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THE EXPERIENCES OF INTENSIVE CARE NURSES CARING FOR INTUBATED PATIENTS WITH DELIRIUM

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A research report submitted to the

Faculty of Health Sciences, University of the Witwatersrand, Johannesburg

in partial fulfilment the requirements for the degree

of

Master of Science in Nursing

Johannesburg, 2019

DECLARATION

I, Cherry Efe Iyiola, declare that this report is my own work and 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 no: M180361

DEDICATION

I dedicate this study to the almighty God for His unfailing love, for being my help, my shield, the glory and the lifter of my head. His praise shall continually be in my mouth.

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Obrigado! God bless you all

ABSTRACT

Background: The presence of delirium predicts an increased ICU and hospital length of stay, high cost of care and mortality rate. Patients with delirium become distressed, confused, disoriented and unpredictable thereby making nurses encounter difficulty in understanding their needs.

Aim: The aim of this study was to explore and describe the experiences of Intensive Care nurses, caring for intubated patients with delirium in Intensive Care Units of an academic hospital in Johannesburg.

Methods: A descriptive qualitative design was used in this study. A purposive sampling method was used to choose the sample of 10 (n=10) registered Intensive Care nurses who had over two years of experience in the adult General ICU. In depth interviews were used to collect data and Braun and Clarke's (2006) thematic data analysis approach was used to analyse the transcribed audiotaped information. Trustworthiness was ensured by following the criterion of Lincoln and Guba (1985), which includes credibility, dependability, confirmability and transferability.

Results: Four major themes emerged from this study. These included *it's exhausting*, *caring*, *factors that promote care*, and *factors that hinder care*.

Conclusion: Nurses described their experience of caring for intubated patients with delirium as exhausting, difficult, challenging and frustrating yet nurses found a way to "care with care". Majority of the participants recommended that the use of the delirium assessment tool (CAM-ICU) should be implemented in the ICUs and nurses should be educated on the use of this for the assessment of delirium.

Key words: intensive care nurses, delirium, intubated patients, experience.

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This chapter presents an overview of the study, which includes the study's background, purpose, research questions, objectives, significance, paradigmatic perspectives and definition of key terms. It also presents an overview of the research methodology, which includes the design of the research, population, sampling techniques, data collection and analysis methods. Measures of trustworthiness and ethical considerations were also included.

1.2 BACKGROUND OF THE STUDY

Delirium is an acute dysfunction of the brain that is reversible, starts abruptly and consists of a fluctuating course of disturbed consciousness, attention, cognition and perception disturbances (APA, 2013). It is an acute dysfunction because it occurs quickly and is brief, lasting for hours to days, however it is not easy to detect it. Klopper *et al*. (2012) state that approximately 204,000 South Africans are admitted to adult Intensive Care Units (ICUs) annually and approximately 20% to 80% of patients in the ICU have delirium (Pisani & Zhang et al, 2003; Ouimet et al, 2007; Limpawattana et al, 2016).

Delirium may present as either hypoactive, hyperactive or a mixture of both (Devlin et al., 2007; Girard et al., 2010). Hyperactive delirium is characterised by hallucinations, psychomotor agitation and restlessness; hypoactive delirium presents with lethargy and a withdrawn state, whereas mixed delirium fluctuates between hypoactive and hyperactive delirium (Wong et al., 2010; Jackson & Khan, 2015).

Admission into the ICU in South Africa, and internationally, can be expensive (Awissi, et al., 2012) and patients with delirium stay longer in the ICU and hospital and have higher mortality rates compared to those who have never had delirium

(Pisani et al., 2009; Shehabi et al., 2010). These patients are also faced with cognitive impairments that last for a long time and are greatly dependent after discharge from the hospital (Pandharipande et al., 2013). They also experience increased accidents in the wards, a decrease in the quality of life; emotional and psychological distress of short- and long-term nature and up to a 40% increase in the cost of healthcare (Girard et al., 2010; Pandharipande et al., 2013). Additionally, Campbell and Happ (2010) reported that critically ill patients in the ICU might be suffering from the problem of cognition because of chronic stress, inflammation, decreased cerebral metabolism or the use of sedative medications.

Nurses face many challenges in the process of identifying and monitoring critically ill patients with delirium because of problems with communication as patients are intubated and mechanically ventilated (Happ et al, 2015). Patients who are restless, agitated, and combative keep nurses on their feet because they must keep repeating their explanations (McDonnell & Timmons, 2012). The ones who are withdrawn, lethargic and quiet cause nurses to worry because delirium is not detected easily (Palacious - Cena, et al, 2016). Patients who have delirium in the ICU put a burden on the nurses caring for them as they increase their workload, make them stressed, frustrated, uncertain about decision making and exhausted (Adriaenssens et al, 2011; McDonnell & Timmons, 2012).

The process of caring for patients with delirium in the ICU is complex and complicated (Happ et al. (2015), because these patients are critically ill, mostly intubated and cannot communicate their needs, and their care is affected by cultural, environmental and organisational factors. It is therefore important for Intensive Care nurses to monitor patients closely and the machines attached to them; they do this by integrating highly technical skills and knowledge of invasive monitoring to analyse and synthesise data and coordinate care in such a way that patients' needs are met, and their safety ensured (Couchman et al, 2007). They also advocate for patients, speak on their behalf, respect their dignity, show them compassion, care for them empathetically since these patients are vulnerable, unable to communicate, and cannot meet their own needs (Palacious- Cena, et al, 2016).

Intensive Care nurses have to assess, prevent and manage delirium. The Critical Care Society of Medicine (Barr et al., 2013) has set clinical Practice Guidelines for the Management of Pain, Agitation and Delirium in Adult Patients in the ICU. The Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) are two tools recommended for the assessment of delirium in the Intensive Care Unit (Barr et al., 2013; Balas et al., 2013; Bergeron et al., 2001; Ely et al., 2001). These authors recommend the management of delirium by assessing regularly with validated instruments, sedating patients lightly, and mobilising patient's early and delivering care with an approach that involves all members of the inter-professional team of Intensive Care specialists.

Complex inter-professional protocols that can prevent delirium and reduce any danger that may be associated with it have been implemented in Intensive Care Units (Barr & Pandiharipande, 2013). Intensive Care nurses play an active role in the implementation of these inter-professional protocols for the patients for whom they care, however, several human and organisational factors make uptake of these protocols unsuccessful in clinical practice (Balas et al., 2013). Belanger and Ducharme (2011) conclude that protocols do not provide enough guidelines on establishing therapeutic relationships with patients with delirium, or techniques that might reduce the negative emotional consequences of the experience of delirium for patients and families. As this affects the delivery of adequate care, nurses are not able to form a relationship with these patients and interact with them and their relatives, and render personalised care based on individual needs.

Provision of care for these patients in general wards and long-term facilities have shown that delirium is associated with increased strain among nurses, increased workload, mental conflict, emotional distress and doubt (Belanger & Ducharme, 2011; McDonnell & Timmons, 2012; Schofield, Tolson & Flemming, 2012). Studies conducted in an ICU setting on delirium tend to focus on the effective use of assessment tools, risk factors of delirium, prevention and management of delirium, pharmacological and non-pharmacological interventions, compliance and the challenges that come with the implementation of protocol (Bassett et al., 2015; Forsgren & Errikson, 2010; van Eijk et al., 2011; Vasilevkiset al., 2011).

Studies into the experiences of Intensive Care nurses caring for patients with delirium in ICU settings are limited, both internationally and in South Africa, even though these nurses meet and care for these patients all day. Hence, it is important to get a greater understanding of the experience of Intensive Care nurses caring for patients with delirium, as this will facilitate the identification of factors that help or hinder nurses when caring for these patients and inform efforts to improve nursing care for these patients.

1.3 PROBLEM STATEMENT

Many studies conducted overseas have indicated that caring for delirious patients in general hospital wards and non-ICU settings has been associated with increased strain among nurses, increased workload, mental conflict, emotional distress and doubt (Belanger & Ducharme, 2011; McDonnell & Timmons, 2012; Schofield *et al.,* 2012). It is not known, however, whether Intensive Care registered nurses experience the same effect when caring for critically ill adult patients with delirium in the Intensive Care setting.

Studies on delirium tend to focus on the correct use of assessment tools, risk factors, approach to prevention, pharmacological and non–pharmacological interventions, compliance with policies of institutions and the challenges that come with the implementation of protocols (Balas et al., 2013). Little is known about Intensive Care nurses experience of caring for patients with delirium, even though they are the healthcare professionals who spend the most time with patients, helping with their needs, caring for them, advocating for them and speaking on their behalf. No studies to date in the South African context were found on this topic. Without this essential information, appropriate and suitable nurse-led interventions for delirium cannot be developed.

This study attempted to answer the following research question:

- What is the experience of Intensive Care nurses caring for adult critically ill patients with delirium?

1.4 PURPOSE OF THE STUDY

The purpose of this study is to describe the experiences of Intensive Care nurses caring for intubated patients with delirium in the Intensive Care Units of an academic hospital in Johannesburg.

1.5 OBJECTIVES

The objectives of the study were:

- To explore Intensive Care nurses' experience of caring for intubated patients with delirium in Intensive Care Units.
- To identify factors that facilitate or hinder Intensive Care nurses caring for intubated patients with delirium in Intensive Care Units.

1.6 SIGNIFICANCE OF THE STUDY

This study sought to obtain a better understanding of nurses' experiences of caring for critically ill-intubated patients with delirium, and thereby create an awareness of the factors that help or impede Intensive Care nurses caring for patients with delirium. Without this knowledge, it makes it difficult to develop appropriate nursing interventions for critically ill patients who are fully dependent on nurses for all their healthcare needs. It is also hoped that by gaining this knowledge, it may help to align South African practices with international evidence-based and best practice recommendations that support the call for preventive interventions in the care of critically ill patients with delirium.

1.7 PARADIGMATIC PERSPECTIVE

A paradigm is "a world view, general perspective on the complexities of the world which encompasses a set of philosophical assumptions that guides one's approach to enquiry" (Polit & Beck, 2018). A paradigm defines the direction a study should take. Swanson's theory of caring was applied to this study. The paradigmatic assumptions that guided this study included the meta-theoretical assumptions, theoretical assumptions and methodological assumptions.

1.7.1 Meta- theoretical Assumptions:

These are statements that are taken as truths though they have not been tested scientifically (Polit & Beck, 2018). The meta-theoretical assumptions applied to nursing usually reflects the central concept of nursing; these includes the person, environment, health and nursing (Swanson, 1993; Chinn & Kramer, 2008).

- **Person**

The Person refers to the patient who is unique and in the process of becoming, which is reflected in the person's feelings, thoughts and behaviours (Swanson, 1993). A person is made up of body, mind and spirit, composed of genetic characteristics, spiritual characteristics and free will (Swanson, 1993). The patient with delirium is vulnerable, has needs that must be met and rights that should be protected by the Intensive Care nurse.

In this study, the person refers to the patient who is ill and receiving Intensive Care from the multidisciplinary team of healthcare professionals. The patient in the ICU has a life-threatening condition that requires specialised patient-centred care to meet his or her healthcare needs. He/she may be sedated, delirious or unable to communicate. The patient in the ICU was therefore seen by Neuman, (2002) to be a physiological, psychological, sociocultural, developmental and spiritual entity that interacts with the internal and external environment, represented by the central structure, lines of defence and lines of resistance.

- **The environment**

The environment is any situation that impacts on the patient or is influenced by the patient (Swanson, 1993). These influences could be internal or external factors such as cultural, political, economic, social, biophysical, psychological and spiritual factors (Swanson, 1993).

Merilainen and Ala-Kokko, (2010) view the environment of the ICU as comprising the physical and social environment; the technology around the patient constitutes

the physical environment, while the attitudes and norms of the nurses constitute the social environment.

In this study, the setting of the ICU is the environment. To the patient with delirium, this environment is new, complex and unfamiliar, with a lot of technological equipment that is a source of stress to them. The life-threatening condition of the critically ill and the complex environment they find themselves comes with a lot of stressors, such as noise, light, and invasive procedures that affect sleep. Minimising these stressors and promoting a conducive environment for these patients can go a long way in helping to restore patient's health. Therefore, this environment needs to be safe, comfortable and conducive.

- **Nursing**

Nursing is informed caring for the well-being of others (Carper, 1978) and involves the integration of science, self and concern for humanity. According to Swanson (1993), nurses are committed to caring, preserving human dignity and instituting measures to improve the well-being of everybody. Nurses must render informed caring, that emanates from nursing knowledge, related sciences, humanities, personal insights and understanding.

The Intensive Care nurse is central in the context of this study as she/he works in collaboration with other members of the multidisciplinary team to provide competent, safe, and evidenced-based care. The focus and discipline of nursing, which sets the nurse uniquely different from all other healthcare professionals is caring for the whole person by combining knowledge with the goal of enhancing the well-being of others (Swanson, 1993; Chinn & Kramer, 2008). To care for the unstable, agitated and restless patient in the ICU, the Intensive Care nurse should be able to provide competent, safe and holistic care through the integration of skills and evidence-based knowledge.

Intensive Care nurses acquire knowledge and skills on the use of technology and integrate it with caring. They interact well with the patients and their families, make

good clinical and ethical judgement, prevent hazards in the technological environment and mentor other nurses.

- **Health and illness**

In the ICU, health is not necessarily the absence of illness but attainment of minimum ability to function independently of the specialised intensive machines and personnel (Swansen, 1993). The goal of nursing is not to alleviate disease but assist an individual to attain, maintain or regain an optimal level of well-being based on their personal needs, environment, constraints and resources. The care of the critically ill patient is aimed at managing life threatening critical illnesses until they are discharged from the ICU to the general ward where they can recover fully. Well-being is living in wholeness with a sense of integration and becoming, whereby a person can freely express one's spirituality, thoughts, feelings, intelligence and sexuality (Swansen, 1993).

1.7.2 Theoretical Assumptions

A theory is an integrated set of defined concepts and relational statements that present a view of a phenomenon and can be used to describe, explain, predict or control the phenomenon (Gray, Grove & Sutherland, 2017). Swanson's theory of caring was applied this study.

1.7.2.1 Swanson's theory of caring

Swanson's theory of caring believes that caring involves five processes, which include maintaining belief, knowing, doing for, being with and enabling. This theory stimulates the attitude of the nurse to caring and improves the patient's well-being. These processes are the basis of real nursing behaviours (Swanson, 1993). Caring is based on maintenance of belief in persons by knowing the reality of others, which can be conveyed through being with that person and enacted by doing for that person and enabling such a person to achieve what he/she cannot achieve normally.

- Maintaining belief

This is the first step in caring. Nurses must maintain belief before they decide how to administer care as this is the basis of nursing care. It means having faith in the ability of others to pass through events and have a meaningful future that initiates and sustains the care rendered by nurses, making them have a strong desire and commitment to serve the client and humanity (Swanson, 1993).

In maintaining belief, the nurse must see the patient as being composed of a spirit, having faith in God, and a supernatural being who has a need to be in a relationship. Nurses must understand that people are unique and have individual differences to be able to respect each person as God's creation. Nurses should have confidence in hopeless situations and be optimistic about patient's conditions (Swanson, 1993).

- Knowing

This perceives an event according to the meaning it has in the life of the other person. This involves thoroughly assessing all aspects of patients' condition, nurses' engagement of self and patient in caring for the patient. To know the patient, the nurse must view the other as a human, and understand, analyse and interpret the situation of others with compassion, empathy, academic knowledge and imagination. They have to have good assessment and communication skills, respect the fact that individuals have differences and recognise that the other person is significant (Swanson, 1993).

To know a patient, the nurse must be attentive, committed, deeply involved, respectful of the fact that everyone is unique, have good knowledge, good assessment and data collection skills, reporting, documentation and good communication skills. The nurse should be able to assess the physical and psycho-spiritual needs, and consider the beliefs, perception, values, wishes and family traditions of the other person.

- Being with

This means being emotionally present to share in the feelings of another, for the other person to feel important and significant. The physical and emotional presence of the nurse makes the patient feel they are important, and their experiences are significant to the nurse. Being emotionally present makes nurses share the meanings, feelings and lived experiences of the ones they care for, making the other person believe that the nurse is ready and willing to be in their reality (Swanson, 1993). This assures the patient that the nurses are always available to share in their pains and gains.

Being with goes beyond knowing. It has to do with providing time for the other, listening attentively to what the other has to say, and giving reflective responses. The nurse provides emotional support, is available and builds a personal relationship with the patients in joyful and painful experiences, putting themselves in the patient's shoes (Swanson, 1993).

- Doing for

This means assisting patients with actions that can help, protect or increase their comfort, things they would normally do themselves if they were whole and doing it in such a way that they gain independence and are able to be independent. Doing for other involves anticipating the needs of the other, comforting the other, skilfully and competently performing for the other and protecting the other from harm. It also involves preserving the dignity of the other person (Swanson, 1991 & 1993).

- Enabling

This means facilitating the other in passing through life's transitions and unfamiliar events to increase the capacity of the other to heal and practice self-care (Swanson, 1991). Enabling one creates an avenue for healing of the self, self-actualisation and self-care. This can be achieved by focusing on the event, informing, explaining, supporting, allowing, validating the feeling of the other, creating alternatives, thinking on them and giving feedback (Swanson, 1991 &1993).

For the nurse to enable she must have good communication with the patients and families by engaging frequently with them, showing empathy and sympathy, being sensitive to their issues, culture and religious believes, illness and experiences. The nurse need to provide information to the patient and family, explain the care rendered, tests, medications and patient's general condition. Nurses can enable patients to carry out self-care activities by training, informing, illuminating and supporting them during painful experiences, guiding and helping patients with alternatives, giving advice with the aim of improving the overall well-being of the patient.

1.7.2.2 Key Variables

The key variables to be understood in this study are as follows:

- **Critical Care nurse**

A Critical Care nurse is one who has a post-graduate qualification in acute Critical Care or Intensive Care nursing after completing general nursing education (American Association of Critical Care Nurses, 2015). The South African Nursing Council (R212) defined an Intensive Care nurse as a registered nurse who has obtained an additional qualification in advanced medical surgical nursing and critical care at an approved learning facility (SANC, 2013).

In this study, a Critical Care nurse is one who is specialised and has undergone an advanced education and training programme with an accredited institution and registered by the South African Nursing Council (SANC) as an Intensive Care nurse or its associated equivalent Critical Care nurse, under Nursing Act No.33 of 2005. Intensive Care nurse will be interchanged for Critical Care nurse in this study.

- **Delirium/ICU delirium**

The American Psychiatric Association (APA) defines delirium as "a reversible manifestation of acute brain dysfunction, characterised by an abrupt onset and a fluctuating course of disturbed consciousness, attention, cognition and perception"

(APA, 2013). In this study, delirium will be considered as a condition manifesting with confusion, agitation, hallucinations, inattentiveness and lethargy due to physical illness, mental illness, tracheal intubation and mechanical ventilation in the Intensive Care Unit.

