about the variations in the vernacular languages and pointed out how surnames are used to identify which language the patient probably speaks. Nurses took the initiative to learn commonly used words and simple instructions, in a variety of languages, to improve communication interactions between themselves and the patient. A nurse explained how they would only notice they were using the incorrect language once the patient was extubated. Involvement of the family also proved to be beneficial in the identification of the patient's language. Controversially,

none of the available literature found language to be a barrier to effective nurse-patient communication (Happ, 2001; Nilsen, Sereika & Happ, 2013).

5.2.3 Interpretation of Results and Integration of Data

The explanatory sequential mixed methods design was used to achieve the objectives of this study. This two-phase design analysed quantitative data findings, which was followed and informed by qualitative data collection and analysis. The purpose of this design was to use the qualitative data to explain in more detail the initial quantitative result (Creswell, J. & Creswell, J.D., 2018).

Participating Intensive Care nurses, during interviews, have expressed they are often unable to understand the needs of their patients, and that nurses experience frustration relating to communication with their intubated patients. Numerous international researchers have demonstrated that communication between nurses and patients as well as patients and nurses, is often not effective (Alasad & Ahmed, 2005; Happ, Garrett, DiVirgilio, et al. 2011). In this study, the majority of the nurses described the inability to communicate effectively as frustrating. This finding is similar to that of international studies, and this leads to avoidance in communication (Alasad & Ahmed, 2005; Bergbom- Engberg & Hajamae 1993; Magnus & Turkington, 2006).

This study demonstrated that nurse silence during the administration of care and no response from the patient was the most frequently observed action-reaction interaction between nurses and patients. Silence during the administration of care was observed to occur on numerous occasions, this despite 96.4% of Intensive Care nurse survey participants rating themselves as having good communication skills in general. Nurse participants also denied statements

regarding the minimal need for explanation of procedures prior to carrying them out. This finding demonstrated nurse's positive rating of their abilities and knowledge relating to communication interactions, but this was not replicated in the findings of the observation component of this study.

Intensive Care nurses described the use of a number of alternative communication strategies in an attempt to understand the needs of their patients and facilitate their own understanding of the patient's needs. Expressive strategies that were commonly used included writing, gestures, yes/no questions and communication/alphabet boards. Less frequently used expressive strategies included communication/picture boards, lip reading and the use of mobile phones. Intensive Care nurses explained their awareness and use of alternative communication strategies and it is evident from the survey findings that critical care nurses have a well-established theoretical background on the significance associated with communication and the intubated patient. Despite the Intensive Care nurses awareness, the use of alternative expressive communication alternatives were minimal. International researchers have attributed this to limited Intensive Care nurse training opportunities and recommended interventions to improve the practical skills of Intensive Care nurses in terms of their use of alternative communications strategies (Finke, Light & Kitko, 2008; Happ, Garrett, DiVirgilio, et al., 2011).

An interesting finding in terms of the implementation of alternative communication strategies was the variation in terms of communication strategies in patients who are perceived by nurses as "going to be extubated soon" and those patients who are going to be "ventilated for a long time." Nurse participants expressed how they would opt to reassure the patient they thought would be extubated soon instead of finding an alternative

communication strategy. However, this varies in patients who are going to be ventilated for a long time as nurses described how they would attempt to identify a suitable alternative communication strategy. This phenomenon was explained by an Intensive Care nurse participant who described the meaning associated with finger tapping of a patient; this understanding between the nurse and patient developed over a prolonged patient stay within the ICU.

Nurses who participated in the survey component of the study strongly agreed with statements relating to improved frequency of communication interactions with patients who were able to respond as well as tell the nurse what they needed and felt. This was echoed by previous research, which indicated that nurses were more likely to have increased frequency in terms of interactions with patients perceived to be more responsive (Happ, Tuite, Dobbin, et al., 2004).

Comprehension strategies include methods to enhance patients understanding (Patak, Gawlinski, Fung, et al., 2004). Intensive Care nurses who participated in the interview sessions explained how standing close to the patient, maintaining eye contact and the clear mouthing of words improved patient understanding of the content being communicated. This was demonstrated in the observation component of the study where actions were classified by the researcher as positive or negative, nurse or patient action reaction. Positive nurse action yielded a positive patient reaction, whilst a negative nurse action yielded a negative patient reaction. Nurse negative response yielded 54% of the time in response to patient positive initiated interactions. The inability of patients to communicate their needs and wants effectively has been associated with physical and psychological implications (Elliott, Aitken

& Choboyer, 2007). This observation study found that patients responded to nurse criticism or indication of disapproval by not responding, turning away from the nurse and even crying.

Intensive Care nurses described their practices regarding the administration of sedative agents. Failure to understand the restlessness and haemodynamic changes in a patient often led to the administration of sedation. This was reported by a number of senior nurse participants who explained they would administer sedation as prescribed or as a precaution to prevent additional complications. The administration of analgesia or sedation occurs before the nurse attempts to communicate with the anxious patient, as confirmed by previous research findings (Patak, Wilson- Stronks, Costello, et al., 2009). This was also confirmed in a study where Intensive Care nurses strongly agreed that sedation is the best treatment for anxiety in patients who are intubated, paralysed, unconscious or neurologically impaired (Tate, Devito Dabbs, Hoffman, et al., 2012).

The qualitative data revealed that nurses are aware of the psychological implications associated with limited communication interactions. Intensive Care nurse participants described how patients would try to explain something, but then give up. This was explained by a number of nurse participants and the findings are similar to a study by Patak, Gawlinski, Fung, et al. (2004), who found that 86% of patients who are intubated and mechanically ventilated experience some degree of frustration regarding communication interactions.