- **Caring**

Caring is the art of looking after others and being personally committed and responsible for their well-being (Swanson, 1991). Due to the nature of critical illness, these patients are in a vulnerable/delicate position and therefore fully dependent on nurses for all their healthcare needs. In this study, caring refers to Intensive Care registered nurses understanding, showing concern, being attentively present, supporting and advocating for critically ill patients with delirium to meet their personal, emotional and psychosocial needs.

- **Intubated patients**

Intubation is the 'insertion of a tubular device into a canal, hollow organ or cavity, specifically, passage of an orotracheal or nasotracheal tube for anaesthesia or for control of pulmonary ventilation' (Medical Dictionary for the Health Professions and Nursing, 2012). For this study, intubated patients will refer to those with an endotracheal tube inserted through the nose or mouth into the tracheal to maintain the airway, in the ICU

- **Experience**

The Oxford English Dictionary (2009) defines experience as "The practical contact with and observation of facts or events and knowledge or skill gained over time." In this study, experience will refer to the collaboration and sharing of information with a sample of Intensive Care nurses who have cared for patients with delirium.

1.7.3 Methodological Assumptions

Methodological assumptions are assumptions made by the researcher about the methods used in the process of research. It is the perspective of the researcher on the complexities of life and it represents the researcher's philosophical position (Polit & Beck, 2018).

A descriptive qualitative design was chosen as the most appropriate approach to be used in this study as it gives a comprehensive summary of specific events by individuals or groups in simple terms used every day (Sandelowski, 2000). Descriptive qualitative research allows researchers to be close to their data, unlike the narrative studies, phenomenology, Grounded Theory and ethnography (Sandelowski, 2000).

This design is within the worldview of naturalism, which states things can be studied in their natural form in such a way that it can be done in research. This means the variables under study will not be pre-selected or manipulated, and no preceding commitment to any theoretical view of a target phenomenon (Sandelowski, 2000).

The researcher based the enquiry on the assumption that knowledge gained from the experiences of individual nurses caring for patients with delirium will help to improve Intensive Care nurses' practice of caring for critically ill patients.

This study was therefore undertaken to acquire information about the experiences of Intensive Care nurses caring for intubated patients with delirium to make recommendations for the education and practice of Intensive Care nursing.

1.8 OVERVIEW OF RESEARCH METHODOLOGY

A descriptive qualitative design was used to meet the study objectives. Qualitative design is a systematic and subjective way of describing experiences and giving them a meaning (Gray, Grove & Sutherland, 2017). The purpose of descriptive design is to give comprehensive information about the features within a field of study (Gray, Grove & Sutherland, 2017). Descriptive qualitative design is best suited to

this study as it gives a comprehensive description of specific events experienced by individuals, or group of individuals, in everyday language (Sandelowski, 2000) and offers a structured rigorous approach. In this study, the chosen design will provide an opportunity to gain an understanding of the experience of nurses caring for patients with delirium in an academic hospital in Johannesburg.

A purposive sampling method was used to draw a sample of registered Intensive Care nurses working in the General Intensive Care Unit of an academic hospital in Johannesburg, Gauteng Province. The study was conducted in the selected academic hospital's General Adult ICU, in which 23 (N=23) registered Intensive Care nurses were practicing.

In-depth interviews were used to collect data and this was audiotaped to have the information as stated by the nurses; the audiotaped information was transcribed verbatim. The Braun and Clarke (2006) analysis approach was used to analyse the transcribed audiotaped information.

Lincoln and Guba's (1985) method, which includes "credibility, dependability, confirmability and transferability", was utilised to ensure trustworthiness. (Cited in Polit & Beck, 2018: 295-297). In this context:

- **Credibility** is referred to as the truthfulness of the data and its interpretation (Polit & Beck, 2018). This was achieved by presenting the data to the supervisor for cross-checking and taking back the transcribed data to some of the nurses for validation.

- **Dependability** refers to the consistency of the data and replicability of the study (Polit & Beck, 2018). This was considered by a systematic presentation of the research process and its findings in the report for future use.

- **Confirmability** means the findings of the study were the result of the experiences and ideas of the informants and not the views of the researcher (Polit & Beck, 2018). This was ensured by involving independent people to

audit the transcription and draw themes and categories that would be compared to the preliminary findings.

- **Transferability** refers to the extent to which the findings of the study could be applied to other situations (Polit & Beck, 2018). In this study, transferability was ensured by the provision and documentation of enough data about the study, including transcribed interviews and field notes that other users could refer to for its applicability.

1.9 ETHICAL CONSIDERATIONS

Detailed ethical considerations are provided in Chapter Three. A research proposal was submitted to the Department of Nursing for peer review. A copy of the research proposal was submitted to the School of Therapeutics in the Faculty of Health Sciences Postgraduate Research Committee for approval. Clearance to conduct the study was sought from the Committee for Research on Human Subjects of the University of the Witwatersrand with protocol number M180361.

Permission to conduct the study was sought from the Gauteng Department of Health and authorities of the hospital where the study was done (refer to **Appendix E**). After obtaining the necessary approvals, the participants were given the information letter about the study (refer to **Appendix A**) and were required to give a written informed consent for participation in the study upon comprehension of the contents of the information letter (**Appendix B**). The participants were also required to give a separate written informed consent for audiotape recording of the interview (refer to **Appendix C**).

Participation in the study was voluntary, and nurses were free to discontinue participation at any point should they so wish to do so. No names were used during data collection and reporting of findings of the study to ensure confidentiality and anonymity of nurses. The data was stored in a secured place and only the researcher and the research supervisor had access. All tape recordings, transcripts, memos and field notes were stored securely in the Department of Nursing Education

of the university, for a minimum of two years after publication, or six years if not published.

1.10 SUMMARY

This chapter introduced the reader to the study's background, problem statement, purpose, objectives and significance of the study. The assumptions of the researcher and operational definitions were described. An overview of the research methodology was provided, which included the design, setting, sample, and measures of trustworthiness, ethical considerations and the plan of the study.

In the next chapter, a review of literature relating to this study will be discussed.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents the review of literature related to nurses' experiences of caring for patients with delirium in the ICU's. This includes the nature of critical illness, pathophysiology of delirium, the impact of delirium on the ICU patients, approaches to assessment of delirium, prevention and management, protocols, guidelines and evidenced-based practices, and nursing care of patients with delirium in the ICU's, in order to provide an understanding of the study.

2.2 NATURE OF CRITICAL ILLNESS

Intensive Care nurses, who stay with the patient throughout the day, provide intensive care and monitor patients on a continual basis often provide caring for critically ill patients in the ICU. The process of caring for patients in the ICU is complex and challenging because these patients are undergoing life threatening physiological illnesses, which makes them depend on technological equipment, complex therapies and contribution of the multidisciplinary group of nurses, medical intensivists, physiotherapists and other team members (de Beer, Brysiewicz & Bhengu, 2011**)**.

Patients in the ICU are faced with many stressors. Apart from the nature of critical illness, critically ill patients are often intubated, restrained and nursed in a strange, busy and noisy environment making them confused and disoriented to location, time and person. The procedures nurses perform on critically ill patients, patients' containment to the bed, machines, mechanical ventilator or any other equipment, and the inability to communicate due to the presence of an endotracheal tube or tracheostomy for ventilation are a source of stress for the patient (Coyer et al, 2007; Engstrom, Sundelin & Rattray, 2013)

Nurses can help to reduce confusion by frequently helping to re-orientate the patient and explain activities with the use of memory aids such as white boards that show basic information on date, time, location and names of the caregiver (Choi, 2013). Others include the promotion of sleep through the clustering of nurses' activities, decreasing night stimulus and implementation of measures to control light and noise in the ICU (Choi, 2013; Barr et al, 2013). If these measures are not taken, the nurses end up sedating and restraining patients, making them more aggressive and uncooperative. Conversely, if nurses do not sedate and restrain, they are overworked, stressed and exhausted.

2.3 ISSUES OF DELIRIUM IN INTENSIVE CARE

The American Psychiatric Association (2013) also defined delirium as a syndrome of neuropsychiatric nature that leads to alteration of consciousness, cognitive changes of short durations and fluctuation during the day. Delirium is an altered state of consciousness characterised by disordered attention, impaired cognition, increased or decreased altered psychomotor activity and disorder of the sleep-wake cycle.

Delirium is a syndrome that signifies a decline in health. It is characterised by a disturbance of consciousness with accompanying change in cognition. The critical Care Medical Society define delirium as an acute change in consciousness that manifests with inattention, change in cognition or disturbance of perception (Barr et al., 2013).

2.3.1 Incidence and Prevalence

Studies conducted on the incidence of delirium in ICUs have reported it to be between 20 and 30% and 70 and 80 % or more (Bergeron et al, 2001; Limpawattana et al, 2016; Quimet et al, 2007) and 51 % in Africa (Kwizera et al., 2015).

Hyperactive delirium in the ICU is less common and occurs in less than 5% of cases, while hypoactive and mixed delirium are more common (Devlin *et al.,* 2007). An earlier study conducted by Peterson, et al. (2006), which described the subtypes of

delirium in the ICU and compared patients older than 65 years of age to those younger, found that the most common sub type of delirium was the mixed delirium. This is because it occurred in 54.9% of all cases of delirium, followed by hypoactive delirium, which occurred in 43.5% of all cases of delirium, and hyperactive delirium, which occurred in 1.6% of all cases of delirium especially among people more than 65 years, also supported this. The incidence of hyperactive delirium is 9%, 57% for hypoactive delirium and 35% for mixed delirium (Kirsten et al, 2016), however, due to the recent change in sedation practice, the incidence of delirium among patients who are critically ill has been found to be between 9.27 and 24.4% (Sharma et al. 2012; Lahariya et al., 2014; Limpawattana et al., 2016).

2.3.2 Subtypes of ICU-delirium

Delirium is classified into three types based on the patient's level of psychomotor activity. These subtypes include hyperactive delirium, hypoactive delirium and mixed delirium (Devlin et al., 2007; Girard et al., 2010).

According to Wong et al. (2010); Elliott (2014), Jackson and Khan (2015),

- Hyperactive delirium, previously called ICU psychosis, manifests with hyperactive psychomotor movements such as agitation, hallucinations, restlessness and attempts to remove catheters (Allen & Alexander, 2012; Holly et al., 2012; Olson, 2012). It is easily diagnosed because of its more outward visible indications, leading to better prognosis and it manifests in about 5 to 22% of patients in the ICU (Elliott, 2014; Holly et al, 2012; Olson, 2012).

- Hypoactive delirium manifests with reduced psychomotor behaviour, and presents with lethargy, flat affect, withdrawn state and inattention, decreased responsiveness, calmness, confusion and sedated states. The person with hypoactive delirium is usually abnormally drowsy, sluggish and seeming to be in a daze. Hypoactive delirium in the Intensive Care Unit can exist in a quiet form, which is why it is not easily detected in the ICU (Elliott, 2014).

- Mixed delirium fluctuates between hypoactive and hyperactive delirium. Mixed delirium is the manifestation of some of the characteristics of hyperactive and hypoactive delirium simultaneously or consecutively and constitutes 54.9% of all cases of delirium in the ICU (Peterson et al., 2006; Elliott, 2014).

2.3.3 Pathophysiology

The pathophysiology of delirium has not been well understood. It is believed that cholinergic deficiency or the use of anticholinergic medications and disturbed neurotransmitter function (Cavallazi et al., 2012) may cause delirium. One of such neurotransmitters is acetylcholine, which is a product of the interaction between choline and acetyl Cho enzyme A that acts as a modulator of sensory and cognitive input, thereby affecting attention and consciousness. If this pathway is disturbed, the activity of acetylcholine will be affected, and excitatory effect will be reduced leading to hypoactive delirium (Holly et al, 2012).

The deficiency of acetyl-coA can also be caused when glucose breakdown during the citric acid cycle and form acetyl-coA, therefore hypoglycaemia, poor nutrition and thymine deficiency can make acetyl-co A diminished or deficient.

Hypoactive delirium occurs if cholinergic activity decreases through the alteration of the mechanism of synapse, by anticholinergic drugs or toxins (Elliot, 2014). In contrast, too much effect of norepinephrine monoamine dopamine in the CNS can result in hyperactive delirium. Also, hypoxia, hypoperfusion, microvascular thrombosis and inflammation mediated by cytokines act in the development of delirium (Holly et al., 2012).

Another factor noticed to cause delirium is the increase in the activity of dopamine and noradrenaline as it has been shown to cause injury to the brain when there is increased seratogenic activity and deficiency of serotonin (Cavallazi et al., 2012). People with central nervous system disease and the elderly are more susceptible to delirium because they are believed to have a high number of primed microbial cells that can readily react to the slightest stressor (Cavallazi et al., 2012).

2.3.4 Factors associated with delirium

Predisposing factors are risk factors that a patient presents with on admission to the ICU. Allen and Alexandra (2012) described it as factors that occur due to patient's health status before admission into the ICU and are less modifiable. Predisposing factors are acquired patients' baseline characteristics, such as age > 65 years, hearing impairment, visual impairment and gender. Others include pre-existing dementia, severe medical Illness, chronic illness like hypertension, history of previous delirium, depression, abnormal sodium, potassium and glucose polypharmacy and baseline cognitive impairment (Pisani et al., 2010; Pandharipande et al., 2013, Allen & Alexandra (2012).

The Pain, Agitation and Delirium guideline of 2013, identified four major predisposing risk factors of delirium as previously having dementia, critical nature of illness on admission, having hypertension and being dependent on alcohol in the past (Barr et al., 2013).

Precipitating factors are risk factors a patient presents with on admission to the ICU and may be modifiable (Allen & Alexandra, 2012). Many happen after admittance to the ICU and they are referred to as iatrogenic risk factors (Vaskilevskis et al., 2010) and include surgical interventions, medications such as benzodiazepines, current critical illness, use of physical restraint, indwelling catheter, sleep deprivation, malnutrition and dehydration. Others include disturbances of metabolism, sodium, calcium and blood urea nitrogen levels disturbances, pain, anaesthesia and hypoxia (Van Rompaey, 2009; Allen & Alexandra, 2012).

Shock, change in body composition, electrolyte imbalance, dehydration, medications such as antihistamines, anticholinergics, antibiotics, corticosteroids, opiates, benzodiazepines, and metoclopramide can also precipitate delirium (Barr et al, 2013; Lin, Chen & Wang, 2015).

2.3.5 Outcomes of Delirium

2.3.5.1 Short term outcomes

Delirium leads to prolonged stay in the ICU and hospital, 40% increased hospital health costs, as well as increased mortality, unlike patients who have never had delirium, emotional and psychological distress (Pisani et al., 2009; Shehabi et al., 2010; Girard et al., 2010; Pandharipande et al*.,* 2013). Delirium is associated with an increased rate of death whilst in hospital, longer days in the ICU and on the ventilator, and cognitive impairment after discharge from the hospital (Salluh, Nagaraja & Serafim, 2015).

Recent studies have shown that delirium of hyperactive and mixed type increases the likelihood of re-intubation, self-extubation, and disconnection of intravenous lines and catheters. It is also associated with ventilator dyssynchrony and increased myocardial stress, which is life threatening. Consequently, hypoactive delirium has the poorest prognosis and is frequently missed so may not be treated causing further complications (Olson, 2012; Faria & Moreno, 2013; Kalabalik, Brunetti & El-Srougy, 2014).

2,3,5,2 Long-term outcomes

Although delirium in the ICU is an acute onset and can be reversed, it can result in long-term cognitive impairment (Morandi et al, 2012, Wolters et al, 2014). Delirium is associated with long-term mental and intellectual damages, increased functional dependence on others even after hospital discharge, increased incidence of safety issues affecting patients, reduction in the quality of patient's life, long-term distress that are of emotional and psychological nature (Girard et al., 2010; Pandharipande et al., 2013). Patients that have had delirium have challenges with attention, memory, executive functioning and reduction in the performance of daily activities (Devlin et al, 2012; Brummel et al, 2013; Faria & Moreno, 2013).

Pandharipande et al (2013) published a multi-centre study, which revealed that 40% and 24% of patients at three and six months respectively, have the same cognitive scores with patients that have had moderate head injury; 26% and 24% of these patients had similar scores amongst those that have had slight Alzheimer's disease.

Patients who survive delirium in acute care settings have a higher chance of experiencing functional decline and require nursing home care. Thirty to 40% of patients with delirium experience a certain level of impairment after discharge from hospital, resulting in them having to be transferred to nursing homes and facilities for proper care (Harrington & Vardi, 2014). Patients who have had delirium in the past have difficulty recalling their ICU stay (Svenningsen, et al, (2014).

Another long-term effect of delirium is prolonged physical and psychological problems such as anxiety, depression, post-traumatic stress and cognitive dysfunction, which influence patient's health status and quality of life negatively (Ramsay et al. 2012; Bulic, Bennett & Shehabi, 2015). This has had a sustained impact on patients' daily life, social functioning and family life.

2.4 PREVENTION, RECOGNITION AND MANAGEMENT OF DELIRIUM

The management of delirium in the ICU focuses on the prevention and timely recognition of delirium to reduce the risk factors that precipitate and predispose a critically ill patient to delirium. It involves inter-professional and multi-specialty teams as it takes in the contribution of the physicians, anaesthetists, nurses, physiotherapists, nutritionists and a host of other healthcare workers.

Studies that have been carried out on the prevention and management of delirium in the ICU are few, despite the fact that the incidence of delirium is high. Intensive Care nurses are the ones closest to the patients and spend most time with them, so they are in the best position to implement measures that can prevent delirium. They can do this by early detection through proper assessment of delirium using validated tools, having a good knowledge of delirium and its sub-types, the factors that predispose and precipitate delirium, and its short and long-term impact, as this can reduce the occurrence of delirium in the ICU (Olson, 2012).

2.4.1 Protocols, Guidelines and Evidence Based Practice

Guidelines, tools and protocols have been developed to prevent, quickly detect and assess delirium in adult patients who are critically ill (Barr & Pandharipande, 2013)

and ICNs play an active part in the implementation of these inter-professional protocols for the patients they care for. This includes the Clinical Practice Guidelines for the Management of Pain, Agitation and Delirium in Adult Patients in the ICU, which have been set by the Critical Care Society of Medicine (Barr *et al.,* 2013).

This guideline was compiled after a literature review of thousands of studies aimed at assisting clinicians to develop protocols that are patient–centred, integrated and evidence-based at the local level. It was formed from an update of the 2002 guidelines for clinical practice for how sedatives and pain medications can be used in adults who are critically ill and the statements and recommendations regarding the management of delirium, which was derived using Grading, Recommendations Assessment, Development and Evaluation (GRADE) methodology (Guyatt et al., 2008).

The Clinical Practice Guidelines for the Management of Pain, Agitation and Delirium in Adult Patients in the ICU, which was formulated in 2013 and contains 54 statements and recommendations, offers methods for pain prevention, treatment and monitoring with a reliable and valid tool. Others include sedation minimisation by using light levels of sedation, carefully choosing sedations, sleep promotion and protection, the use of an inter-professional multi-component approach, protocols specific to institutions and checklists to help in the uptake of these best practices. Twenty-two of these statements and recommendations referred to prevention, assessment and management of delirium. The Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC) are two tools recommended for the assessment of delirium in the Intensive Care Unit (Barr et al, 2013).

They added that the pharmacological management of delirium using antipsychotics, such as quetiapine, could be used as it may reduce the number of delirium days. This current guideline also states that haloperidol, an antipsychotic, is not recommended to prevent and treat delirium, as there is no evidence to support the use of any medication for the prevention of delirium (Barr et al., 2013). Dexmedetomidine is recommended over benzodiazepines for sedation in mechanically ventilated patients who can easily acquire delirium in the ICU. Non-

pharmacological methods were also recommended for the management of delirium, including targeting light levels of sedations, daily sedation interruptions, employing strategies to promote and encourage sleep such as decreasing night stimulus, clustering activities of nurses, controlling light and noise in the ICU.

These authors recommended that delirium should be managed by assessing regularly with validated instruments, sedating patients lightly, mobilising patient's early, and delivering care with an approach that involved all the inter-professional group of specialists in the ICU.

In 2018, the clinical practice guideline for the management of pain, agitation (sedation), delirium immobility and sleep (disruption) (PADIS) was developed for adult critically ill patients, aimed at updating and expanding the 2013 guidelines by addressing rehabilitation, mobility, sleep and new challenges encountered in management of pain, agitation and delirium (Devlin et al., 2018). This new guideline came up with 37 recommendations, of which three were strong and 34 weak; others included two good practice statements and 32 statements that were not graded and not actionable.

The PADIS guideline offers the team of health professionals, patient-centred guidance on how pain, agitation, sedation, delirium immobility and sleep disruption should be managed in patients in the ICU and how to enhance quality of care. However, this guideline was not useful according to Balas et al. (2013), as it cannot be easily understood, interpreted or put it into practice even though it can provide a basis for discussions of issues that can help patient's timely care (Balas et al., 2013).

2.4.2 Delirium Assessment Tools

Intensive Care nurses are the first set of people to assess patients for delirium since they are the only members of healthcare team who care for patients 24 hours a day (Olson, 2012). Delirium in the ICU is difficult to assess because the patients are intubated, and the tools, which are difficult to use by non-psychiatrists, have not been verified for use in non-verbal intubated patients and it is difficult to make adequate diagnosis when there are communication problems. It is therefore

necessary to use a screening tool to access and diagnose delirium in such settings (Bergeron et al, 2001 & Ely et al., 2001).

Tools for assessing delirium that were recommended for nurses, such as the Confusion Assessment Method for ICU (CAM-ICU) and the Intensive Care Delirium Screening Checklist (ICDSC), are used effectively for identifying delirium in patients who are critically ill (Barr et al., 2013; Balas et al., 2013).

- Confusion Assessment Method for the Intensive Care Unit (CAM-ICU)

The CAM-ICU is a validated screening tool that measures the characteristics of delirium formally by assembling data from an observation and interview that is structured (Barr et al., 2013). It is valid and reliable tool for bedside Intensive Care nurses to perform a detailed and quick assessment of patients based on the DSM-IV definition and criteria for delirium (Guenther et al, 2010).

The CAM-ICU can be used to assess delirium in patients in the ICU who are often unable to speak and intubated patients on mechanical ventilation over a short space of time (Ely et al., 2001; Jackson & Khan, 2015).

CAM-ICU assesses four important characteristics of delirium, which are acute start or fluctuating course, inattention, altered level of consciousness and disorganised thinking. One is said to be positive on CAM-ICU, when they present three out of the four features of delirium (Jackson & Khan, 2015). Delirium is diagnosed in the presence of a positive score for a mental status that changes suddenly or starts acutely and inattention, coupled with either disorganised thinking or a change in the level of consciousness (Gelinas et al., 2018). Figure 2.1 provides a graphical presentation.

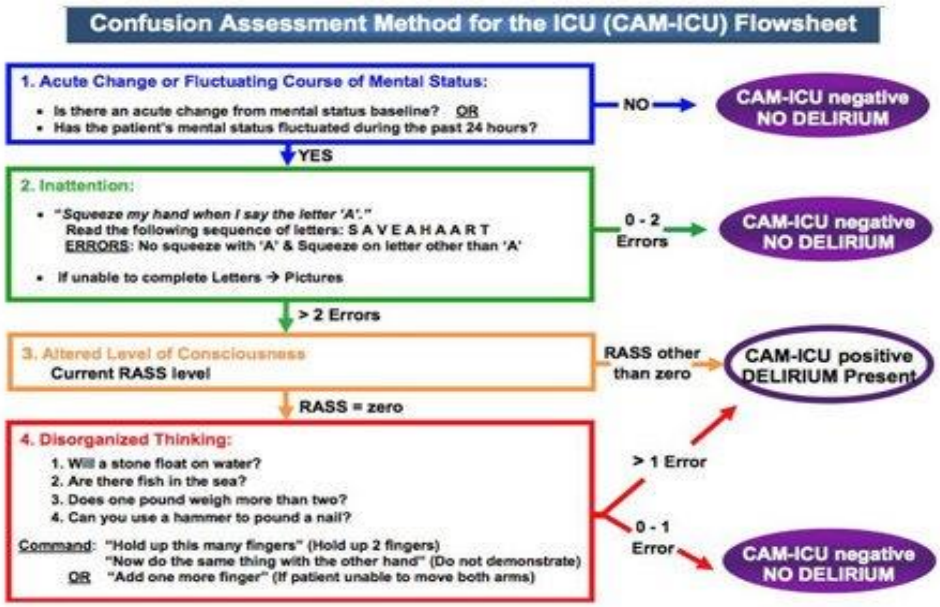


Figure 2.1 The CAM-ICU flow chart
Source: Ely, 2002.

The systematic review of nine studies conducted by Gusmao-Flores et al. (2012), aimed at evaluating the CAM-ICU, found its pool sensitivity to be 80% (95% confidence interval (CI): 77'1 % to 82.6%), and the pooled specificity was 95.9% (95% CI: 94.8- 96.8%).

- Intensive Care Delirium Screening Checklist (ICDSC)

The ICDSC is also an effective tool for the reliable identification of delirium (Brummel et al., 2013). This is a questionnaire, which contains 8 points and uses the DSM-IV criteria and important characteristics of delirium to detect the existence of delirium (Brummel et al., 2013). The eight items include altered level of consciousness, inattentiveness, disorientation, psychomotor agitation, inappropriate speech or mood, sleep/wake disturbance, symptoms fluctuations, and hallucinations/delusions. The presence of a symptom gets a score of one out of a total score of eight. A patient is said to have delirium with a score that is greater than

and equal to four (Pun & Ely, 2007). The ICDSC considers the fluctuation of symptoms over 24 hours.

Bergeron et al. (2001) concluded that the ICDSC could be used to assess delirium in patients who are intubated. It has a sensitivity of 99% and a specificity of 64%. It is fast and can be used in a busy Intensive Care setting to identify patients with delirium. Similarly, Gusmao-Flores et al. (2012) found the pooled sensitivity and the pooled specificity of the ICDSC to be 74% (95% CI: 65.3-81.5%) and 81.9% (95% CI: 76.7-86.4%) respectively.

The difference between the ICDSC and the CAM-ICU is that the ICDSC can be used to observe a patient for a long time. It has a more continuous scoring system and relies on observation of the nurse (Jackson & Khan, 2015). Both scales do not rely on verbal response so can be used effectively in intubated patients who cannot communicate (Jackson & Khan, 2015). These two tools can be used for the assessment of delirium in the ICU, however the CAM-ICU is better (Tomasi et al., 2012) because it is good for diagnosing delirium in patients who are critically ill, while the ICDSC possesses average sensitivity and good specificity (Gusmao-Flores et al., 2012). Similarly, the psychometric properties of the CAM-ICU and ICDSC were found to be good as they were 19.6 and 19.2 respectively. Hence, the CAM-ICU and the ICDSC were described as the best tools for assessment of delirium in critically ill patients (Gelinas et al., 2018).

ICDSC and the CAM-ICU are validated tools that Intensive Care nurses can use to assess and detect delirium, as they are easy to use.

2.5 CARING FOR THE PATIENT WITH DELIRIUM

The way patients are cared for has a direct relationship with their health outcomes (Kolcaba, 2006). Nursing care of the patient with delirium includes physical and psychological care that begins with early assessment of delirium. Studies on the experiences of ICNs caring for patients who have delirium has been grouped into five categories after a literature search of relevant databases**.**

2.5.1 Nursing Assessment of Delirium

Tools used for the assessment of delirium, such as the CAM-ICU and the ICDSC, are recommended for nurses and are reliable for identifying delirium in patients admitted to the ICU (Bergeron *et al.,* 2001; Ely *et al.,* 2001; Barr *et al.,* 2013; Balas *et al.,* 2013).

Few studies have been conducted on nurse's assessment of delirium using the CAM-ICU and the ICDSC. Vaskilevskis et al. (2011) compared nurses who work by the bedside of patients and those who do research, by asking them to use the CAM-ICU routinely to assess patients with delirium 12 hourly over a period of 3 years at a tertiary hospital in America. From the 6880 assessments that were compared, it was discovered that bedside nurses' assessment of delirium agrees with that of the research nurses as the sensitivity and specificity of nurses' assessment of delirium was 0.81(95% CI: 0.78-0.83%). It was therefore concluded that the assessment of delirium by bedside nurses is sustainable and can be relied on and should be used in making decisions in the clinic to make the quality of patients' care better.

In contrast, the value of the CAM-ICU in diagnosing delirium in routine practice was investigated by Van Ejik et al. (2011), using cognitive examination and inspection of documents to compare the assessment of delirium by experts, such as psychiatrists, neurologist and geriatricians, and assessment done by nurses in 10 ICUs in the Netherlands. Their findings revealed that the experts detected more cases of delirium using the CAM-ICU than the ICNs, as the sensitivity of the CAM -ICU in detection of delirium in daily practice was low despite the fact that its specificity was high, making it difficult for nurses to detect delirium early.

Furthermore, the Intensive Care ICNs were observed in the process of using the CAM-ICU and ABCDE bundle in caring for patients with delirium, and after 6 months, they were given further education and assessed for a period of 6 months. The post survey revealed that after the CAM-ICU and ABCDE bundle was implemented, the use of medication to manage delirium reduced by half, the length of stay in the ICU reduced by 0.1% and the majority of nurses (80%) felt more comfortable with the use of the CAM-ICU for assessing delirium (Gregory,2016).

The use of bedside observation for detection of delirium is not as reliable compared to the CAM-ICU. The observational study by Mistarz, Eliott, Whitfield and Ernest (2011) aimed at determining if the interactions between nurse and patient by the bedside is enough to detect delirium and confirmed that the CAM-ICU was the best tool for the detection of delirium in the ICU.

Consequently, Forsgren and Eriksson (2010) surveyed the influence of education on the interventions, awareness, and observation of delirium in the ICU in Sweden. They reported that 60% of the ICUs used the observation method to assess delirium, whilst 85% used non-pharmacological interventions such as contact with patients' family, sleep promotion, maintenance of the environment, maintenance of oxygenation, nutrition and hydration status, use of hearing aids, and proper orientation to manage delirium. Ninety-six percent of the nurses used medications and 26% used written pharmacological guidelines. These authors concluded that the awareness of delirium and the use of validated tools in its assessment is low. They therefore recommended education and implementation of these validated tools in the management of delirium.

In South Africa, the method of screening and assessing delirium is not adequate and the use of the CAM-ICU is slightly similar to that in other parts of the world. This is because the majority of health practitioners (77%) working in the ICU assess delirium by clinical assessment of the patients while a few (24%) use an objective tool, of which the majority (80%) use the CAM-ICU (Chetty & Paruk, 2015).

An African study revealed that all the nurses in the ICU ranked delirium assessment as the least activity compared to assessment of patients' level of consciousness, management of pain and agitation, and care for machines and equipment. Not all the nurses had been trained on how to assess and manage delirium and more than 50% had never assessed a patient with delirium (Elfeky, 2013).

This reveals that the use of the recommended validated tools for the assessment of delirium is poor compared to other developed parts of the world. Notwithstanding this, the overall use of the delirium assessment tools for delirium among nurses is poor.

2.5.2 Attitudes, Beliefs and Perceptions of Nurses about the Assessment of Delirium

Glynn and Corry (2015) investigated the opinions and practices of Intensive Care nurses on the assessment of delirium through a descriptive qualitative survey in Ireland. They used the convenience sampling method to select 70% of registered nurses in two of the largest hospitals in Ireland. Their findings revealed that delirium is regarded as a serious issue by the majority of the nurses (95%), and 93% regarded it as not adequately diagnosed and in need of a medical solution. Despite this high level of knowledge and acceptance of delirium, only 17.9% reported using delirium screening tools to assess delirium, and only 4% felt it necessary to screen and monitor delirium in the ICU. This data reveals that in Ireland, although the majority of registered nurses view delirium as an important issue and not adequately diagnosed, only few actually screen for delirium. Nurses rather view sedation, pain control, level of consciousness and invasive devise placement as more important than delirium assessment.

In contrast, recent studies conducted by Zamoschik, Godbold and Freeman (2017) in the United Kingdom to explore how nurses explore and perceive delirium five years after the CAM-ICU was introduced for use in standard setting, revealed that nurses believe delirium is less serious and a normal situation in the ICU. Hence, delirium management is not necessary as it does not influence patient care and they see the use of delirium assessment tools as time wasting. The revealed their fear for delirium screening, monitoring and management and they also expressed their frustration with the use of the CAM-ICU.

Another qualitative exploratory multicentre study in Denmark, which investigated the perceptions of nurses and physicians about the CAM-ICU, revealed there are many worries about the use of the CAM-ICU, and so there is need for revalidation of the tool (Oxenboll-Collet et al., 2018).

The above studies revealed that nurses perceive delirium as a less important issue probably because the most serious type is not easily detected, they do not know how to use the recommended screening tool and have little knowledge of delirium.

2.5.3 Nurses Knowledge of Delirium and Educational Intervention

Considerable amount of studies has been conducted on nurse's knowledge of delirium and educational intervention to prevent and manage delirium (Gesin, Russell & Lin et al., 2012; Yanamadala & Heflin, 2013; Elliott, 2014; Genna, 2015; Rowly-Conwy, 2017, Hickins, White & Knopp-Sihota, 2017, Blevins & DeGennaro, 2018).

A study in 2012 aimed to measure the effect of using the ICDSC, with an educational programme that was multifaceted on surgical and trauma ICN's knowledge and perceptions of delirium and if they were able to evaluate it correctly. This was done by comparing the ICDSC in three phases. Neither a delirium-screening tool nor education was used in the first phase, minimal education was given before the use of the ICDSC in the second stage and in the third stage, multifaceted education that included bedside training and lectures was given before the use of the ICDSC. Findings concluded that the use of an educational programme that is multifaceted improves the knowledge of ICNs about delirium, and their feelings about its identification. They also added that the implementation of ICDSC improved the ability of the nurses working in the Surgical and Trauma ICU to correctly evaluate delirium (Gesin, Russell & Lin et al., 2012).

When the knowledge of current practices, including what they see as barriers towards ICU delirium, by nurses and medical staff was assessed in three district ICUs in the United Kingdom. Only one hospital demonstrated efficacy in using a screening tool and those using an unstructured tool only looked for hallucination and agitation (hyperactive delirium), ignoring the hypoactive form of delirium which is more prevalent (Elliott, 2014); this was because they were not educated and knowledgeable on how to assess delirium. The nurses in this study lacked education on delirium, and the use of the recommended instruments to assess delirium was below the standard recommended by the current delirium guidelines.

This lack of education influences the knowledge ICNs have on delirium. The knowledge of educational intervention also helps to increase the knowledge level of team members, which will result in increased identification of delirium and a

reduction in negative outcomes (Genna, 2015). Consequently, it was proven that when interactive formal teaching is joined with approaches that engage factors that predispose, enable and reinforce, educational interventions to recognise delirium are very effective (Yanamadala & Heflin, 2013).

Recently, a study was done to evaluate if an educational intervention programme that has many modes for ICNs in the medical ICU of an academic medical centre, would be effective in improving their knowledge and skills in recognising and managing delirium. This was done with a convenient sample of 34 nurses using a quasi-experimental design. Findings of this study revealed that 79% of the nurses displayed competency in using the CAM-ICU after the intervention (Blevins & DeGennaro, 2018). Hickins, White and Knopp-Sihota (2017) also determined the impact education has on nurse's knowledge of delirium and the validated tool used to screen for delirium in the ICU using a quasi-experimental single group pre-test-post-test design in a Canadian ICU with 16 beds. Findings revealed that multifaceted education helps in increasing the knowledge of delirium and its screening, as the rate at which nurses' screen for delirium increased after education.

This shows that education of any sort, improves practice, just as the findings of Rowly-Conwy (2017) found there was a correlation between education, years of experience and practice. According to him, nurses who are educated on the use of delirium assessment tools and management tend to be better at managing delirium; hence, education is very useful in improving the knowledge and practice delirium assessment, and its management among Intensive Care nurses.

The above studies show that educational intervention can help to improve nurses' practice in relation to delirium, its assessment and management and thus improve patient's outcome. The knowledge of educational intervention by nurses will also help in early identification, prevention and management of delirium in order to improve outcomes.

2.5.4 Use of Non-pharmacological Interventions

The main goal in managing delirium is to correct underlying illness and reduce predisposing and precipitating factors (Hickin, 2017). The Intensive Care nurses play an important part in employing measures that do not include medications for preventing and treating delirium. This includes the control of noise and light, reduction of nurses' intervention at night and sleep promotion (Barr *et al.,* 2013, Rivosecchi et al., 2015). However, the best way of preventing and handling delirium in the ICU is early detection using a validated tool and early mobilisation of patients out of bed (Barr et al, 2013). This is because when patients are mobilised, they tend to remain awake, orientated and blood circulation is improved and overall, patient's outcome is enhanced, reducing days on ventilator and in the ICU.

2.5.5 The Experiences of ICNs caring for patients with delirium

Despite high the prevalence of delirium in the ICU and the role nurses play in its management, very few studies have been done on nurses' experiences of caring for patients who have delirium in the ICU (Jung et al., 2013, Yue et al, 2015; Zamoschik, Godbold & Freeman, 2017; LeBlanc, Bourbonnais & Harrison, 2018).