From the interpretation of results, it would appear that a disparity exists between findings of the interview component of the study, the survey component and the observation component. Intensive Care nurses described and rated their awareness and theoretical knowledge on the communication interactions with intubated patients and the use of alternative

communication strategies as good. However, from the observation component, it appeared nurses were silent during the majority of interactions and positive actions yielded a positive reaction whether the action was generated by the nurse or the patient.

5.3 SUMMARY

This chapter presented the discussion and interpretation of findings of both the quantitative and qualitative phases of the study. This study, demonstrated silence during care as a frequent occurrence and that positive actions generated positive reactions whether initiated by the nurse or patient. Primary themes identified included communication breakdown, strategies and tools, as well as factors that enhance or inhibit communication. A summary of the study, main findings, limitations, recommendations and conclusion are presented in Chapter Six.

CHAPTER SIX

SUMMARY OF STUDY, MAIN FINDINGS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

This final chapter provides a summary of the study, as well as the key findings and limitations. The recommendations for nursing practice, education, management and further research and conclusions were also presented.

6.2 SUMMARY OF STUDY

6.2.1 Purpose of the Study

The purpose of this study was to explore and describe the value and practices of Intensive Care nurses toward communication interactions with critically ill patients in the adult Intensive Care units of a public hospital.

6.2.2 Objectives

The objectives of the study were to:

- Observe and describe the frequency and content of nurses' communication interaction with intubated patients.
- Describe the value nurses place on communication with patients by soliciting their thoughts and feelings about communication with critically ill patients.

- Explore nurses' experiences of tools and strategies used during communication with intubated patients.

6.2.3 Methodology

The research methodology refers to the blueprint that guides the study to have control over the factors that could interfere with the desired outcomes (Burns, Grove & Gray, 2014). A non-experimental sequential mixed method design was used to achieve the objectives of the study. Data was collected using two validated instruments: the Nurse-Patient Interaction (Sayler & Stuart, 1985) and the Binns' Communication Survey Questionnaire (1998).

The study respondents were primarily nurses who have been working in adult Intensive Care Units of a 1200 bed capacity, university-affiliated hospital and tertiary institution in Johannesburg, who completed observations, self-administered questionnaire and semi-structured interviews.

The observation was the only data collection method that also involved the patient. The ICU's included in the study were the Trauma ICU and General ICU.

Ethical clearance and permission to conduct the study was sought from the relevant university research committees, the Department of Health and the hospital respectively. Participation in the study was voluntary, and respondents were free to withdraw at any time.

Observations were conducted on patients who were purposively selected and nurses who volunteered. A minimum of 24 patients and 36 nurses were involved in achieving the

objectives of this study. The observations were done by the researcher alone, over 3 hours during both day and night shift; the timing was based on the high activity levels in the unit. Observations were focused around the frequencies as well as patient and nurse responses. Data obtained was displayed as frequencies and percentages.

Regarding the self-administered questionnaires, 110 nurses who met the inclusion criteria were sampled using the convenience sampling method. This data was analysed using descriptive and comparative statistics.

Once permission was granted by the hospital, and the ICU manager's consent was obtained, a purposively selected sample of critical care nurses were chosen for the conduction of the semi-structured interviews; a minimum of 20 were done until data saturation was reached. All the transcripts of the recorded interviews were transcribed, read through and important ideas highlighted. Themes were developed, and data was organised into categories and then analysed.

6.3 SUMMARY OF MAIN FINDINGS

The value and practices of nurses were established from the survey component of the study, which revealed that nurses were aware of the importance of communication with the intubated patient. Nurse participants rated themselves as having good communication skills, and communication was increased in patients who had the ability to communicate or tell the nurse what he/she required. Nurses disagreed with statements relating to nurses focusing on the clinical task rather than communication with the patient. Nurses believed that communication and keeping the patient orientated was essential. Introducing yourself as the

nurse to the patient was also believed to be important. Nurses refuted statements that implied limited communication interaction was required when patients were unable to respond.

From this component of the study, nurses have demonstrated excellent theoretical knowledge relating to the importance of communication. The assumption from the review of this component of the study would be that nurses frequently communicate with their patients. However, despite the above, the researcher observed that silence was the most frequently observed action-reaction interaction within the clinical setting. Silence from the nurse was frequent during the initiation and administration of care. Patients within the ICU who were clinically improving and due for extubation were often communicated with and reassured more than patients who were clinically not due for extubation. This has been linked to increased mortality and thus nurses distance themselves in terms of communication. These patients are also often restrained, further limiting their abilities to use alternative communication strategies. Nurses would explain procedures to patients on some occasions, indicating incongruence with the above component of the study however, nurses did respond negatively to patients resulting in hostility and patients crying. Positive nurse action has been associated with positive patient reaction and a negative nurse action associated with a negative patient reaction, as with patient actions.

From the interview sessions, it was established that nurses were aware of the importance of communication. Nurses described how patients would become frustrated when they were unable to make themselves understood, which led nurses to attempt to make use of some alternative communication strategies to facilitate communication interaction. However, most of the nurses did not have training on these alternative communication methods and the

availability of the required resources was limited. This led to frustration for the nurses who, on some occasions, felt incompetent.

6.4 LIMITATIONS OF THE STUDY

According to De Vos, Strydom, Fouche, et al. (2011), there is no scientific study that does not have shortcomings regarding the application or interpretation of the findings, which could be from the population or the sampling technique and as such, the researcher should be able to explicitly point out such shortcomings as they have an impact on the scientific quality of the study. In this study, the following limitations were discovered by the researcher:

Despite being conducted using the mixed methods approach, the quantity of data obtained from the observational phase of this study is limited, and perhaps a greater database would yield different results.