Jung et al. (2013) assessed the experience of Intensive Care nurses caring for delirious patients and the empirical evaluation of the clinical feasibility of the CAM-ICU as a delirium assessment tool, through a qualitative study, which analysed focus group interviews with nurses in a large university hospital in Korea. These nurses were trained on the use of the CAM-ICU, then they were asked to assess surgical in patients in the ICU over five months. The nurses perceived the CAM-ICU as difficult to use at first, but it became easier with practice. The CAM-ICU was found to have positive aspects as it made it easy to detect delirium and increased the awareness of delirium, especially hypoactive delirium among nurses.

However, the CAM-ICU was found to have its negative aspects as nurses' lacked confidence in its results, lack of cooperation by patients, and physicians' lack of awareness of the CAM-ICU. Findings of this study reported that nurses encouraged the family to visit the patients to restore their stability. They also verbalised feeling

nervous caring for patients with delirium, because of the violent nature of the patients, and lacked knowledge about delirium prior to the training for the CAM-ICU. In China, 14 Intensive Care nurses were interviewed on their experiences of taking care of patients with delirium using a semi-structured qualitative interview guide (Yue et al, 2015). Findings revealed that nurses faced many barriers from internal and external sources as they had trouble in recognising delirium as they lacked knowledge on its recognition and because delirium occurs unexpectedly. Secondly, nurses complained of the inability to adequately assess patients using the recommended tools and manage patients for delirium because care was not continuous due to changing of working shifts. Finally, they concluded that caring for patients with delirium was associated with increased workload, psychological and physical stress, they are always faced with problems of deciding whether the family members who can help them in caring for these patients should stay in the ward or not, considering they can bring infection into the ICU.

Zamoschik, Godbold and Freeman (2017) explored the experiences and perceptions of delirium among nurses managing and screening patients with delirium, five years after the CAM-ICU was brought into standard practice, through a qualitative study using focus group discussions. A purposive sampling method chose 12 nurses from a medical-surgical ICU in the United Kingdom, and they were asked to attend two focus group discussions where they had to express their experiences of caring for patients with delirium. Their findings suggested that delirium is unpleasant, but not a serious health issue in the ICU as patients with delirium were not sick, hence the assessment of delirium should not be done routinely like the physical assessment. Participants were scared and frustrated with their lack of confidence in assessing and managing delirium and preferred a non-pharmacological intervention. This was because they felt they could not trust the validity and reliability of the test and patients may memorise their responses due to the test being repetitive. They also expressed issues with communicating with these patients and their families due to lack of cooperation.

Finally, the Canadian study by LeBlanc, Bourbonnais and Harrison (2018), researched the lived experience of ICNs caring for patients with delirium using interpretive phenomenological research approach. Eight registered nurses were

interviewed to elicit their experiences of caring for patients with delirium, in a tertiary hospital in Ontario. Findings revealed that caring for patients that have delirium is exhausting, tedious, individualised and unique. Nurses need to do more to keep patients safe and free from harm as these patients are combative and agitated and it is not easy to communicate with them. They concluded that the experience is complex and distressing so nurses caring for them always try to look for ways of helping them to overcome such unpleasant situations. As well as taking care of the patients, the patients' families also need to be cared for, because the patient's situation also distresses them.

Studies on nurses working in non-ICU settings experience intense strain, emotional distress, too much workload, mental conflict, and feelings of not being certain (Belanger & Ducharme, 2011; McDonnell & Timmons, 2012; Schofield, Tolson & Fleming, 2012). Belanger and Ducharme (2011) reviewed old qualitative studies with the aim of exploring the experiences of patients and those of nurses taking care of patients with delirium. Findings from the literature search suggest that ICNs who cared for patients with delirium have problems understanding the behaviours and utterances of the patients they cared for, making them feel uncomfortable. They concluded it was necessary for nurses to understand the patient's situation by finding out the meaning of the patient's experience with delirium in order to implement measures that could solve patients' specific problems and meet their demands. It is important to understand that when the needs of patients are not understood, relevant interventions to meet those needs will not be implemented.

These studies exposed that the experience of Intensive Care Nurses caring for patients with delirium has not been fully explored, as very few studies have been conducted worldwide. In developed countries, nurses are faced with many challenges and difficulties in the process of delivering care, and patients are at the receiving end of these problems. Nurses who are stressed and exhausted tend to ignore their job of caring for patients' immediate needs, affecting the quality of care rendered to these patients. In Africa and South Africa, no up to date studies have been done on this area, even though the incidence of delirium in the ICU in Africa is 54%.

It is necessary to explore the experiences of nurses caring for patients with delirium in Africa as it has a different setting and patient population.

2.6 SUMMARY

Caring entails taking care and showing concern for another person that is valued and important, because one views this as his/her duty or obligation. Caring has to do with giving another the best of one's skills, empathy, sympathy and concern that comes from the convictions, knowledge and interaction between the Intensive Care nurses and the patient with the overall goal of improving the wellbeing of the patient.

The Intensive Care nurse caring for the patient with delirium must be understanding, concerned, sympathetic and empathetic, and put herself/himself in the patients' shoes. This is because patients in the ICUs are confused and vulnerable, they realise they are in a strange, noisy and busy environment, where they cannot communicate their needs due to them being intubated, and hence their needs are not properly met in most cases.

The duty of the Intensive Care nurses, being the ones who spend the most time with the patients, is to provide measures that comfort the patients and reduce the occurrence and severity of delirium. Caring and comforting measures rendered by Intensive Care nurses, such as provision of personal hygiene and grooming, reducing stressors, pain control, measures to promote sleep, maintaining light levels of sedation, and early mobilisation goes a long way in the reduction of delirium. They disconnect the catheters and tubes attached to their bodies resulting in them having to be restrained by chemical means, such as sedation and physical restraints.

Physical restraints can cause injury to the skin, bed wounds, uncontrolled passage of urine, inability to pass stools, injury to patients' hands and feet, depression, increase in agitation, restlessness and anxiety. However**,** the measures applied by nurses to prevent and manage delirium can exacerbate patients' conditions and make them worse**.**

Conversely, if patients are not restrained, it leads to increased stress, more workload, emotional disturbance, fatigue and mental agony for nurses caring for them, thereby making nurses unhappy and unfulfilled. This produces poor outcomes as nurses divert the time meant to perform their caring duties with other patients on the ward to the care of the patient with delirium alone. For instance, nurses have to watch restless patients carefully so that they do not fall off from the bed or pull out their catheters and life support since they can neither restrain them nor sedate them.

Intensive Care nurses have a unique role to play in improving the quality of patients care and improving outcomes, by quickly recognising delirium, preventing it and managing it. This is because most of the studies conducted on delirium have dwelt more on how to assess delirium, its risk factors, factors that increase one's chance of acquiring delirium, rate of occurrence of delirium, prevention of delirium, management of delirium by pharmacological methods and methods that are not pharmacological. Others include abiding with policies of institutions and the problems that come with the implementation of protocol, but little has been done on the Intensive Care nurses experience of caring for patients with delirium.

Tools used for the assessment of delirium, such as the CAM-ICU and the ICDSC, are recommended for nurses and are reliable for identifying delirium in patients admitted to the ICU however the use of these recommended validated tools is poor compared to other developed parts of the world. Despite this, the overall use of the delirium assessment tools for delirium among nurses is poor. Nurses in Africa tend to use the bedside observation method to detect delirium instead of the recommended tools. This is because nurses perceive delirium as a less important issue, probably because the most serious type is not easily detected, they do not know how to use the recommended screening tool and have little knowledge of delirium.

Educational intervention can help to improve nurses' practice in relation to delirium, its assessment and management and hence, improve patient's outcome. The knowledge of educational intervention by nurses will also help in early identification, prevention and management of delirium in order to improve outcomes.

Furthermore, it was recommended that delirium should be managed by assessing regularly with validated instruments, sedating patients lightly, mobilising patients early, and delivering care with an approach that involved all members of the inter-professional team of Intensive Care specialists.

The reviewed studies illustrated that the experience of Intensive Care nurses caring for patients with delirium has not been fully explored as very few studies have been conducted worldwide. In developed countries, nurses are faced with many challenges and difficulties in the process of delivering care, resulting in patients being at the receiving end of these problems. Nurses who are stressed and exhausted tend to ignore their job of caring to attend to patients' immediate needs, affecting the quality of care rendered. In Africa and South Africa, very few studies have been conducted on delirium and no study has been done on the experiences of nurses caring for patients with delirium, even though the incidence of delirium in the ICU in Africa is 54%.

When the experiences of Intensive Care nurses caring for patients with delirium are understood, the factors that help or impede caring will be understood and measures to get it corrected will be instituted. Intensive Care nurses should therefore implement interventions that promote the assessment of patients and implementation of caring actions that lead to enhanced patients' outcomes.

CHAPTER THREE

RESEARCH METHODS

3.1 INTRODUCTION

This chapter presents a discussion of the research methods used in this study to describe the experience of Intensive Care nurses caring for patients with delirium. These include the research design and methods, the research settings, study population, sample and sampling technique, measures of trustworthiness, pre-testing procedure and ethical issues considered in the study are explained in detail.

3.2 RESEARCH DESIGN

The study employed a descriptive qualitative design.

3.2.1 Qualitative Design

Qualitative design is a systematic, subjective way of describing experiences and giving them a meaning (Gray, Grove & Sutherland, 2017). It uses non-statistical method of analysis to examine subjective human experience and explores the complex experience of human beings through naturalistic inquiry (Sandelowski, 2000). The design of this qualitative study emerged in the process of getting the views and opinions of the nurses of the research study.

Experience is subjective hence, it is better to study it with qualitative methods as it helps to reveal the feelings of the whole person. It helps to describe and understand the complexity of a phenomenon from the way the nurses see it (Polit & Beck, 2018). The qualitative research approach is a means of getting to know what others feel, or think, about a human or societal issue, and to explore the way people understand their life and the society in which they live (Holloway & Wheeler, 2010).

Types of qualitative research includes the narrative, case study, Grounded Theory, phenomenology, ethnography, participatory action research or discourse analysis

and descriptive qualitative research (Sandelowski, 2000; Creswell, 2014). In this study, the researcher utilised descriptive qualitative research to understand what the nurses feel about an issue, and not what the researcher feels about the topic under study (Creswell, 2014).

Its aim is to use methods of investigation that produce narratives such as interview texts, notes from observation, information entered in diaries, videos and pictures, not numbers like quantitative studies. This encourages people to express their minds, thoughts and feelings in their own language, just as they would love to say it, and the researchers get an in-depth detail of the topic being discussed. Qualitative researchers have to spend a long time with the people they are studying so that they can have deep meaning and understanding of the nurses' experiences; unexpected data is often produced from the communication between the researcher and the nurses (Creswell, 2014).

3.2.2 Explorative Design

Exploratory research design seeks to get the full nature of a phenomenon that is not well understood. Exploratory design helps to get insight and become familiar with a situation, people or phenomenon to identify a problem (de Vos et al., 2017). This design is the best to use when a phenomenon is not well understood, or little is known about it, as it helps to achieve a better understanding of a situation or problem that was observed by the researcher. In this study, the experiences of Intensive Care nurses caring for patients with delirium were explored using in-depth face-to-face interviews, where nurses were asked to narrate their experiences of caring for patients with delirium.

Moreover, since little is known about the experiences of Intensive Care nurses caring for patients with delirium, as seen in the study's statement of the problem, and no studies to date have been conducted on this topic in South Africa and Africa as a whole, an explorative qualitative approach was used to explore and understand the topic being studied.

3.2.2 Descriptive Design

According to Sandelowski (2000), a descriptive design describes and explores phenomena in the actual situation they occur and helps to bring new meanings to the situations. It gives researchers the opportunity to interpret and get a deeper meaning of a phenomenon and present them comprehensively. The findings of descriptive qualitative research are closer to the data than other qualitative approaches.

Descriptive qualitative design was best suited to this study as it gives a complete picture of the detailed experience of people and offers a structured rigorous approach. The chosen design provided an opportunity to gain an understanding of the experiences of nurses, caring for patients with delirium, in an academic hospital in Johannesburg. It is not dependent on a specific qualitative tradition, instead it explores and describes phenomena through naturalistic inquiry and content analysis, and does not depend on cultures, philosophies and social processes (Polit & Beck, 2018).

3.3 STUDY SETTING

The setting of a research study is anywhere research is done, or a place information is collected (Polit & Beck, 2018). This study was carried out in the General Adult Intensive Care Unit (ICU) of the selected academic hospital in Gauteng Province. This General ICU was considered by the researcher because it is a highly specialised ICU that accepts critically ill patients who have medical and surgical problems, such as trauma, sepsis, acute renal failure, multiple organ failure, respiratory, and cardiac conditions.

The selected academic hospital is in Gauteng Province, South Africa. It has five ICUs with 43 beds, which accept patients from medical, trauma, emergency and surgical disciplines. The General ICU is considered a Level-III ICU, in terms of the South African Society of Anaesthesiology (SASA) classification system (SASA, 2013). There are 12 (N=12) beds and 23 (N=23) registered Intensive Care nurses practicing in this unit. Intensive Care nurses and medical intensivist doctors are

considered the main members of the multidisciplinary team of dedicated specialists who care for critically ill patients in the ICU; others include physiotherapists, dieticians, anaesthetists, psychologists and social workers.

The interview was conducted in a quiet room in the ward, which made it easy to audiotape the interviews without distractions. This was because the environment of the General ICU is busy and noisy, with nurses and other members of the multidisciplinary team moving around and the continuous noise from technological machines, such as monitors, mechanical ventilators, feeding and infusion pumps, dialysis machines.

The Intensive Care nurses are responsible for assessing, coordinating, supporting and monitoring the critically ill patients' haemodynamic and respiratory status together with other members of the multidisciplinary team. The nurse-to-patient ratio is one nurse to one patient but can increase to one nurse to two patients if the need arises. Patient's families and visitors can come in, two at a time, during the visiting time of two hours.

3.4 RESEARCH METHODS

3.4.1 Population

Registered Intensive Care nurses, practicing in the General ICU at an academic hospital in Johannesburg, constituted the population for this study. There are 23 (N=23) registered Intensive Care nurses practicing in the General ICU of the academic hospital being studied.

3.4.2 Sample and Sampling

A sample is a part of the entire population the researcher is interested in working with (Gray, Grove & Sutherland, 2017). In this study, registered Intensive Care nurses who had worked for at least two years in the General ICU of the selected academic hospital constituted the sample. This was because they were above the stage of competency (Benner, 1982), having the knowledge and experience of the

topic being studied, and the experience of directly caring for patients with various types of critical illness.

A purposive sampling method was used to choose a minimum sample of 10 (N=10) registered Intensive care nurses working in the General adult ICU of an academic hospital (Holloway & Wheeler, 2010). This sampling method allows for selection of nurses with knowledge of the topic being researched (Sandelowski, 2000; Gray, Grove & Sutherland, 2017), and requires that experts, who can provide rich data, are identified in a discipline so that the content related validity of the instrument will be met (Bruce, Langley & Tjale, 2008).

For this study, registered Intensive Care nurses with more than two years of practicing in a General ICU were included in the study. The study's exclusion criteria were registered Intensive Care nurses working in other adult and paediatric ICUs as they have differing nursing practice, policies and patient profiles.

3.4.3 Data Collection

The predominant mode of data collection in qualitative studies is interviewing of patients (Holloway & Wheeler, 2010). In-depth semi-structured interviews were used to collect data, where one question was asked followed by prompts where necessary (refer to **Appendix E).**

3.4.3.1 Semi-structured interview

Semi-structured interviews, which allow for flexibilities of thought and direct the information produced, were used to collect data (Creswell, 2014). This method of data collection was chosen to allow for detailed exploration of the topic, to provide opportunity to probe and ask follow-up questions, to explore the questions openly and to enable the nurses to be open in discussing their experiences about the topic under study (Holloway & Wheeler, 2010).

A semi-structured interview guide, with pre-determined and tentative questions, was used to facilitate the interviews and obtain information from the nurses. The semi-

structured interview guide assisted the researcher with the specific questions to ask the nurses. For consistency, the researcher asked each participant the same set of pre-established questions, in the same order (Gray, Grove & Sutherland, 2017). The semi-structured face-to-face interview helped the interviewer to prompt or ask questions that probed further into the topic being discussed; it also made the interviewer and nurses comfortable and explored deeper to get better meaning and understanding of the topic being discussed (Holloway & Wheeler, 2010).

Holloway and Wheeler (2010) stated that the semi-structured interview gives the researcher control over the way the questions are being asked and more information can be gotten through observation of participant's body language, thoughts and behaviour. In addition, issues that are not well understood between the researcher and the participant can be clarified, similar types of information are obtained from all the nurses saving the time used for the interview, and it helps the interviewer get control over the interview process so as to achieve the aim of the study and explore the topic being studied.

For this study, the experience of the researcher assisted in aligning the interview to achieve the studies objectives because the researcher is the main instrument and hence, involved in the actual gathering of information even though a guide is being used (Creswell, 2014).

In this study, the first interview was conducted with one participant who met the inclusion criteria before carrying out the main study. As the researcher is a novice researcher, this was done to assess her competency in conducting interviews and to check if the guideline and prompts were clear enough. The findings from the first interview were as expected as the guideline answered the research question; hence, the data collected during the first interview was included in the main study.

3.4.3.2 Procedure

The nurse unit manager of the General ICU was visited, and the study and its procedures were explained to him. Copies of the information letter (refer to **Appendix A**), were given to each nurse. After comprehending the information about

the study, nurses who were eligible and interested were invited to participate in the study interview. Each nurse who showed interest in participating in the study interview was requested to sign the consent forms for participation and for audio recording of the interview after having read and understood the information letter (refer to **Appendix B**). The venue and time for the interview, which was convenient for each participant and the unit manager, was set.

The interview was conducted in a quiet room close to the ICU and a notice was placed outside the door of the room, which stated an interview was in progress, therefore disturbances were avoided. Participants were interviewed separately, and just before the interview commenced, each participant was asked to relax and reminded of the aim and significance of the interview, their ability to decide not to continue with the interview if they so wished and the fact that no names would be used during the process to protect their identity. The participants were interviewed during their break time when on night or weekends shifts when the workload was less, as this helped to get their full concentration.

A semi-structured interview guide containing one broad question and other related questions was used to keep the interview focused (refer to **Appendix E**). This was structured to enable the participants to express their experiences of caring for patients with delirium in the ICU, assisted in getting detailed data and allowed the participants the opportunity to express their experiences freely.

The participants were interviewed until no new information emerged, indicating the data were saturated (Polit & Beck, 2018). During the interview, the researcher took field notes and audiotaped the interview upon obtaining written consent from the nurses (refer to **Appendix C**). The names of the participants were not used during the interview so that confidentiality and anonymity was ensured, but the participants were asked for their age, qualifications, and years of working experience in years.
When the interview ended, the researcher thanked the participants for their participation and assistance. The participants were also informed that the transcribed interviews and the exhaustive description of their expressed experiences caring for adult patients with delirium would be brought back to them

for validation. The audiotaped data, and other written scripts were stored in a locked cupboard and the keys only accessible by the researcher.

3.4.3.3 Positioning the researcher

My roles, assumptions and understandings have been influenced by my beliefs, bias, background and experience as a nurse. I acknowledge my role as a translator, who understands the world of others and translates their experiences into meaningful accounts. I am also an interpreter who draws on my knowledge, experience and collected data to make sense out of the expressed opinions of nurses. I presume it is not easy for Intensive Care nurses to care for patients with delirium. The use of the objective tool for assessment of delirium will help to improve patients' care and it is the duty of the Intensive Care nurse to care for patients compassionately and with empathy because patients with delirium are vulnerable.

3.4.4 Data Analysis

The audiotaped information was transcribed verbatim and analysed using Braun and Clarke's (2006) thematic analysis approach (cited in Braun & Clarke 2013).

Braun and Clarke's (2006) approach involves the following six steps:

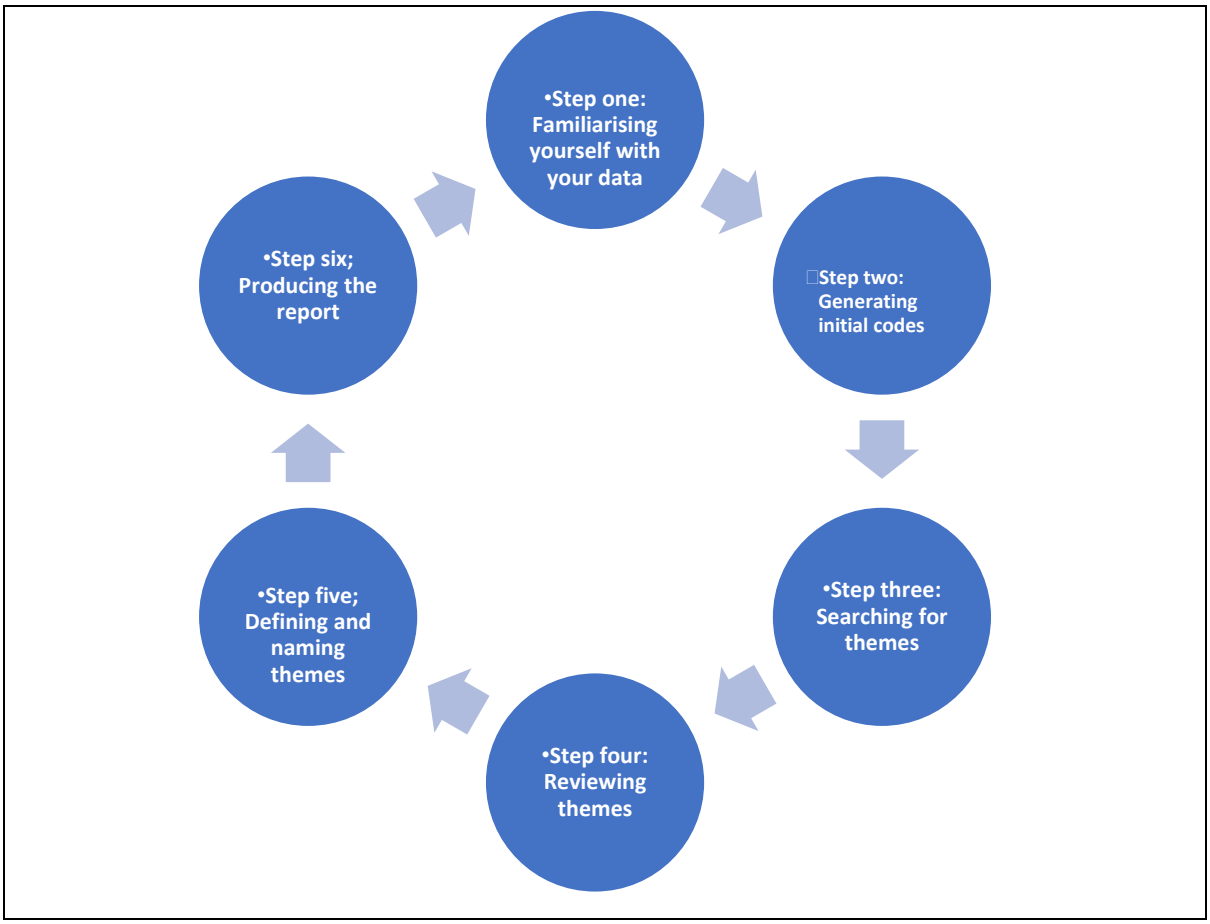


Figure 3.1 Steps used in this study for analysing the data

- **Step one: Familiarising yourself with your data**

Becoming familiar with the data involves transcribing the data, reading it repeatedly, and noting initial codes. The researcher listened to the audiotaped information, the data were personally transcribed verbatim and then the transcripts, memos and field notes were read many times to understand the data (refer to **Appendix F**). De Vos et al. (2017) recommended that own transcription will help the novice researcher to become immersed in the data, obtain emergent insights and be confident in analysing it. The transcribed data and field notes were cross-examined by the supervisor and participants, for validation of what was said and proper understanding of its content. The researcher's opinions, preconceived ideas, and assumptions about the phenomenon being studied were bracketed in order to explore participants' experiences as expressed by them without bias and the data was presented in its pure form.

- **Step two: Generating initial codes**

After transcription and understanding of the data, codes were generated from this and field notes by gathering interesting parts of the data. The codes that described similar contents were grouped together, reviewed and coded again based on the objectives of the study. The significant statements were coloured differently based on the initial grouping in order to immerse oneself in the data and easily identify themes emerging from the data. Common and meaningful statements of nurses that were recurrent and repetitive were identified and coded, as well as nurses' ideas and statements that were distinct (refer to **Appendix G**). The researcher reviewed all the significant statements to make sure the extracted statements reflected the objectives of the study.

- **Step three: Searching for themes**

This involves construction of themes and collating all coded data relevant to the themes. After generating codes, the researcher further organised the codes that were related into categories and broader themes. This helped to develop a story line of the experience of nurses that were relevant to the study and visualise the emerging themes.

- **Step four: Reviewing themes**

This has to do with ensuring that themes are congruent with full data set and coded extracts, defining nature of themes and the relationship between the themes. The emergent themes were reassessed for validity and internal consistency, which resulted in some of the themes being divided and regrouped. The research supervisor also reviewed the transcripts, extracted statements, codes, emerging themes and categories that were formulated to ensure rigour and appropriate analysis. The themes were then refined to answer the research question and represent the objectives of the study.

- **Step five; Defining and naming themes**

Groups of themes and sub-themes were put together. Each theme was analysed in detail, the importance of each theme was analysed, and names that seemed most logically related to the data it represented were generated for each theme. After the reassessment of the themes, they were divided, renamed and regrouped to reflect their contents accurately.

- **Step six; Producing the report**

The analytic narrative and data extracts were put together in relation to the research. The research supervisor verified the data analysis throughout the whole process.

3.5 ETHICAL CONSIDERATIONS

Research ethics helps to protect the rights of the respondents and generate sound knowledge for practice (Holloway & Wheeler, 2010). To prevent misconduct in research and to ensure balance between risk and benefits, it is necessary to obtain ethical clearance.

According to the Singapore statement integrity (Singapore Statement on Research Integrity, 2010) that was drafted at the Second World Conference on Research, the integrity of research helps to shape its values and benefits. Despite the differences in the way research is carried out, some principles are fundamental to the integrity of research irrespective of where it is being conducted. These fundamental principles include honesty in all the aspects of research, accountability in the way research is conducted, working with professional courtesy, fairness and being a research steward for others.

The South African Nursing Council's ethical values and principles must be applied when making ethical decisions (South African Nursing Council, 2013). Therefore, nurses are obligated to observe and apply fundamental ethical principles such as justice (social), non- maleficence, beneficence, veracity, fidelity, altruism, autonomy and caring when dealing with human beings.

3.5.1 Permission to Conduct the Study

Based on the provision of the Health Research Ethics Committee of the University of the Witwatersrand, the researcher presented the proposal to the Department of Nursing Education for peer review, and from there it was submitted the University Postgraduate Committee for assessment. After the assessment, clearance to conduct the study was sought from the Committee for Research on Human Subjects of the University of the Witwatersrand. Permission to conduct the study was then sought from the Department of Health and authorities of the hospital where the study was to be done (refer to **Appendix I**). The Unit Manager of the ward was asked for permission to conduct the study on the ward.

3.5.2 Informed Consent

Informed consent is obtained when the nurses have adequate information about the research, understand the research and have the power to accept to participate or decline (Polit & Beck, 2018). The study was explained to nurses who were eligible after permission was received from the relevant bodies. The nurses who were eligible and agreed to participate in the study were given the information letter, which contained a detailed explanation of the intended study **(**refer to **Appendix A).** Nurses were then required to decline or give written informed consent for participation in the study after they had read and understood the information letter (refer to **Appendix B).** Participants were also required to give a separate written informed consent for audiotape recording of the interview (refer to **Appendix C**).
Participants were informed that participation in the study was voluntary, and that they were free to discontinue participation at any point should they wish to do so, based on the provision of the Health Research Ethics Committee of the University of the Witwatersrand and Helsinki declaration (Helsinki declaration, 2018).

3.5.3 Anonymity and Confidentiality

According to Holloway and Wheeler (2010), anonymity in qualitative research has to do with keeping the identity of the participants' confidential, whereas confidentiality is keeping nurses' personal information secret.

Act No.108 of the 1996 South African constitution, Chapter 2, section 14, was adhered to in order to ensure participant's rights to privacy in this study (Constitution of the Republic of South Africa, 1996). Codes were used during data collection to ensure anonymity, while confidentiality was ensured by destroying the audiotaped interviews after transcription, saving the transcribed interview with a password only the researcher had access to. Scripts that could be identified were kept in a locked cupboard, which could only be assessed by the supervisor, and the names of the participants were not used as pseudonyms were used during the process of interviews and reporting of findings.

3.5.4 Data Management and Storage

The data were stored in a secured place and only the researcher and the research supervisor had access to the data. All tape recordings, transcripts, memos and field notes were stored securely in the Department of Nursing Education of the university, for a minimum of two years after publication, or six years if not published.

3.6 MEASURES OF TRUSTWORTHINESS

Trustworthiness refers to the degree of confidence qualitative researchers have in their data. The method of Lincoln and Guba (1985), which includes "credibility, dependability, confirmability and transferability," will be utilised to ensure trustworthiness (Cited in Polit & Beck, 2018).

3.6.1 Credibility

Credibility is referred to as the truthfulness of the data and its interpretation (Polit & Beck, 2018). According to Lincoln and Guba, credibility involves carrying out the study in a way that enhances the ability of the study to be believed and taking steps that show credibility in a research report (cited in Polit & Beck, 2018). De Vos et al. (2017) added that credibility helps to check whether the identification and description of nurses was correctly done. The researcher used good interviewing techniques, probes, tape recording and accurate verbatim transcriptions of audiotaped recordings and field notes to ensure credibility.

To ensure credibility of the study, the following measures were taken:

- Prolonged engagement during data collection:

The researcher became familiar with the participants by spending adequate time with them in their natural working environment during her clinical posting as a student nurse. She also familiarised herself with the environment and participants by working in the ICU for over 18 months to build trust. The interviews lasted until no new data emerged and saturation achieved.

- Investigator Triangulation:

The supervisor and co-supervisor, who were experienced qualitative researchers supervised the research process, data collection and analysis.

- Persistent observation:

During the interview process, the participants' observed behaviours and circumstances surrounding the interview process were recorded in the researcher's field notes and incorporated during data analysis.

- Member check:

The participants expressed experiences of caring for patients with delirium, which were summarised at the end of each interview section and the recorded interviews were played for the nurses to confirm what was said.

3.6.2 Dependability

Dependability refers to the consistency of the data and replicability of the study (Polit & Beck, 2018). It is the ability of the data to be reliable and stable over time (Polit & Beck, 2018). According to De Vos et al. (2017), dependability can also be reliability since the researcher has to explain how conditions in the phenomenon under study change.

In this study, dependability was ensured by a systematic presentation of the research process and its findings in the report so that the research can be replicated in future to obtain similar results. The research process was thoroughly documented, and comprehensive transcripts and field notes were presented so that reliability could be ensured. The transcripts were co-coded by an independent coder and the results compared to check for consistency.

3.6.3 Confirmability

Confirmability is the likelihood that the opinion of two or more independent people about the accuracy, meaning or relevance of the data is congruent (Polit & Beck, 2018). It is when two or more independent people have the same view of the accuracy of a data, and the findings can be confirmed by another person (De Vos et al, 2017). Confirmability means the findings of the study are the result of the experiences and ideas of the informants and not the views of the researcher (Polit & Beck, 2018).

Confirmability of this study was ensured by conducting individual interviews, tape recording the data and taking field notes of participant's behaviours, feelings and reactions during and after the interview. The participants quoted words were used to explain each theme and sub-theme. The supervisor read all the transcripts, audited the transcription and assisted in drawing themes and categories, which were compared to the preliminary findings. The researcher recorded her reflections of the interview data with a reflective journal.

3.6.4 Transferability

Transferability implies the degree to which the findings of the study apply to other situations or settings (Polit & Beck, 2018). The responsibility of the qualitative researcher is to describe the context of the research and nurses in detail, so that the readers can make a judgement as to whether or not the findings of the study apply to their own situations (Korstjens & Moser, 2018; Polit & Beck, 2018).

In this study, descriptive qualitative and exploratory designs were used to solicit the experiences of Intensive Care nurses caring for patients with delirium in an academic hospital in Johannesburg utilising a purposive sampling method, therefore it was not intended to be generalised. Nevertheless, transferability was ensured by the provision and documentation of enough data about the study including its design, setting, context in which the research was conducted and transcribed interviews and field notes, so that other users can refer to it for its applicability and compare with what is obtainable in their situations or settings.

3.7 SUMMARY

This chapter gave an outline of the research methodology used in this study, which included research design and methods, research settings, study population, sample and sampling technique, measures of trustworthiness, pretesting procedure and ethical issues considered in the study.

The next chapter will describe the findings of the experiences of Intensive Care nurses caring for intubated patients with delirium, and analysis of data.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 INTRODUCTION

This chapter describes the experiences of Intensive Care nurses caring for intubated patients with delirium at an academic hospital in Johannesburg. It also presents the demographic characteristics of the participants who were studied, themes and sub-themes that emerged from the study of the experiences of Intensive Care nurses caring for intubated patients with delirium using their own statements as excerpts.

In-depth, one to one semi-structured interviews were used to collect data from 10 Intensive Care nurses from the study setting. The collected data were transcribed and analysed using Clarke and Braun's (2006) thematic analysis approach. The themes, sub-themes and nurses' actual words were quoted and presented, and the findings are summarised in this chapter.

4.2 NURSES' DEMOGRAPHIC DATA

Table 4.1: Summary of the demographic data of the 10 participants.

Demographic characteristic	Frequency (n)	Percentage (%)
Gender		
Male	5	50.0%
Female	5	50.0%
Age (in years)		
24 to 40	3	30.0%
41 to 60	6	60.0%
60 and above	1	10.0%
Years of experience		
1 to 15	5	50.0%
16 to 30	3	30.0%
30 and above	2	20.0%
Qualifications		
ICU qualified	10	100.0%
Highest level of education		
Diploma/Advanced diploma	7	70.0%
Bachelor's degree	1	10.0%
Master's degree	2	20.0%

Table 4.1 summarised the demographic characteristics of 10 Intensive Care nurses, from the General ICU of an academic hospital in Johannesburg, who took part in this study. Five were females (50%, n=5) and five were males (50%, n=5). The participants' ages ranged from 24 years to >60 years, and years of experience ranged between 2 years to > 30 years. They were all Intensive Care registered nurses; two (20%, n=2) were Master's degree holders, one (10%, n=1) was a Bachelor's degree holder and the remaining seven (70%, n=7) had Diploma/advanced diploma.

4.3 EMERGENT THEMES

In this section, the findings from the participants' experience of caring for patients with delirium in the ICU were presented. Four broad themes emerged from the study, with 11 sub-themes. The main issues that arose from this study included feeling exhausted, ensuring patients' safety, providing comfort, maintaining communication, nurses' support and the assessment of patients' mental status. These sub-themes generated four themes, which included *'it's exhausting,' 'caring,' 'Factors that promote care'* and *'factors that hinder care*.' The fundamental structure of the findings of this study were based on these themes.

These themes were explained further, and verbatim quotations of the participants' experiences were used to substantiate the themes to make them more meaningful. These verbatim quotations were presented in italics under each theme and sub-theme so that the aspect being discussed was substantiated. Pseudonyms were assigned to the nurses who took part in the interviews.

Table 4.2 provides an overview of the themes and subthemes from the interview with participants.

Table 4.2: Themes and sub-themes

Themes		Sub-themes	
4.3.1	It's exhausting	4.3.1.1	Frustrating for nurse and patient
		4.3.1.2	Difficult and challenging
		4.3.1.3	It leads to mixed feelings
4.3.2	Caring	4.3.2.1	Maintaining patients' safety
		4.3.2.2	Promoting comfort measures
4.3.3	Factors that promote care	4.3.3.1	Involving family in caring activities
		4.3.3.2	Gaining support from colleagues
		4.3.3.3	Nurses' knowledge and education
4.3.4	Factors that hinder care	4.4.4.1	Context of the ICU
		4.4.4.2	Patients characteristics
		4.4.4.3	Missing out on caring activities

4.3.1 THEME ONE: IT'S EXHAUSTING

Exhaustion refers to extreme tiredness that can either be physical or mental, being tired/used up and feeling worn out or drained due to accumulated stress or burnout. Participants described their experience of caring for patients who are agitated, confused and disoriented as exhausting because of the frustration, challenges and difficulty they encountered in the process of caring for patients with delirium in the ICU, as the patients were uncooperative, not understanding and obstructive.