Participants who were involved in phase 1, step one, the observation component of the study was not included in phase three. Nurses who were observed may have had reasons for little communication which were not explored during the interview phase of the study.

The study also made use of a variety of data collection tools, some of which required more time than did others, and since staff who participated in the interview were on duty at the time, a number of interruptions occurred and perhaps going forward, staff within the Intensive Care Unit should be interviewed when not on duty.

The study was conducted at a tertiary public hospital in Johannesburg, a referral hospital with an array of technologically advanced equipment and trained staff. The findings are then difficult to generalise to smaller referring hospitals which may not be able to accommodate the type of patients seen at this facility's Intensive Care Units. The findings can also not be generalised to the private sector, as the quantitative data regarding the type of patients and staff compliment would differ significantly from that of the hospital where the study was conducted.

This study was conducted with nurse's attitudes and perceptions as the primary focus. However, the process of recovery from critical illness includes some members of the multi-disciplinary team who were not included in the study, but who also play a vital role.

6.5 RECOMMENDATIONS ARISING FROM THE STUDY

The findings of this study provide an insight on the opinions and attitudes of Intensive Care nurses regarding communication with patients who are intubated and mechanically ventilated, but awake. The findings also demonstrate the actual practices of ICU nurses. These findings have implications regarding communication interactions for nursing practice, education, management and further research.

6.5.1 Recommendations for Clinical Practice

The findings of the study indicated that despite ICU nurses' perceptions, attitudes and awareness of the significance of communication, a communication breakdown between nurses and patients frequently occurs resulting in frustration for both. Emphasis should be

placed on communication and its significance. The improved focus on psychological well-being will lead to improved communication interaction as well as decreased feelings of frustration for patients and nurses. This is also related to nurses objectifying patients and focusing on the patient's physical care.

It was also established that nurses have some variations regarding their communication interaction attempts. The current communication practices depend on the nurses' ability to identify the patient's communication needs through assessment, prior knowledge and experience. It is thus imperative that ICU nurses receive training in this regard. The implementation of standardised training would be beneficial.

6.5.2 Recommendations for Nursing Education

The findings of this study demonstrated that despite the additional critical care, medical and surgical qualification, it was clear that some communication interactions, between the nurse and patient and vice versa, were not effective. This provides evidence that the training is inadequate regarding the alternative communication strategies that nurses could make use of when interacting with patients who are intubated and mechanically ventilated, but awake.

The findings of this study will be shared with members of nursing education and key stakeholders to highlight the need for training. Training will enhance the focus of nurses within the clinical area, and it is imperative that continuous professional development in terms of alternative communication is carried out.

Nurse educators need to collaborate with nurses currently in clinical practice; this will facilitate collaborative approaches and innovative solutions to challenges being faced by clinical nurses and patients.

6.5.3 Recommendations for Nursing Management

Nurse participants expressed the need for additional resources to facilitate the process of communication; these items included picture boards, white boards with markers, alphabet boards, as well as the need to involve interpreters. The early involvement of speech therapists would also aid in the facilitation of the communication process.

Communication is often overlooked in the Intensive Care Unit as nurses often focus on filling in the designated areas on the ICU chart; there is only one place that looks at patients' communication, the GCS score for best verbal response next to which the words intubated are often indicated. The addition of an area to evaluate the patient's ability to communicate should be integrated into the ICU charts being developed.

6.5.4 Recommendations for Further Research

This study was conducted at one hospital in one single province, and this hinders the generalisation of the findings. However findings can be considered in similar patient situations.

The study can be repeated on a broader basis, such as in the private sector, to validate or refute the findings.

This study focused on the attitudes and perceptions of professional nurses only and excluded all other members of the multidisciplinary team. The study can therefore be replicated to assess other members of the multidisciplinary team (doctors and physiotherapists) in terms of their attitudes and perceptions towards communication with patients who are intubated and mechanically ventilated, but awake.

Additional research is also required in terms of the patients' perspective of being critically ill, mechanically ventilated and being unable to communicate.

Research can also be conducted in terms of the layout of the Intensive Care Unit and its impact on the process of communication, as it was observed in some instances that communication frequently did not occur and that nurses sat far away from patients. A comparison of the observational study conducted amongst other ICUs could be replicated on a larger scale to identify if it influenced the frequency of communication interaction.

Although research has been done on the nurse's attitudes towards communication practices, an interventional study is recommended. For example, a pre- and post-test design relating to the educational and training requirements of communication should be conducted, and done using a variety training methods, such as case studies and role playing.

6.6 CONCLUSION

Communication is at the forefront of human interaction. Being critically ill, intubated and mechanically ventilated often deprives patients of the opportunity to communicate through the conventional method of speech. This dissertation explored the value and practices of

Intensive Care nurses towards communication with intubated and mechanically ventilated patients. This study demonstrated that nurses have a well-established theoretical background in terms of communication and its significance, however the disparity between theory and practice quickly became apparent. Positive actions yielded positive reactions whether initiated by the nurse or the patient. Communication breakdown has been associated with increased nurse frustration, which has been attributed to the lack of training in terms of communication with intubated and mechanically ventilated patients and an interventional study is recommended for future research.

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APPENDIX A

COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

PATIENT INFORMATION LETTER

Dear _____ (name of patient)

My name is Muneera Ismail, I am presently registered as an MSc student at the University of the Witwatersrand in the Department of Nursing Education. I hope to conduct a research project and would like to ask you to consent to my including you in my sample with the patients I hope to study, whilst they are in the intensive care unit.