> *"It is exhausting when working with a difficult patient, you get tired… you get tired of repeating information, you get frustrated and tired of not able to do other work you are required to do."*
>
> Mary

4.3.1.1 Sub-theme one: frustrating for nurse and patient

Most of the participants described their experience of caring for patients with delirium as frustrating due to many reasons. One of the participants said,

> *"Due to that delirium, they don't understand what is happening around them, they just remove things, because they don't understand why those things are there."*

Esther

Another participant added that the reason it is frustrating is because *"… you don't know how to help this person, you tried to explain the situation to them, but this person is not understanding…"*

Dorcas

Yet another participant agreed with this statement, stating,

> "*The reason it is frustrating is because you keep doing the same thing over and over again, you explain to the patients many times and it gets tiring."*
>
> Samson

However, for those patients who are withdrawn and calm, participants described their frustration as coming from the fact that they have so few interventions for such patients. Samson described that feeling as frustrating. He said,

> *"Absolutely, just so little that you can do for such patient and that's the frustrating part, not being able to do something, that's very very frustrating… I hate it, I rather nurse the patient that wants to run to the shops [laugh]".*

The same participant added that,

> *"Caring for patients who are withdrawn, and calm is more frustrating, cos regardless of a number of what you do, immediately after you've done it, it's still like you haven't done anything 'cos they are still the same."*
>
> Samson

Another participant described feeling frustrated because they encountered challenges in the process of caring for patients with delirium, as they have no idea what is going on. This was said:

> *"So, it's a challenging, especially the ones that are intubated, so if they are calm, here's the thing, they look at you and don't respond. So, you are not sure they understand what you are saying, is language a barrier? Or they are not comprehending your sign language. So, you absolutely have no idea what is happening..."*
>
> Samson

Furthermore, participants described patients as unpredictable and not to be trusted because,

"They can turn against you at any given time," and "s*ometimes you feel frustrated because you don't know how to help this person you tried to explain but this person is not understanding...*"

Samuel and Esther

The participants further explained how they felt frustrated as they find themselves trying to strike a balance between caring compassionately and getting angry. One participant expressed it thus,

"…. You are being compassionate about their situations, you're concerned about the patient but on the other hand, it's almost like you have to repeat it every time the patient does something. So, I think over a 12-hour shift, the... one does reach a stage when you sort of get angry with the patient."

Mary

Finally, participants recounted that caring for patients who are confused, agitated, and withdrawn makes them feel frustrated. This feeling of frustration was attributed to the fact that patients with delirium do not understand what is going on, are not predictable due to their changing mental status, and they keep explaining things to the patients repeatedly, hence the Nurses cannot get things done, making them tired and exhausted. Participants in the qualitative study by LeBlanc, Bourbonnais and Harrison (2018) also described the same reasons for the feeling of frustration for the nurse and the patients. However, the participants in Zamoschik, Godbold and Freeman, (2017) attributed their frustration to lack of confidence in assessing and managing delirium, as they felt that they could not trust the validity and reliability of the test, and patients may memorise their responses as the test is repetitive. They also expressed issues with communicating with these patients and their families due to lack of cooperation, making them exhausted.

4.3.1.2 Sub-Theme two: difficult and challenging.

The participants' description of difficulty and challenges were understood as the same thing. Some of the participants described their experience as challenging.

"Now caring for a patient with delirium, it is challenging because they are confused, that patient is not working together with you but against you…

You must be there at the bedside 12 hours if you are working with a difficult patient, you also get tired of repeating information."

Mary

The same participant also described the experience of caring for patients with delirium as difficult.

"I think in one word, difficult … The reason it's difficult is because these patients, you know ICU is a busy area, you've got a lot to do… besides the caring you also, you also have the monitoring and the drugs… you have the availability of the relatives."

Mary

All the participants recounted that the feeling of frustration, challenges and difficulties they encountered made them tired and exhausted. They are faced with many challenges and it is not easy to attend to other caring responsibilities and maintain patients' safety at the same time

"… it's difficult, patient is not sedated, patient is not restrained, and patient is having the ET tube. So, imagine patient is fighting to pull that tube out, so you need to stand next to the patient, trying to avoid the patient from pull the tube…. Yeah, it's gonna be very difficult to nurse that patient."

Dorcas

Apart from the fact that participants encountered difficulties and challenges with caring for patients with delirium, they also get exhausted and tired, as they must keep explaining things to patients repeatedly. Hence, they are not able to do other work required of them, therefore their work piles up and increases their workload.

According to one participant,

"When working with a difficult patient, you get tired…, tired of repeating information, tired of not able to do other work they are required to do."

Mary

Nevertheless, some participants described this experience as rewarding,

"Well, it's quite difficult sometimes… but fortunately we have doctors and qualified nurses who are able to take care of them… the experience is, it pays in the long run, you get used to it …yeah, it gets less, less difficult for us in the long run…"

John

This was attributed to the fact that they had the necessary support from colleagues, education and experience to care for these patients. This participant may have had a different opinion because he was male; the majority of the other participants who described their experience of caring for patients with delirium as challenging were females.

4.3.1.3: Sub-theme three: It leads to mixed feelings

This is the feeling of uncertainty about caring for patients. The participants want to make patients comfortable and ensure their safety at the same time. They restrain the patient to ensure safety, and at the same time, feel for the patient's situation. This feeling makes them emotionally disturbed, and some of the participants recounted having mixed feelings.

> *"… it leads to mixed feelings…for example, with the hyperactive patients…you're going to restrain, they won't be able to self-extubate, but every time you look at them trying to get down and free themselves from the restrain, it feels distressing. I do not like it, I really hate it, but considering their safety, no choice, it has to be done."*

Samson

One participant agreed with this statement by adding that:

> *"Because of the delirium, there is often mixed messages, so if you are for example attempting to make the patient comfortable, the patient may be confused and fight back, and that's a confusing situation, because you are wishing to care for the patient and make the patient comfortable."*

Deborah

The participants in this study described the feeling of frustration, not able to care optimally, and being challenged because they felt inadequate and lacked confidence in assessment and management of delirium. These authors also described the experience of caring for patients with delirium as exhausting, because they felt emotionally, physically and mentally exhausted, as these patients are

uncooperative, unpredictable and put themselves and the nurse at risk of physical harm.

None of the findings of other studies conducted on the experiences of Intensive Care nurses caring for patients with delirium came up with mixed feelings, yet in this study the sub-theme “mixed feelings” came up strong. The participants in this study described that they had mixed feelings, which made them frustrated, emotionally and psychologically exhausted.

4.3.2 THEME TWO: CARING

The theme ‘caring’ describes the experience of relieving patients’ suffering. Caring, the core of Intensive Care nursing involves prioritising care in such a way that patients’ illnesses are reversed - lower level physical needs are met first, and then higher level psychological and comfort needs.

The participants described how they cared for intubated patients with delirium in the ICU. These included ensuring patients’ safety, finding ways to maintain communication, providing comfort, nurses using their knowledge and experience as support and the involvement of patients’ families in care.

4.3.2.1 Sub-Theme one: maintaining safety

Intensive Care nurses must maintain patients’ safety because critical illness is life threatening. If the safety of patients with delirium is not maintained, the care rendered to them will be affected. Most of the participants in this study said safety was very important and should be considered first before any other thing.

According to one of the participants,

> *“Firstly, is safety, you understand that everything else … will come after, cos if they harm themselves, I mean they are not responsible for that, they have no idea of what they are doing.”*
>
> Samson

Maintaining patient's safety begins with good assessment of patients' mental status and monitoring of the patients. The participants in this study described encountering problems in correctly assessing delirium. According to one participant,

> *"…, we don't use the CAM-ICU. I notice from her behaviours. She was restless when she became conscious."*
>
> Samuel

Other participants agreed that the CAM-ICU, the tool for assessment of delirium, was not being used in the ICU instead, patient's behaviour was observed.

> *"… here in ICU, we don't use scale … whatever the patient is saying, whatever the patient is doing, to me, it shows me that the patient is unconscious, is having delirium*…"
>
> Dorcas

Joshua summarised how patients were assessed for delirium, by saying *"Unfortunately, we use (pause) the wrong tool, Glasgow coma scale, which is wrong, …that is why we get frustrated, as we don't even know if patient is delirious"*

If the assessment of delirium is not done appropriately, it will be difficult to care for the patients. The Glasgow Coma Scale does not measure cognitive disturbance; hence it will not give accurate diagnosis, which is why the participants get frustrated and exhausted.

The findings of this study show that the participants do not use any objective delirium-screening tool to assess delirium rather they observed the patients' signs and symptoms at the bedside. This is in line with the findings of Forsgren and Eriksson (2010), which reported that 60% of the ICUs used observation methods to assess delirium, 85% used non-pharmacological interventions such as contact with patients' family, sleep promotion, maintenance of the environment, maintenance of oxygenation, nutrition and hydration status, use of hearing aids, and proper orientation to manage delirium. This is attributed to the fact that the awareness of delirium and the use of validated tools in its assessment is low.

An earlier study conducted in South Africa revealed that the majority of the health practitioners (77%) working in the ICU assessed delirium by clinically assessing the patients, but few of the Nurses (24%) used an objective tool (Chetty & Paruk, 2015). This revealed that some health practitioners make use of the CAM-ICU, despite the fact that nurses do not. These findings revealed the participants do not use the validated tool as recommended by Barr et al. (2013). They state that the best way of preventing and handling delirium in the ICU was early detection using a validated tool and early mobilisation of patients from their beds (Barr, 2013). Most of the participants attributed their lack of usage of the CAM-ICU to poor knowledge on its use.

According to some participants,

> *"We do not use the CAM-ICU because many of us don't know how to use it. Some of us don't even know what the CAM-ICU is."*
>
> Joshua

Despite the fact that participants did not use an objective delirium assessment tool, they further described measures they used in monitoring patients with delirium and keeping them safe. These measures included using cot sides, mechanically restraining patients sometimes, if the need arose, just to keep the patient safe from falling off the bed. One nurse said,

> *"They are restless, so I think, one, is you restrain since …they are so much confused and everything, put your cot sides up, cos they might jump …"*
>
> Samson

All the participants further added that they used light levels of sedation if the patients were combative and had the potential to harm themselves. One of the nurses said,

> *"…sometime if the restlessness becomes so worse and patient is more confused, and we see that the patient is going to hurt himself or herself…if you leave their hands untied … they can just extubate themselves."*
>
> Dorcas

Another participant said, *"You know, we sedate those patients, we put restraint and then we put the cot- side up and make sure the patient is not gonna hurt himself or herself...*"

Esther

Some participants disclosed that some of them used mechanical restraints irrespective of whether the patient was restless or not, and that patients should not be restrained if there is no need to, as it makes them feel bad. According to one of them,

> *"At times patient doesn't do anything while we are also putting some restrains, at the other side the patient is cooperating still you are putting some restrain. As a nurse, it affects me because like you can feel now this thing is not good enough."*

Esther

Another participant echoed,

> *"Maybe the person was just restless because he can't be able to pass urine. But, we as nurses say "no, this person is restless, less just keep this treatment and we sedate the patient who does not even need the sedation."*

Jude

Some participants would rather offer support by explaining to patients to keep them calm.

> "*So even if we trust them, we just give them some advice that the tube that you have is very important, is trying to help you to breath and if then that patient is understanding then we do not restrain."*

Jude

In addition, one participant sadly stated

> *"Unfortunately, …it has become a norm in the unit or a routine that you restrain every restless patient."*

Joshua

Some of the participants even acknowledged that they sedate and restrain patients in order to get their work done, whether or not they have a prescription. Mary expressed this as,

> *"Because we have to keep on watching that the patient doesn't pull off the tubes and the lines out, So, what usually happens is that we end up sedating the patient and perhaps giving a larger amount of sedation in order to catch up with work or if we don't have a prescription for sedation, what we would*

do is that we would restrain the patient, now the patients is either restrained or heavily sedated, so you can get your work done."

Mary

However, one participant concluded that speaking and explaining to patients helps them a lot and ensures they are kept safe.

" They were saying patient is restless, very difficult…. and I, I spoke to that patient. I told him everything, explained situation, the worse, the need for all the tubes that are in the patient, and the patient calmed down, and I didn't have to worry about his safety, but it is not easy to watch the patient when I have other work to do."

Joshua

In summary, the participants in this study assessed for delirium by observing patients' clinical signs and symptoms. They did not use any objective assessment tool because they lacked knowledge of its use. However, the participants recounted how they ensured the safety of patients with delirium, including the use of cot sides, mechanical and chemical restraints if the other measures fail. On the other hand, sedation has been shown to worsen delirium, as it is a precipitating risk factor (Allen & Alexandra, 2012; Reade et al, 2014).

Some of the participants believed talking to the patients helped to keep them safe from extubating themselves, but it was not easy staying with the patients and neglecting the other things they had to do. This was different from the findings of LeBlanc, Bourbonnais and Harrison (2018), where the participants used mechanical and chemical restraints as a last resort, to ensure patients safety. However, participants in their study also devised measures to keep an eye on the patients in order to ensure their safety, despite the fact that it was not easy.

Another way the participants ensured safety of patients that had delirium was by maintaining communication with them because they believed that despite the fact that the patients were intubated, they could hear them, and this made it easier to provide care. One participant said,

"…I always talk to my patient. I was trained to talk to my patient. So, I do talk to my patients. And I (pause), I also communicate to my patients, in the sense that I'll tell them what I want to do to them because I am very aware, that patients can hear you."

Deborah

Another participant found introducing themselves, and orienting patients to place, time and person to the patients who are confused and don't understand where they are, helped them a lot. Jude expressed this as follows:

"Give patients full orientation about the unit "you are in ICU, the big machine that you see is the ventilator which helps you to breath, by yourself you cannot be able to breath. This machine helps to monitor the Haemodynamic, the blood pressure, the saturation and everything, So, don't be surprised when you see all these big machines around you. Me Mr. who, who, who will be looking after you for the whole day."

Jude

Some of the participants explained measures they used to maintain communication with patients that have delirium. These measures were described by Jude,

"We can go closer to the patient, holding their hands, trying to give them a pen and board so they can write, some they can use the sign language of which we can be able to understand."

Another participants said, "You *can also read the lips of what he is trying to say."*

Samuel

One other said,

"But we communicated with the patient, we read to the patient, we played music with the patient. We tried to get some idea of music preferences for the patient and we played that music and ehhh… put the television on and explained to the patient was what happening on the television."

Deborah

Some participants even described how they communicated with their patients by touching them and encouraging the family members to touch the patients whenever they came visiting. One participant described this as,

> *"You know, it's part of communication (okay) when we are touching the patient. Okay, you can even encourage the family members when they come to visit the patient to also touch the patients. Touching is another way, you know of communicating with them."*
>
> Sarah

Finally, one participant summarised that they use everything at their disposal, to ensure communication with patients with delirium. According to him,

> *"…So, for communication, use anything you can think of, sign language, you know, ammm…[smiling] chats, fingers, whatever you can use, whatever works. If your fingers don't work, use the charts, if the charts are not working, use sign language, if your sign language is not working, then try all the languages my darling."*
>
> Samson

In summary, the findings of this study revealed that the participants ensured communication with their patients by using sign language, chats, fingers, touching of the patients, helping patients to write with a pen and board, using television and music, talking to the patients and fully reorienting them to person, time and environment. This helped them to ensure patients' safety.

These findings are in line with those of Choi (2013) and Barr et al. (2013), where the participants helped confused patients by frequent reorientation and explanation of activities with the use of memory aids such as white boards that show information on basic date and time. The participants in this study did not mention these. These measures included the promotion of sleep through the clustering of nurses' activities, decreasing night stimulus and implementation of measures to control light and noise in the ICU.

4.3.2.2 Sub-Theme two: Promoting comfort measures

Participants described the experience of ensuring patients were comfortable despite their restless, confused and disoririented states. They reported that the aim of caring is to make the patients comfortable. One participant said,

> "If *we just look at caring, it's all those things, those activities that patients can't do, those activities of daily living, they can't bath themselves, they can't communicate, of their need, they can't tell you that they are in pain"*
>
> Mary

This was stressed this further as **"***Caring will be to make sure that the patient is comfortable, so, in making them comfortable, you want them clean,"*

Mary

Another participant also added, "*… you want them to know what is going on, you want to reassure them, that everything is okay, or you know, if something alarms in the ICU, you want to tell the patient why it's alarming but they don't need to worry cos you right there, your presence is helping them."*

Joshua

In view of these findings, the participants ensured patients comfort by grooming and bathing them, helping them to communicate, orienting them to time, place and people, and reassuring them. This is in line with 'being with' 'enable' and 'doing for' of Swanson's theory of caring, where the nurse assists patients with actions that can help, protect or increase their comfort, that they would normally do themselves if they were whole, and doing it in such a way that they would gain independence and be able to do it themselves. Doing for others involves anticipating their needs, comforting the other, skilfully and competently performing for the other and protecting them from harm (Swanson, 1993).

Another way the participants of this study used to care for patients with delirium was by showing concern for the patients, being present and being compassionate. As the mental status of these patients was affected, they do not know what is happening to them, hence the participants were compassionate about their situations. One participant expressed this feeling as,

"They don't know what's happening in between. I feel for them in that situation. You are being compassionate about their situations. So now the thing is, you're concerned about the patient."

Mary

Another participant said,

"Whatever you are doing you need to talk with the patient. You need to introduce yourself. They must know who you are and what is happening. So, if they seem to be restless, I explain to them why they need the tube. Why is the tube still in. How is the tube helping them?"

Esther

Furthermore, another participant added that,

"…. the caring things for me is important, like the presence of the nurses at the bed side, being an advocate of the patient, taking care of all the activities that the patient can't take care of, having empathy for the patients and for the family circumstances."

Mary

Apart from caring and showing concern for the patients, the participants acknowledged the need to attend to family situations. One participant said,

"…*Having empathy for the patients and for the family circumstances."*

Mary

Another participant supported this claim by saying.

"Any form of delirium the patient may have, seeing the family trying to make sense of the relative in a delirious state. It's actually quite saddening cos they don't understand, they just don't understand…"

Samson

Swanson's theory of caring involves preserving the dignity of the other person (Swanson, 1991; 1993). Participants described the way they respected the rights and dignity of patients, as they were human and should be treated as such. They understood the patients had feelings and therefore should not be screamed at because they do not understand what is going on because of their changing mental status and critical illness.

Some participants said,

> *"You know, they may be intubated, but remember you are still dealing with someone who is a human being here, they have ears, they have mind, and they have feelings. They also have the heart ne? You have to approach them like you are approaching a human being."*
>
> John

> "*… when you talk to your patient show respect, don't just look at her as if she's a patient, a nobody …"*
>
> Samuel

This is in line with Swanson's' maintaining belief, where the nurse must see the patient as unique and having individual differences, to be able to respect each person as God's creation, one who is composed of a spirit, having faith in God, a supernatural being who has a need to be in a relationship (Swanson, 1993).

These participants declared that the culture of the patients should also be respected.

> *"You know we must respect the cultural beliefs and everything …, that's why, most of the times with … for example Zulus, we'll always say males will be the ones that must come in, if it's a male patient."*
>
> Sarah

In view of these findings, it is evident that participants in this study cared for patients with delirium by ensuring their safety through assessment of their mental status and maintaining communication. Others included providing comfort, showing concern, continuously reassuring and explaining to them, respecting patients' rights and dignity, and culture. All these are in line with Swanson's theory of caring (Swanson 2013). The participants in this study understood that people are unique and have individual differences, hence the need to respect each person as God's creation. The participants also understood and interpreted the situation of their patients with compassion, empathy and knowledge. They used good communication skills to attend to patient's communication needs. They also considered the beliefs, values, and family traditions of the patient with delirium. The participants described being present, physically and emotionally to share in the feelings of the patients so the

patients feel significant. They also did not neglect the family of the patients as they had concern for their situation.

4.3.3 THEME THREE: FACTORS THAT PROMOTE CARE

The theme refers to the factors that facilitate the care that nurses render to patients who are restless, disoriented, confused, lethargic or have a mixture of all these symptoms.

4.3.3.1 Sub-theme one: family involvement in caring

This involves the engagement of the patient's family in caring, as they can help in communicating with the patients in the ICU who cannot communicate their needs. The participants in this study had varying opinions about how family members should be involved in caring. Some participants in this study viewed family involvement as very important and found it helped them to care for their patients in a better manner, because the family knew and understood the patient and their needs. According to some of the participants,

> *"For me, the family presence is extremely important.... I find in my experience; the family actually help me to nurse the patient because the family are very important part of the patient and the patient knows the family voice and know the things that the patient wants."*
>
> Mary

Another participant said,

> *"Or even the relatives, we encourage them when they come to visit you know, to touch the patient so that way, you'll establish communication with the patient even though he has lost touch with the environment."*
>
> Sarah

However, some of the participants had different views about the involvement of family in patients' care. They recounted that the family did not understand how they could help hence; they made it difficult for them to do their work.

> *"Some families will come in during admission, and find the patient very restless, and doesn't understand where he is and then wonder why you*

have to restrain the patient, or they come in during visiting time and ask why you restrain."

John

Finally, the participants said that the family helped them in caring for the patient's with delirium. Findings of this study revealed that nurses who involved families in the caring of the patients were older, more educated and had over 30 years of experience. Yue et al, (2015) also found out that the presence of the family helps to keep patients with delirium calm, yet it puts the other patients at risk of acquiring infection.

4.3.3.2 Sub-theme two: Gaining support from colleagues

Some participants described having the necessary support from colleagues and other members of the multidisciplinary team, and the necessary equipment and medications, makes it easier to render care to their patients because without these supportive measures, it would be difficult. According to one participant,

"First and foremost is support from the multidisciplinary team, right? Support from your colleagues, available equipment, available medications when you need."

Samson

Samson also said,

"When you have team work, you can beat any obstacle, but it is not always that you will have support from your colleagues, but with support and team work we can beat anything."

Another participant summarised the importance of teamwork.

"And another thing, you work as a team in ICU, and using your colleagues is important, 'cos it's human to get tired, its heavy work in ICU. It is not, emm, you know its stinking work. If you feel that you're starting to lose patient, it's better to ask a colleague to come and to give you a short break, so you can refocus, recuperate and come back…"

Mary

Finally, one of the participants said,

"… when you have support of colleagues, because of the reactions in their confused state, sometimes you just need a hand, for somebody to help to turn the patient or sit the patient up for that sort of things. so, it becomes difficult nursing when you are doing it on your own, particularly if it's a bigger patient, so, I do think that team work really does play a role."

Deborah

4.3.3.3 Sub- theme three: The nurses' knowledge and education

Apart from support of colleagues and teamwork, the participants described their knowledge also helped them to care for patients with delirium.

"With knowledge of how to handle such patients with delirium, hallucinations and all those stuffs, it becomes easier for one that has to work with patients with delirium and hallucinations and so on. But with someone who doesn't have this knowledge or background, it becomes difficult for them."

John

Another participant agreed with this statement by saying,

"Knowing more about delirium and understanding that it isn't the patients deliberate actions, also emm, will help with caring…"

Deborah

In the study by Elliott (2014), the participants were not knowledgeable on how to assess delirium, as they lacked education on delirium, and the use of the recommended instruments to assess delirium was below the standard recommended by the current delirium guidelines. Hence, lack of knowledge was seen as a barrier to caring for patients with delirium.

Apart from the knowledge of the nurse, experience also facilitates the care of patients with delirium. One experienced participant stated,

"I think my experience is a big factor, and I think your training and experience does play a role, because you can put yourself into the patient's situation a lot easier than not having the training and the background".

Mary

The findings of this study correlate with the findings of other studies, as it revealed that education of any sort and experience improves practice. Rowly-Conwy (2017), found a correlation between education, years of experience, and practice. According to him, nurses who are educated on the use of delirium assessment tools and management tend to be better at managing delirium hence education is very useful in improving the knowledge and practice delirium assessment, and its management among ICNs.

In the study by Yue et al, (2015), participants also lacked the necessary education and experience of caring for patients with delirium, as they could not differentiate between this and other psychological disorders of psychiatric and neurological nature.

4.3.4 THEME FOUR: FACTORS THAT HINDER CARE

The theme refers to those factors which hinder or serve as barriers for nurses from providing adequate care to patients with delirium in the ICU.

4.3.4.1 Sub-theme one: context of the ICU

The context of ICU is the nature of the ICU. One participant expressed this as,

> *"Our ICU is, it's a closed type … environment ne? You are not there around the patient, you know like 24 hours round the clock, you must go and prepare the treatment and all. You are always worried what will happen if I go out of the cubicle."*
>
> Sarah

Another participant said,

> *"…. you know ICU is a busy area, you've got a lot to do. The (pause), besides the caring, you also have the monitoring and the drugs. You have those other things you have to do for the patient. Besides the caring, you have the availability of the relatives."*
>
> Mary

Esther also said, *"The environment has changed, their lines, their noise, the machines and everything. It's making them mad."*

Some participants described the General ICU as a closed type of ICU, where the nurse is not around the patient for the whole day because he/she must look for medications. They also described it as busy, where the nurse has many things to do. These, according to the participants, affect the way they cared for their patients.

4.3.4.2 Sub-Theme two: Patients' characteristics

The sub-theme 'patient's characteristics" refers to the differing manifestations of delirium in different people, making them find a way to render individualised care to each patient. One participant said,

> *"You know, patients are different… there are some patients that are just calm, like my patient he is 15 years old and am not restraining him."*

The participants described that some patients are "*kicking, screaming, and even beat us up sometimes…"*

Samuel

While some of them *"are confused, that patient is not working together with you but against you…. When I say difficult patient is one that is uncooperative."*

Mary

> *"Some even when you are speaking with them, they think that maybe you want to harm them, or do something wrong."*

Esther

Apart from being paranoid, participants also described these patients as not liking needles. Samuel said,

> "*They also don't like needles, if they see you with needles, they think no you are coming to inject them, and they think you only inject to kill them and not to help them to get better."*
>
> *"Then there are times whereby sometimes you think the patient fully understand what you are trying to tell her, like whereby there is a case where you are supposed to restrain the patient and then you explain everything to*

her and then she understands you. But as soon as you turn around when you come back, she has pulled out everything."

Samuel

"If maybe you want to go out for tea, you can just call on somebody to come and look after the patient. Because you were not sure whether this patient, whatever he is saying because of this delirium. Whatever he is talking is what he means."

Jude

"… but the thing is that you don't know what they are thinking, and you can't predict the danger when it's coming because you may go out of the room and suddenly you will find out that things are on the floor and the lines are out."

Esther

However, some participants said,

"Some of the patients when you explained to them nicely, you will find the patient is cooperative and following the orders, but you will not trust the patient in ICU, that you will leave their hands untied because they can just extubate themselves."

Dorcas

In summary, the participants described patients with delirium as different because some are calm while others are combative and aggressive. Other characteristics, as described by the participants, included paranoid, not understanding and 'not to be trusted', restless and agitated. Nevertheless, one participant concluded that it is the duty of the nurse to care for all patients whether they are combative or calm. They have to find a way to help patients to relieve suffering.

4.3.4.3 Sub-theme three: Missing out on caring activities

These barriers, as described by the participants, means they sacrifice caring activities, since they have to focus on calming the agitated, confused and disoriented patient down, they end up not giving medications and injections at the

right time, not monitoring the vitals, not attending to basic needs such as bathing, grooming, genital care, oral care, and so on.

According to one participant,

> *"You have several other things to be done, you need to be giving the patient medication, you need to suction the patient, you need to attend to a lot of other things. You need to be assisting your partner as well. So, you can't be holding a patient down, you can't sit down and be calming a patient down. you know…"*
>
> Samson

Another one added,

> *"No restraints, no sedation, you need to stand next to the patient. So now, how are you going to nurse this patient? Because you need to do most of the things to the patient, you need to give medication, the minute you come out, you find the tubes out."*
>
> Dorcas

One participant said,

> *"…I think that (pause**),** time is always an issue. Because in ICU, we work very much to time, and sometimes when you are on your own, if you are having difficulty with the patient, then you run overtime and your next vital data are not on the hour when they should be, or you haven't been able to give patients injection on time, or medications."*
>
> "*And the writing of report takes time, I think sometimes there is duplication in the reports that we write."*
>
> Deborah

The findings of this sub-theme show that all these issues affect the care being rendered to patients as they find they do without this aspect, when they indulge in activities that consume their time. The participants mentioned other factors that affected the care they rendered to their patients with delirium, which included the safety of the nurse.

"… I do know of situations too, where patients in their delirious state, have actually assaulted the nurse and, and that happens from time to time."

Deborah

Jude also confirmed this by saying,

"… it also affects us as a nurse. I also nursed another one with delirium who kept on saying I wanted to kill him. He kicked me on the stomach and when his family came in, he told them I wanted to kill him, and that I kicked him on the belly."

Some participants however viewed doctors as forming barriers to the care they rendered. Jude said,

"When we said let's restrain the patient and the doctor said this patient is calm, don't restrain the patient - after few minutes the patient start extubating himself."

The same participant went further to report,

"*Yes, because am the one with the patient for almost 12 hours, the doctor just come and go out. So, I If I say I can't trust this patient doctor lets restrain this patient it's because I have seen something."*

Jude

The factors that hindered the care the participants give to their patients included the context of the ICU, characteristics of patients with delirium, and time, which makes them sacrifice the caring. These affect the care they rendered to patients with delirium and other patients in the ICU who do not have delirium, as they also do without caring. The participants from this study reported that time was a problem for them because the ICU is busy, they work alone and spend a lot of time taking care of patients, they run out of time and the next vital data, medications and care are affected and not given at the right time.

4.4 SUMMARY

In summary, the findings of this study were presented in this chapter. Four major themes emerged with 11 sub-themes, which were presented and substantiated with the nurse participants' quotations of their experiences of caring for patients with delirium in the ICU. This chapter pointed out that caring for patients with delirium is exhausting due to the frustrations, challenges and difficulties encountered in the course of rendering care.

Secondly, the participants of this study revealed their experiences of caring for patients with delirium by maintaining their safety and comfort. They made use of different measures within their reach to ensure these, patients were safe and comfortable, but in the process of doing this, they sacrificed the caring they should be giving.

Participants also described the factors that made it easy for them to care for patients with delirium in the ICU, which included family involvement in caring, support from colleagues and knowledge and education of the nurse. They also recounted that the context of the ICU, characteristics of patients with delirium, and other factors like time, and doctors' practices, made it difficult for them to care for patients with delirium in the ICU.

These findings will be discussed in relation to the relevant literature in the next chapter. The study's limitations, recommendations for nursing practice, education, and future research, as well as conclusion of the study will also be presented.

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter presents the summary of this study and its main findings, limitations, recommendations for practice, research and education of Intensive Care nurses, and conclusion of the findings of this study**.**

5.2 DISCUSSION OF FINDINGS

This study examined the experiences of Intensive Care nurses caring for intubated patients, with delirium, in an academic hospital in Johannesburg. Four major themes emerged from this study: *it's exhausting, caring, factors that promote care, and factors that hinder care.* The essence of these experiences is to understand how the participants "care with care" for patients who are vulnerable, uncomprehending, unpredictable, obstructive and paranoid.

The participants in this study expressed that caring for patients with delirium is exhausting due to the frustration, difficulty, and challenges they encounter physically and emotionally. The participants also attributed their exhaustion to the conflicting messages they get from patients, patients' obstructive behaviour, uncertainty and the busy nature of the ICU environment, because it increases their workload and makes them neglect caring for other patients and finishing their work. This confirms the findings of Yue et al. (2015), Zamoschik, Godbold and Freeman, (2017) and LeBlanc, Bourbonnais and Harrison, (2018), which revealed that caring for patients with delirium is physically exhausting, emotionally challenging, unpleasant and frustrating.

The findings of LeBlanc, Bourbonnais and Harrison (2018) further revealed the significantly increased workload associated with caring for patients who are agitated and disorientated; this clearly shows the relationship between increased workload

caused by delirium and nurses physical and psychological exhaustion. The findings of Yue et al. (2015) also agreed that caring for patients with delirium is associated with increased workload, psychological and physical stress, and nurses are faced with problems of deciding whether the family should stay in the ward or not, considering they can introduce infections into the ICU.

Secondly, the participants from this study narrated that the process of caring for patients with delirium in the ICU is complicated and complex. Factors that make this care difficult in the context of the complex environment of Critical Care include the multidisciplinary team's involvement, the nature of the patient with delirium and the nature of the ICU environment, concern for patient's safety and concern for the family's situation. All of these have a role in the care patients are given and makes caring complex and complicated. The participants found integrating all these factors in caring for patients with delirium very exhausting physically and emotionally, because they encounter difficulty and feel challenged, frustrated, inadequate and unhappy. Barr et al. (2013) also stated that it is challenging to manage patients with delirium, in a complex Critical Care environment. Other challenges and barriers from internal and external sources included the problems with communication with patients, nurse's knowledge of delirium and experience of caring for patients with delirium, methods used in the assessment of delirium, time factor, nurses' safety issues, doctors' practices and lack of support from other colleagues, which make nurses unable to render care, as they should.

The participants from this study face many of these barriers as they have trouble in recognising delirium since they lack knowledge and because it occurs unexpectedly. This is due to inadequate training on how to use the CAM-ICU, and they would appreciate if workshops and training were organised to help them understand how to use the delirium assessment tools. The reason for the poor usage of the objective delirium assessment tool was found to be lack of knowledge on the CAM-ICU and other screening tools. This is consistent with the findings of Elfeky (2013) who discovered that nurses have never been trained on how to assess and manage delirium, and more than 50% had never assessed a patient with delirium.

This study's participants also acknowledged that without education on delirium and experience, they would not be able to care for patients with delirium optimally. Delirium was assessed in three district ICUs in the United Kingdom; only one hospital demonstrated efficacy in using a screening tool and those using an unstructured tool only observed hallucination and agitation (hyperactive delirium) ignoring the hypoactive form of delirium, which is more prevalent (Elliott, 2014). This was because they were not educated or knowledgeable on how to assess delirium. The participants in this study lacked education on delirium, and the use of the recommended instruments to assess delirium was below the standard recommended by the current delirium guidelines.

However, despite all these challenges, complexities and difficulties, they found a way to 'care with care' because caring is a fundamental concept of Intensive Care nursing. They did this by prioritising the care rendered to patients, ensuring patients were safe, provision of comfort, being present, showing concern and compassion for the patient and family, and advocating for them when the need arises. This finding replicates the findings of a qualitative phenomenological study by LeBlanc, Bourbonnais and Harrison (2018), which also revealed that caring for patients who have delirium is exhausting, tedious, individualised and unique, yet rewarding. The participants in that study did more to keep patients safe and free from harm as these patients were combative and agitated and it was not easy communicating with them. They concluded that the experience is complex and distressing, so nurses caring for them always tried to look for ways of helping them to overcome such unpleasant situations. Apart from taking care of the patients, the families of the patients also need to be carried along and cared for as they were also distressed by their loved one's situation.

To keep the patients safe, participants admitted they sedate and restrain patients who are agitated, combative and confused, especially when other non-pharmacological measures have failed, and they need to catch up with other work; this was also reported in the study of Jung et al. (2013).

The factors that helped the participants in this study to render this care includes their knowledge and experience, finding a way to maintain a constant flow of

communication, and involvement of the family in patients' care as the family are closest to the patients so they understand them better than the nurse. The patients, who are vulnerable, paranoid and uncertain, will also cope better when their family is involved.

Furthermore, the participants in this study implemented non-pharmacological methods to assess, prevent and manage delirium. They did this by assessment of the patient's mental status, finding ways to maintain communication with them, providing comfort and ensuring patients' safety in their vulnerable and cognitively impaired states. However, mobilisation of patients was not found to be used to prevent delirium in this study, rather the nurses in this study talked to their patients and oriented them to person, environment and time. The Clinical Practice Guidelines for the Management of Pain, Agitation and Delirium in Adult Patients in the ICU has been set by the Critical Care Society of Medicine and the clinical practice guideline for the management of pain, agitation (sedation), delirium immobility and sleep (disruption) (PADIS). It is recommended as the best practice of preventing and handling delirium in the ICU through early detection using a validated tool and early mobilisation of patients out of bed (Barr *et al.,* 2013; Devlin et al., 2018).

The international guidelines recommended the control of noise and light, and reduction of nurses' intervention at night as a non-pharmacological measure to manage delirium (Barr *et al.,* 2013, Rivosecchi et al, 2015). However, the participants in this study employed different measures for non-pharmacological management of delirium, which could be due to the difference in settings of the two studies. Africa has a different patient population, ICU environment and nursing specialist compared to those of developed countries.

Nurses further described their experience of communicating with patients verbally and non-verbally by touching them, speaking to them, explaining things to them and reassuring them in order to orientate them to the environment, persons and time, just like in Colombo et al. (2012). Other measures they used in communicating with patients included the use of sign language, music, television and the use of a board and pen for writing. They also showed concern for the patients and their family circumstances as they treated them with respect, dignity and compassion, as

reported in Benbenishty and Hannink, (2015). They believed that involving the family in patient care could make their work easier, similar to that in Martinez et al. (2012).

The participants in this study did not use the CAM-ICU to assess delirium, instead they observed patients' signs and symptoms and level of consciousness to make a judgment of whether the patient was confused or not. However, this method is not adequate in the assessment of delirium because studies have shown that the best way of preventing and handling delirium in the ICU is early detection using a validated tool and early mobilisation of patients from their beds (Barr, 2013). This is because it keeps them awake, oriented, blood circulation is improved, and overall patient's outcome is enhanced, reducing days on ventilator and in the ICU. In the same context, a South African study discovered that the majority of the health practitioners (77%) working in the ICU assessed delirium by clinical assessment of the patients, while a few (24%) use an objective tool (Chetty & Paruk, 2015).