The aim of the study is to explore and describe the values and practices of intensive care nurses towards communication interactions with critically ill patients in the adult intensive care units. Your participation will mean that I can observe and describe communication interactions between you and your nurse. I will observe the communication interactions in two sessions and each session will take approximately 20 minutes of your time. With you permission, I will record the information on predetermined structured checklist.

Participation is entirely voluntary, and even when the study begins you can decide to terminate the study at any point, which will have no effects on services that you may receive from this institution or the health care providers.

The purpose of the study is to describe the values and practices of intensive care nurses towards communication interaction with critically ill patients. No reports of the study will identify you in any way. Results of the study will be given to you should you so wish.

The appropriate people and research committees of the University of the Witwatersrand, and Johannesburg Hospital have approved the study and its procedures. Should you require additional information about this study and its procedures Professor Cleaton-Jones, the chairperson can be contacted at 011 717 2301 email: peter.cleaton-jones1@wits.ac.za or the secretary of the committee, Mrs Zanele Ndlovu can be contacted at 011 717 1234 email: Zanele.ndlovu@wits.ac.za

Thank you for taking the time to read this information sheet. Should you have any further questions about the study or your rights as a study participant, I can be reached at the Faculty of Health Sciences, in the Department of Nursing Education, telephone number 083 488 9927 or email me using the following address: munz-27@yahoo.com

Yours sincerely,

Muneera Ismail
MSc Postgraduate Student

Supervisors: Dr Shelley Schmollgruber, email: shelley.schmollgruber@wits.ac.za
Professor Judith Bruce, email: Judith.bruce@wits.ac.za

APPENDIX B

COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

PATIENT CONSENT FORM

I _____ (name) give permission to be included in the study.

I have read with understanding the content of the information sheet and I have been given the opportunity to ask questions I might have regarding the procedure and my consent to my being included in the study.

_____ _____

Date Signature

APPENDIX C

COMMUNICATION INTERACTION WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

Categories of Nurse-patient Interaction in the Intensive Care Unit

Nurse Action Choices	Present	Patient action choices	Present
Social conversation (+)		Patient action choices	
Praises or encourages (+)		Initiation of non-verbal communication (+)	
Verbally clarify a non-verbal response (+)			
Asks questions (+)			
Explains a procedure (+)			
Gives direction (+)			
Gives commands (-)			
Criticising or indicating disapproval (-)			
Silence during initiation of care (-)			
Silence during administration of patient care (-)			

Patient reaction choices	Present	Nurse reaction choices	Present
No response (-)		Answers questions (+)	
Smile (+)		Touches patient then carries out the patients request (+)	
Nods head (+)		Says she is too busy at the time but will return (+)	
Hostile physical gesture (-)		Folds arms across chest and makes no verbal response to patient (-)	
Non-hostile physical gesture (+)		Responds in an angry manner (-)	
Turns away from nurse (+)		Responds in a firm manner (+)	
Continuous behaviour resulting in praise (+)		Carries out request without speaking to patient (-)	
Does not continue praised behaviour (-)		Carries out request and speak congenially to patient (+)	
Becomes agitated because nurse is unable to understand (-)		Does not respond to patient (-)	
Appears confused and wants clarification (+)		Ignores inappropriate behaviour (+)	
Does not follow directions or commands (-)		Verbally reprimands patient (-)	
Attempts to follow directions or commands (+)		Leaves patient (-)	
Expresses negative feelings about following directions (-)		Acknowledges the patient and accepts the behaviour (+)	
Grimaces in response to pain (-)		Clarifies non-verbal communication by asking questions (+)	
Cries (-)			

APPENDIX D

COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

NURSES' INFORMATION LETTER

Dear Colleagues

My name is Muneera Ismail, I am and intensive care nurse and I am currently registered for a MSc (Nursing) degree at the University of the Witwatersrand in the Department of Nursing Education. I intend to explore and describe the values and practices of intensive care nurses towards communication interactions with intubated patients in the intensive care units. May I ask you to consider participating in this study? As a registered intensive care nurse, I would be interested in your viewpoints as an 'expert' or 'experienced clinical practitioner'.

Should you agree to participate, I will ask you to complete a self-administered survey questionnaire with 26 questions on nurse patient communication in the intensive care unit. The return of the completed questionnaire survey will be taken as your consent for participation in the study. This will require you to rate all the items independently on a five-point Likert Scale, as to what extent you agree or disagree with the statements. This should take about 15 to 20 minutes of your time.

Participation in the study is voluntary. You may choose to participate or withdraw from the study at any time. Anonymity and confidentiality are guaranteed as research codes will be used.

I appreciate that you will derive no direct benefits from participating. However, I hope that the completed study will clarify the value and practices that nurses' place on communication interactions with critically ill patients. The appropriate people and research committees of the University of the Witwatersrand and the Charlotte Maxeke Johannesburg Academic Hospital have approved this study and its procedures.

Should you require additional information about this study and its procedures Professor Cleaton-Jones, the chairperson can be contacted at 011 717 2301 email: peter.cleaton-jones1@wits.ac.za or the secretary of the committee, Mrs Zanele Ndlovu can be contacted at 011 717 1234 email: Zanele.ndlovu@wits.ac.za

Thank you for taking the time to read this information letter. Should you require any further information regarding the study or your rights as a study participant you are free to contact me in the Department of Nursing Education or on the telephone number telephone number 083 488 9927 or email me using the following address: munz-27@yahoo.com.

Yours sincerely

Muneera Ismail
MSc Postgraduate Student
Supervisors: Dr Shelley Schmollgruber, email: shelley.schmollgruber@wits.ac.za
Professor Judith Bruce, email: Judith.bruce@wits.ac.za

APPENDIX E

COMMUNICATION INTERACTION WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

SECTION A: DEMOGRAPHIC DATA

Please read each item below and place an X at the correct answer or fill in the correct response where required.

1. What is your gender?

Male	
Female	

2. What is your age?

< 25 years	
25-30 years	
31-40 years	
41-50 years	
51-60 years	
61-65 years	

3. How long have you been working in an intensive care unit?

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

4. As a professional nurse what position do you hold in the intensive care unit?

Permanent employed professional nurse working in a shift	
Agency worker	
Unit manager	
Shift leader	
Clinical facilitator/mentor	

5. As a professional nurse do you hold an additional qualification with SANC?

Yes	
No	

6. If the answer to question 5 is yes, indicate which qualification(s):

SECTION B: NURSE-PATIENT COMMUNICATION

From the choices below, please circle in the letter that corresponds to your answer.
A= STRONGLY AGREE, B=AGREE, C=NOT SURE, D=DISAGREE,
E=STRONGLY DISAGREE

Item	Statement	Participant Response				
		Strongly agree	Agree	Not sure	Disagree	Strongly disagree
1	I have good communication skills in general.	A	B	C	D	E
2	It is a patient's response that motivates me to communicate.	A	B	C	D	E
3	I prefer to take care of patients who tell me how they feel and what they need.	A	B	C	D	E
4	I prefer to take care of patients who don't talk because I don't have to talk to them.	A	B	C	D	E
5	I get anxious when I have to take care of a non-communicative patient.	A	B	C	D	E
6	I get frustrated when an intubated patient tries to communicate with me.	A	B	C	D	E
7	I find that communication devices such as picture boards and pen and paper are a source of frustration for nurses.	A	B	C	D	E
8	I find that communication devices such as picture boards and pen and paper are a source of frustration for patients.	A	B	C	D	E
9	If I encourage communication with my ICU patient I could foster a relationship that may be painfully ended at discharge or death.	A	B	C	D	E
10	Communication is low on my priority list when the patient is very sick.	A	B	C	D	E
11	I can perform nursing tasks more efficiently if I don't communicate with my patients.	A	B	C	D	E
12	I feel that verbal communication is an unnecessary part of the nursing	A	B	C	D	E

	process when caring for a non-communicative patient.					
13	I keep communication with my ICU patient to a minimum so that I can focus on the high tech equipment, monitors and machines without distractions.	A	B	C	D	E
14	If I establish a communicative relationship with my non-communicative patients they may want to interact frequently and there is no time for that in the ICU.	A	B	C	D	E
15	Decreased environmental stimuli is the best treatment for anxiety in a patient who is intubated, paralyzed, unconscious, or neurologically impaired.	A	B	C	D	E
16	Little communication is the best treatment for anxiety in a patient who is intubated, paralyzed, unconscious, or neurologically impaired.	A	B	C	D	E
17	Sedation is the best treatment for anxiety in a patient who is intubated paralyzed, unconscious or neurologically impaired.	A	B	C	D	E
18	I keep my ICU patients sedated to prevent ICU psychosis.	A	B	C	D	E
19	When a patient is non-communicative, orientation to place, time and events is useless information for him/her to have to deal with.	A	B	C	D	E
20	ICU patients become discouraged, and do poorly, when they are aware of how sick they are.	A	B	C	D	E
21	It is not necessary for me to introduce myself to patients who are intubated and conscious.	A	B	C	D	E
22	It is not necessary for me to introduce myself to patients who are unconscious.	A	B	C	D	E

23	If the patient cannot acknowledge understanding, there is no reason for me to explain procedures before performing them.	A	B	C	D	E
24	It seems likely, that if a patient cannot verbally respond, he or she is unaware of the surroundings and communication is pointless.	A	B	C	D	E
25	I am less likely to initiate communication with a patient whom I don't think will respond.	A	B	C	D	E
26	I am less likely to initiate communication with a patient whom I don't perceive understands me.	A	B	C	D	E

Thank you for participating in the study

APPENDIX F

COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

NURSES' INFORMATION LETTER

Dear Colleagues

My name is Muneera Ismail, I am and intensive care nurse and I am currently registered for MSc (Nursing) degree at the University of the Witwatersrand in the Department of Nursing Education. I intend to explore and describe the values and practices of intensive care nurses towards communication interactions with intubated patients in the intensive care units. May I ask you to consider participating in this study? As a registered intensive care nurse, I would be interested in your viewpoints as an 'expert' or 'experienced clinical practitioner'.

Should you agree to participate, I will ask that you allow me to interview you individually at a venue of your choice. I will schedule an appointment at a date or time convenient to you. The individual interview should take a maximum of two hour's duration. With your permission, I will audiotape the interviews for transcription and analysis.

Participation is entirely voluntary. You may choose to participate or withdraw from the study at any time. Anonymity and confidentiality is ensured. I will personally transcribe the tape recordings they will be kept separately from the transcripts and they will be destroyed once the study is completed. No names or any other identifying information regarding the hospital or the intensive care unit will be noted on the transcribed data. All transcriptions will be kept under lock and key and only I and my supervisors will have access to the data. I will be happy to supply you with a copy of the transcription of the interview should you so wish. Information in the report will be written in general terms and no personal information will be given.

I appreciate that you will derive no direct benefit from participating. However, I hope that the completed study will assist nurses working in the intensive care setting to understand the values and practices intensive care nurses have towards communication interaction with intubated patients in the intensive care units. I have applied to the Faculty of Health Sciences, School of Therapeutics Postgraduate Research Committee and the Ethics Committee of the University of the Witwatersrand to conduct the study. I have also applied to the management of Charlotte Maxeke Johannesburg Academic Hospital for permission to conduct the study. Should you require additional information about this study and its procedures Professor Cleaton-Jones, the chairperson can be contacted at 011 717 2301 email: peter.cleaton-jones1@wits.ac.za or the secretary of the committee, Mrs Zanele Ndlovu can be contacted at 011 717 1234 email: Zanele.ndlovu@wits.ac.za

Thank you for taking the time to read this information letter. If you wish to participate in the study please sign the attached consent form. However, should you require any more information, you are welcome to contact me in the Department of Nursing Education, or on the telephone number telephone number 083 488 9927 or email me using the following address: munz-27@yahoo.com.

Yours sincerely,
Muneera Ismail (MSc Postgraduate Student)

Supervisors: Dr Shelley Schmollgruber, email: shelley.schmollgruber@wits.ac.za
Professor Judith Bruce, email: Judith.bruce@wits.ac.za

APPENDIX G

COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

CONSENT FORM

I _____ (name of nurse) give permission to be included in the study.

I have read with understanding the content of the information sheet and I have been given the opportunity to ask questions I might have regarding the procedure and my consent to my being included in the study.

_____ _____

Date Signature

APPENDIX H

COMMUNICATION INTERACTIONS WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

AUDIO-TAPING CONSENT FORM

I _____ (name of nurse) give permission for audio-taping to be used in the study.

I have read with understanding the content of the information sheet and I have been given the opportunity to ask questions I might have regarding the procedure and my consent to my being included in the study.

_____ _____

Date Signature

APPENDIX I

COMMUNICATION INTERACTION WITH INTUBATED PATIENTS: WHAT ARE THE VALUES AND PRACTICES OF INTENSIVE CARE NURSES?

SEMI-STRUCTURED INTERVIEW GUIDE

1. Tell me about your experiences working in ICU with people who are conscious but unable to speak. (Probe for portion of ventilator dependent people on your unit).
    - What have you found that works really well for communicating with them?
    - What else have you tried that you feel doesn't work so well?

2. What do you see as the barriers to effective communication in ICU with this population?

3. Compared with other wards, would you say communication was more or less important in ICU?

4. "Augmentative and alternative communication" (AAC) is a name given to a range of interventions designed to supplement or replace verbal communication. These range from non-tech options such as gesture, pen and paper, and picture communication and alphabet boards, to high-tech options such as IPADS and speech output devices.

   What types of AAC systems have you used/seen used with patients in ICU? Which of those work well? Which of these did not work well? Why? (probe culture and linguistic background of patients if not mentioned).

5. I would like you to think of the last conscious patient you worked with in ICU who was unable to speak.

    a. Can you describe the patient's condition fully? (Probe culture and linguistic background of patient if not mentioned)
    b. Can you describe the communication challenges you faced?
    c. Can you describe the feelings you experienced as you worked with this patient?
    d. Can you describe the strategies you tried with him to solve the communication challenges?

6. Have you ever experience using …(go through checklist of AAC strategies recommended in the literature)

Alternative communication methods used

Unaided		**Aided**	
Gestures		Paper and pencil/ pen	
Body Language		Communication boards	
Sign Language		Verbal Output devices	
		Written output devices	

This table was adapted from the American Speech Language Hearing Association (1991)

Thank you, I appreciate your time and participation in this study.

APPENDIX J

INTERVIEW TRANSCRIPT

I: Interviewer
P: Participant

I: Thank you so much for taking the time out of your hectic schedule to be with me here today.

P: Thank you

I: Is there anything you would like for me to answer in terms of the information letter?

P: No I'm fine Thanks.

I: Alright then we will go ahead with our semi structured interview. I'd like you to tell me a little bit about your experience with working with patients in the ICU but more particularly the patients who are intubate and ventilated but are conscious.

P: Well it is a challenge, firstly you don't really know the patient, so normally if your knew the daily routine of the patient, you would know that normally then had tea or they go to the loo now, so you know ok well obviously they want tea and you know they can't have tea so that's one problem. The other problem is language, especially when you don't speak the language and we have got many languages in the country, you know it's not just our languages, other languages, so you can't try and mime it. If they are awake and are able to see you then there are other methods that one can use but there is also illiteracy if you want them to write something down, which is another method you can do or even write, some can write but if they unconscious it is difficult you have to just have to try and think for the patient of what they are trying to say.

I: So which strategies do you find works best for you?

P: Ok ,if they can speak English and they have eye opening you can try, they can try and lip read, if that does not really work, because sometimes you don't pronounce the words the same or properly, then what I have done before, is got the alphabet written on a clip boards and then you spell the word out for them, and that sometimes help and its easy things, it's like tea, or toilet or rub or sore or pain and sometimes you can spell it out for them or they can, oh again it comes with how educated they are, and then you can have pictures where just the normal pictures where like are you sore, do want the toilet or do you want to be rubbed?, and that I have also used, and the last thing that has also helped is that if there is a family member and they know the person or they can speak the language then they will know well you sort of, he is asking for this or he wants that, that also works.

I: And what have you tried that does not work so well?

P: I think the alphabet is normally something quite difficult, to try and spell it out, and then you going back and forth and even if they really want to tell you something but you just can't make out what the spelling is and I think also pronunciation, we all pronounce words

different, so you know if someone said its, for eg: bird and bed, our accents are very different and that makes a problem.

I: Besides pronunciation what else do you see as a barrier to effective communication in this type of situation?
P: Well I would say how literate the person is, how literate they are, sometimes if they are not so sedated and how ill they are. I think those are what I would think are the barriers.

I: So compared to other wards, would you say communication is more important or less important in the ICU?

P: Well I would say communication for both and I do say ICU as well because those patients you are fully responsible for them but they are not going to know what's happened and because we are actually doing invasive things for them, they need to know what we are doing, you have to put yourself in their shoes breathing through a straw, you just plonked in here one minute you are fine the next minute you not awake. So I think you have to communicate even though the person is unconscious they still can hear so you are not going to get any response from the patient and you will not know anything about the patient if you do not communicate with the patient. So communication it starts off in the ICU and it should continue.

I: So what would you do in a situation where now you have tried communicating with the patient but they don't respond?

P: well I would then get a family member in, and I would try other things to try and relax the pt, and I thing I would be sympathetic with the patient, and I think tell them that you don't understand what they want but you are going to do a few things, and I think you need to put yourself in the shoes of the patient, now if you were in this situation what would you want? Would you like to turn and get alternative things in, that's what I would do

I: I am just going to read you a little bit of a passage and then we will go on to the next question, have you used any of the advanced methods of alterative communication? "Augmentative and alternative communication" (AAC) is a name given to a range of interventions designed to supplement or replace verbal communication. These range from non-tech options such as gesture, pen and paper, and picture communication and alphabet boards, to high-tech options such as IPADS and speech output devices.

P: No I have not, not the iPADS of the voice, I think it's something new and think with the population that I have worked with they not literate enough, but you know in time, I'm sure in time but you know a lot of people don't know how the iPAD works especially in the hospital that I am in the provincial hospital I don't even think that we have had that as a thought yet because of the resources.

I: Which would be your first option that you would use.

P: What I normally do I would go with the pictures.

I: I would like you to think of your last conscious patient that you worked with in ICU who was unable to speak. Can you describe your patient's condition?

P: My pt was a head injury pt, so he could only respond to him when you turned him, you could see the grimace on his face when you turned him and see how he responded. Especially when the family came in and he heard them, so I remember that it was traumatic for the nurse because you don't know what to do for the patient, you try this it does not work, you try that, it does not work, so you are going through all these things in your mind but you are still not getting what the patient wants, the other thing is so it's frustrating for you I think it's also frustrating for the patient so your haemodynamic alarms are going, so I think when you have family with that, that's also a problem coz they get scared and it is a very difficult thing to monitor, and I think it's frustrating and often we don't spend time trying to think what we can do, and I think that's the problem and there is a breakdown in communication.

I: Do you remember your patient's culture and linguistic background?

P: Ya this patient was a, he spoke in Afrikaans language and he was literate, but because of the head injury it didn't make a difference, because of his injury, so his injury actually impaired his ability to speak and to think, So he was totally, we had to communicate for him.

I: Besides the head injury what other types of communication challenges did you experience?

P: I mean even when you tell him to open his mouth it was difficult co he only had cognitive reflexes so it became quite difficult and that's the problem when they are really so ill and they have got a head injury that you can't calm them they restless, are they restless because they are hypoxic or are they restless because no one is understanding them, so that I would think was the hardest thing. The restlessness and not being able to tell them what you want and they can't tell you what they want and it makes the situation quite uncomfortable.

I: you mentioned that you felt very frustrated during this incident when you tried communicating, what other feelings did you experience?

P: I think you feel quite sad for the patient coz I always put myself in the patients shoes, I mean you tied there on the bed you have got this tube, you don't know why you are there, with the head injury you will be concussed. you just keep hearing this voices all the time, you don't know, you almost feel like you underwater and all you can hear are these voices going on, you don't even know where they from or what they saying or if someone said something to you, you sedated, you sort of like half-awake half not awake and you can't sometimes when you dreaming, you want to say something but the word does not want to come out, and there they can't so I think it must be very scary and very daunting.

I: So as the patient progressed and clinically, I'm assuming all this happened in the acute phase, let's say about 24 hrs- 72 hours the patient is now stabilized. What changed in terms of the communication?

P: I think once the person could see you and you could say how are you and he could start responding, press my hand, then you knew ok well now he is coming back sort of into the human phase, now he will be able to I can, now really start talking to him, when they unconscious and they are that ill, we try and put things into their mouths and try and do things, then you could try and you could try when they waking up and ask them, and if they did pull the face then you could ask them are you in pain, you can make gestures and then you could say would you like this. they could shake their head or say something and that

actually made it much easier because then you were having the physical appearance or physical act so then you can ok this is what the patient wanted.

I: So as you progressed with this patient in terms of your communication strategies, what different strategies did you use?

P: Well with him I must say I started with the spelling and then when I realised, and I started in English, and when I realised that he couldn't then we did change to Afrikaans, but it still was very difficult so I found the pictures were very good, and then we could ask do you want something to drink or you can't have something to drink we need to suction you, would you like to turn, would you like to be rubbed or event tell them we are going to do this, I must say that the pictures worked very well.

I: In terms of language, we have a lot of different languages as you spoke about that initially as well, how do you go about establishing communication interaction, when you don't know what language your patient is speaking

P: Well I do, there are some words and there are not many, I can speak Afrikaans and I can speak English and I can speak abit of Zulu, so what I have done I have learnt just few words, so for the Zulu, I can because we want to, for the patient to swallow, for the nasogastric tube, I've learn what swallow is, I've learnt the word and its very basic, to turn and then to cough, so I know very few words that I have had to learn thinking that it will help with communication purely because, you only understand what's wrong with you if someone talks in your language, now we all can't call someone to help but that's also another thing, so I've tried myself and then if there is someone else that speaks the language coz we do write the language on the chart but even so I will try and get someone else to speak the language, coz then at least we will try and the people might be able to understand. I do believe if I had to be in France or Paris and someone had to speak French to me and I didn't know, you can't communicate and that's why pictures are better or someone who can speak English. That's one other way that I will try and communicate and what I have done.

I: Did you ever get to a point with this particular patient, the Afrikaans speaking, head injury patient, where the patient was actually extubated.

P: Yes he actually did get extubated although he had a head injury he could communicate; it was not that severe as sometimes you would see

I: Did you ever discuss your communication interaction and how he felt about it?

P: No I didn't

I: In this interview I heard a lot about your different alternative communication and I have seen that you tried many alternatives and that you do have that sense of frustration and empathy towards your patient especially in those situations where they cannot communicate with you, and I really want to thank you for sharing your experience with me, is there anything else that you would like to add before we conclude the interview?

P: Ya I would, I think that it is a lovely topic, and we are not doing it all in icu and then the problem is that we think that our patient is unconscious, we just go in and do our thing and

the patient is just lying there, and you might say no, I still fail when people don't say hello to the patient or we gonna suction now, oh and one thing I have heard the patient complain about is the communication around the bed, while they unconscious and how they are discussing our personal lives, but the patient had actually told me that how he heard people discussing other staff, I do believe that really upsets me, first of all people do talk directly to the patient they treat the patient as if the patient is stupid or does not understand and then ya communication about staff members even not just with the patient I think it goes with communication with the family as well and I think the same techniques, getting someone else to speak the language to the patient, let the family also go in, to and speak and um ya I think it's important, we don't communicate with the patient in ICU, I don't think effectively especially if they sedated

I: What do you think we can do differently?

P: Well I think we need some lectures and we can do a simulation and what I think is very good with simulation on this is you can try and let the nurse actually be a patient without being able to hear, put a tube in their mouth and block the ears and see if they will understand. and we need to get these new techniques and make them available and I think you, we just have to persevere it's something that is definitely important to have and it will make nursing care easier , patients will be less frustrated and hopefully it will decrease our frustration as well.

I: Thank you so much and with that we are concluding the interview

APPENDIX K

Ethical Approval Clearance Certificate

R14/49 Ms Muneera Ismail

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M170542

NAME: (Principal Investigator)	Ms Muneera Ismail
DEPARTMENT:	Nursing Education Charlotte Maxeke Johannesburg Academic Hospital
PROJECT TITLE:	Communiaction Interaction with Intubated Patients: What are the Values and Practices of ICU Nurses?
DATE CONSIDERED:	26/05/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Shelly Schmollgruber
APPROVED BY:	Professor P. Cleaton-Jones Chairperson, HREC (Medical)
DATE OF APPROVAL:	19/07/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 10004,10th floor, Senate House/3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially review May and will therefore be due in the month of May each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX L

Permission to Conduct Study

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

CHARLOTTE MAXEKE JOHANNESBURG ACADEMIC HOSPITAL

Enquiries:
Ms. G. Ngwenya
Office of the Nursing Director
Tell: (011): 488-4558
Fax: (011): 488-3786
31 August 2017

Ms. Muneera Ismail
University of the Witwatersrand
Department of Nursing Education
Faculty of the Health Sciences

Dear. Ms. Muneera Ismail

RE: "Communication interaction with intubated patients: What are the values and practices of intensive care nurses"

Permission is granted for you to conduct the above recruitment activities as described in your request provided:

1. Charlotte Maxeke Johannesburg Academic hospital will not in anyway incur or inherit costs as a result of the said study.
2. Your study shall not disrupt services at the study sites.
3. Strict confidentiality shall be observed at all times.
4. Informed consent shall be solicited from patients participating in your study.
5.

Please liaise with the Head of Department and Unit Manager or Sister in Charge to agree on the dates and time that would suit all parties.

Kindly forward this office with the results of your study on completion of the research.

Supported / ~~not supported~~

Ms. M.M Pule
Nursing Director
Date: 04/09/2017

Approved / ~~not approved~~

Dr M. Molokeng
Clinical Director

APPENDIX M

Postgraduate Office Approval of Study Title

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

01 November 2017
Person No: 362951
PAG

Miss M Ismail
P O Box 62234
Marshall Town
2107
South Africa

Dear Miss Ismail

Master of Science in Nursing: Approval of Title

We have pleasure in advising that your proposal entitled *Communication interaction with intubated patients: what are the values and practices of intensive care nurses?* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

APPENDIX N

Language Editing and Proofing

Gill Smithies

Proofreading & Language Editing Services

59, Lewis Drive, Amanzimtoti, 4126, Kwazulu Natal

Cell: 071 352 5410 Email: moramist@vodamail.co.za

Work Certificate

To	Prof Shelley Schmollgruber
Address	Wits Dept of Nursing Education
Date	13/8/2018
Subject	Chapters 1 to 6: Communication Interaction with Critically Ill Patients: What are the values and practices of Intensive Care nurses?
Ref	SS/GS/22

I, Gill Smithies, certify that I have proofread,
Chapters 1 to 6 - Communication Interaction with Critically Ill Patients: What are the values and practices of Intensive Care nurses? By M Ismail, to the standard as required by Wits Dept. of Nursing Education.

Gill Smithies
13/8/2018