Forsgren and Eriksson (2010) reported that 60% of the ICUs used observation methods to assess delirium; 85% used non-pharmacological interventions, such as contact with patients' family, sleep promotion, maintenance of the environment, maintenance of oxygenation, nutrition and hydration status, use of hearing aids, and proper orientation to manage delirium, 96% used medications and 26% used written pharmacological guidelines. The preference for relying on clinical judgement and observation of symptoms by the participants in this study, which was also reported in Forsgren and Eriksson (2010), Jung et al. (2013), Scott et al. (2013), Eastwood et al. (2012) and Oxenboll-Collet et al. (2016), is not justifiable, as the use of bedside observation for detection of delirium is not as reliable compared to the CAM-ICU (Mistarz, Eliott, Whitfield, & Ernest, 2011). The reliance on clinical judgement and observation of symptoms also leads to 60% of missed delirium cases, especially the hypoactive type and leads to false diagnosis of delirium (Guenther et al, 2012).

Furthermore, Glynn and Corry's (2015) findings revealed that in Ireland, the fact that the majority of registered nurses viewed delirium as an important issue and not adequately diagnosed, only few of them actually screen for delirium. Nurses rather view sedation, pain control, level of consciousness and invasive devise placement as more important than delirium assessment. The participants in Yue et al. (2015)

also complained of the inability to adequately assess patients using the recommended tools and manage patients for delirium because care was not continuous due to changing of working shifts.

Finally, the participants in this study revealed that caring for patients with delirium was complex, challenging and exhausting, yet they found ways to care for them, as this was a fundamental concept of Intensive Care nursing. In the process of finding ways to care for them, they found themselves using restraints and sedation because of the changing mental status of patients with delirium, uncertainty, the nature of the ICU, which is busy, and concern for patient's safety. According to de Beer, Brysiewicz and Bhengu (2011**)**, ICU patients are undergoing life-threatening physiological illnesses, which makes them depend on technological equipment, complex therapies and contributions of the multidisciplinary group of nurses, medical intensivists, physiotherapists and other members of the team.

Factors that contribute to the complex nature of 'caring with care' for patients with delirium in the ICU are displayed in **Figure 5.1.**

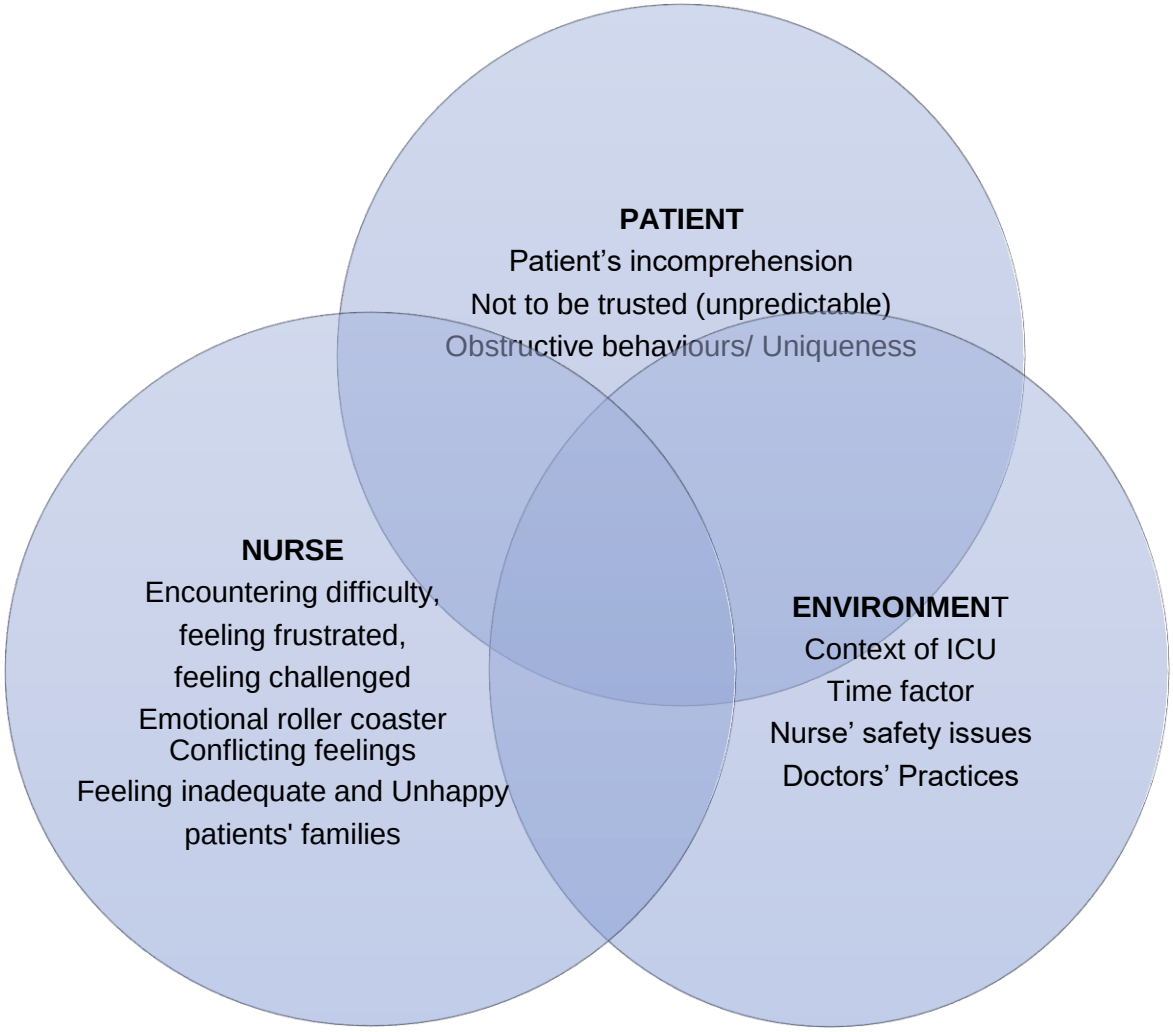


Figure 5.1: Factors that contribute to the complex nature of 'caring with care' for patients with delirium in the ICU

5.3 APPLICATION OF THEORY TO THE FINDINGS OF THIS STUDY

Swanson's theory of caring was applied to the findings of this study, and consisted of five aspects: maintaining belief, doing for, being with, knowing and enabling (Swanson, 1993). The participants in this study applied the principle of maintaining belief by understanding that people are unique, human, and have individual differences, hence the need to respect each person as God's creation. They also treated the patients with respect and dignity in the process of caring for them.

The participants displayed the principle of ‘being with,’ ‘enable’ and ‘doing for’ through their caring. They ensured patients comfort by grooming and bathing them, helping them to communicate, orienting them to time, place and people, explaining situations to them and reassuring them. The participants assisted patients with actions that helped, protected and increased their comfort, things they would normally do by themselves if they were whole.

Doing for others involves anticipating the needs of the other, comforting the other, skilfully and competently performing for the other and protecting the other from harm (Swanson, 1993). The participants in this study applied this by ensuring the patients were safe from harm despite their restlessness, agitation and combativeness. They went as far as restraining and sedating them to keep them safe, despite the fact they understood that they should neither restrain nor sedate the patients.

The participants also understood and interpreted the situation of their patients with compassion, empathy and knowledge, they used good communication skills to attend to patient communication needs, and also considered the beliefs, values, and family traditions of the patients with delirium, because they understood the patients needed to be in a relationship.

Finally, the participants were present, physically and emotionally, to share in the feelings of the patients so that they felt significant. They also did not neglect the families of the patients, as they were concerned for their situation and tried to involve them in caring for their loved ones.

5.4 SUMMARY OF THE STUDY

The purpose of this study was to describe the experiences of Intensive Care nurses caring for intubated patients with delirium in ICUs of an academic hospital in Johannesburg.

To achieve the aim of the study the following objectives were set.

- To explore Intensive Care nurses’ experiences of caring for intubated patients with delirium in Intensive Care Units.

- To identify factors that facilitate or hinder Intensive Care nurses caring for intubated patients with delirium in Intensive Care Units.

A descriptive qualitative design was used to meet the study's objectives and provided an opportunity to gain an understanding of the experiences of nurses caring for patients with delirium, in an academic hospital in Johannesburg. A purposive sampling method was used to take a sample of registered Intensive Care nurses working in the General ICU of an academic hospital in Johannesburg. This study was conducted in the afore mentioned Unit of the selected academic hospital in Johannesburg, Gauteng Province.

In depth interviews, were used to collect data and audiotaped to have the information as said by the participants. Data saturation was achieved after 10 interviews, and the audiotaped information was transcribed verbatim. The Braun and Clarke (2006) analysis approach was used to analyse the transcribed audiotaped information. The study applied Lincoln and Guba's (1985) method of trustworthiness, which includes "credibility, dependability, confirmability and transferability."

5.5 LIMITATIONS OF THE STUDY

This study had several limitations.

- This qualitative study used one-to-one interviews to explore the experiences of 10 Intensive Care nurses caring for patients with delirium. The purpose of qualitative study is not to generalise findings; hence this may not necessarily represent the experiences of all Intensive Care nurses in all the hospitals in Johannesburg and cannot be generalised. The participants may also give the "official account," instead of saying their actual experiences of caring for patients with delirium.

- The study was conducted in an academic hospital in Johannesburg that has high technological machines, highly skilled experienced personnel, hence it may not reflect the experiences of nurses in non-academic smaller hospitals

or other countries and contexts where there is less technology and few skilled personnel.

- The interview was conducted in English language since the researcher does not understand the local language. This could affect the responses of the nurses, as they may not have been able to express themselves fully even though the interview was conducted in simple English.

- Purposive sampling technique was used to choose nurses for this study, hence nurses that volunteered may have specific perspectives on this topic and this may have influenced their responses.

5.6 RECOMMENDATIONS OF THE STUDY

This study examined the experiences of Intensive Care nurses caring for patients, with delirium, in an academic hospital in Johannesburg. Recommendations were made based on the findings of the study. Based on these findings, recommendations were grouped into three groups: those that will influence Intensive Care Nursing Practice, those that will influence Intensive Care Nursing Education and further research into Intensive Care nursing.

5.5.1 Intensive Care Nursing Practice

This study has revealed that caring for patients with delirium is challenging and difficult considering the complexity of the patient's condition and environment of the ICU, family of the patients being distressed, and multidisciplinary involvement. Hence, it is important to identify factors that mitigate the care of patients with delirium such as not using tools, time factor, unsupportive colleagues in specific settings, and finding ways of addressing such issues.

Protocols on the assessment and nursing management of delirium should be provided and implemented by nurses in ICUs to ensure best practices as they play a crucial role in the assessment, prevention and management of delirium. The use of the delirium assessment tool (CAM-ICU) should be implemented in ICUs, since

the findings of this study reveal it is not being used. LeBlanc, Bourbonnais and Harrison (2018) had similar findings as they stated that the CAM-ICU should not replace clinical assessment of mental status by the nurses but be used together so that nurses will not be perceived as a replacement for the other and autonomy of the nurse will not be considered. Nurses should be given support in form of inter-professional education on the assessment, prevention and management of delirium.

5.5.2 Intensive Care Nursing Education

Findings of the study revealed that those nurses who were educated and experienced on the management of patients with psychological conditions were able to care for patients with delirium without much stress compared to those who were neither trained nor experienced. Nurses need to know how to recognise the different forms of delirium otherwise they will miss out on recognising hypoactive delirium (Barr et al, 2013). There is the need for the implementation of educational interventions that will help in continuous education of Intensive Care nurses on delirium recognition, its manifestations, impact on patients in the ICU, its assessment, non-pharmacological prevention and its management.

It was discovered that the experienced nurses cared for patients better than those who were inexperienced, so it is recommended that the experienced nurses mentor the inexperienced ones on the recognition, assessment, and non-pharmacological management of the patients with delirium.

Findings of this study revealed that the participants use observation by the bedside, the use of sedation and level of consciousness scales to assess delirium instead of the recommended scale (CAM-ICU). Hence, there is a need to educate nurses on the use of the CAM-ICU for the assessment of delirium, and factors that hinder its use should be addressed.

Finally, the emotional and physical burdens that nurses face when they care for patients with delirium increases workload and burnout, therefore it is imperative to train and support nurses psychologically in order to decrease the suffering and difficulties they experience and improve patients' outcomes.

5.5.3 Further Research

In this study, the participants recounted their experiences of caring for patients with delirium, who were agitated, confused, disorientated, withdrawn, and lethargic, or had a mixture of all, in an academic hospital in Johannesburg. However, further studies on this topic should be conducted in other African countries to inform and guide the practice of Intensive Care nursing.

Furthermore, further research that will implement the use of delirium assessment tools, such as the CAM-ICU, should be conducted as findings of this study revealed that the participants were willing to learn how to use the CAM-ICU properly.

Finally, more research needs to be conducted on how nurses involve the family in caring for patients with delirium, as the findings of this study showed that nurses who did involve the family found it less difficult as the patient understood the family better and vice-versa. Research on family involvement in the management of delirium is limited, hence it is important to promote family engagement and specific protocols should be developed in caring for patients with delirium.

There should be educational programmes for nurses on the needs of the families of critically ill patients with delirium, so that they can care for the families and in turn involve them in the patients' care, thereby increasing patients' psychological recovery.

5.6 CONCLUSION

Caring for patients with delirium was exhausting, difficult, challenging and frustrating yet the participants found a way to "care with care," because caring is the core of Intensive Care nursing. The participants "cared with care" by providing safety and comfort, respecting the patients' rights, being present, showing concern for the patient and family circumstances and providing hope. The factors that facilitated this care included maintaining communication between patients and nurses, teamwork and support from colleagues, knowledge and experience of the nurse and involvement of family in caring. Conversely, the factors that hindered the provision

of this care included the context of the ICU, limited time, and issues surrounding patients and nurse's safety, patients' characteristics, assessment of patient's mental status and increased workload that affects caring actions.

In the complex environment of the ICU, it is very challenging, frustrating and exhausting to care for patients with delirium, because nurses need to incorporate the complex factors around the patients' critical illness, advanced technological machines, involvement of the multidisciplinary team, and family of the patients so as to provide effective, efficient care that is patient-centred for patients with delirium in the ICU.

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APPENDIX A

THE EXPERIENCE OF INTENSIVE CARE NURSES CARING FOR INTUBATED PATIENTS WITH DELIRIUM

NURSES INFORMATION LETTER

Dear Colleague,

My name is Cherry Efe Iyiola, a professional nurse currently registered for a Master's degree in Intensive Care Nursing at the University of Witwatersrand, Department of Nursing Education. I hope to conduct a research project and wish to invite you to participate in this study. The aim of my study is to seek an understanding of the experience of Intensive Care nurses caring for intubated patients with delirium

Should you agree to participate in this study, you will be asked to sign a consent form to confirm your willingness to participate. You will then be asked to complete a biographical questionnaire. I will also conduct an interview with you to find out your experiences of caring for a patient with delirium in the Intensive Care Unit. I would like to audiotape the interview with your permission and I will make notes during the interview. I will schedule an appointment with you in order to know the date and time that will be convenient for you. I anticipate that this interview process should take no more than 45 minutes of your time.

Your participation in this study is voluntary, and you may choose whether to participate or withdraw from the study at any time. Your decision will have no effect on the position you are occupying in this institution. Anonymity and confidentiality will be ensured by using a code number instead of your real name and no personal information will be reported in the study in order to protect your identity.

You will be requested to sign a consent form for both participation and audiotaping. Interviews will be conducted in English. I will tape record and transcribe your answers alone so there will be no consequences ensuing from your answers. I will also destroy the audiotaped information after the transcription and the transcribed information will be kept confidential to make sure it is not linked to you.

I appreciate that you will derive no direct benefit from participating in the study, however, I hope that the completed study will describe the experiences of nurses caring for patients with delirium in the Intensive Care Unit. Results of the assessment will be given to you should you so wish.

I have obtained permission from the Ethics Research Committee of the University of Witwatersrand, Gauteng Department of Health and Charlotte Maxeke Johannesburg Academic Hospital (CMJAH) to conduct this study.

Thank you for taking time to read this information letter. Should you require any further information regarding the study, or your rights as a study participant, you can contact me in the Department of Nursing Education, on the cell number 0618994813 or email: 1723299@students.wits.ac.za.

Yours sincerely,
Cherry Iyiola (Mrs)
(MSc Nursing Student)

APPENDIX B

THE EXPERIENCE OF INTENSIVE CARE NURSES CARING FOR INTUBATED PATIENTS WITH DELIRIUM

CONSENT FORM FOR PARTICIPATION IN THE STUDY

I _____(Name of participant), give permission to be included in this research study.

I have read and understood the contents of the information sheet. I have also been given the opportunity to ask questions regarding the procedure and my consent to being included in the study.

I hereby declare my voluntary participation in the study.

Date ……... Signature ……

APPENDIX C

THE EXPERIENCE OF INTENSIVE CARE NURSES CARING FOR INTUBATED PATIENTS WITH DELIRIUM

CONSENT FORM FOR AUDIOTAPE RECORDING OF THE INTERVIEW

I _____ (Name), have been well informed on the research topic “The Experience of Intensive Care Nurses Caring for intubated Patients with Delirium,” and the importance of audiotaping this interview. I hereby consent to have this interview audiotaped.

Date ……. Signature ……..……..

APPENDIX D

THE EXPERIENCE OF INTENSIVE CARE NURSES CARING FOR INTUBATED PATIENTS WITH DELIRIUM

DATA COLLECTION SHEET

Demographic Characteristics

CODE NUMBER ----------

Gender	Male	Female

Age	24-40 years	41-60 years	>60 years

Years of Experience in ICU	1-15	16-30	>30

QUALIFICATION

ICU Qualified	Yes	No

HIGHEST LEVEL OF QUALIFICATION

Diploma/Advanced Diploma	
Degree	
Masters	

APPENDIX E

THE EXPERIENCE OF INTENSIVE CARE NURSES CARING FOR INTUBATED PATIENTS WITH DELIRIUM

SEMI-STRUCTURED INTERVIEW GUIDELINES

Explanation: Delirium in ICU is an acute confused state of health. It is characterised by a fluctuating course of altered level of consciousness, inattention, disorganised thinking, and perceptual disturbances. Clinical symptoms range from restlessness, agitation, and hallucinations to tiredness, withdrawal or inattention.

OPENING QUESTION

Based on your expertise and experience as an ICU nurse, can you tell me what it is like caring for an intubated patient who has delirium?

FOLLOW UP QUESTIONS

- What feelings, thoughts and emotions does it evoke in you?
- Tell me how you care for patients with delirium in the Intensive Care Unit?
- Can you tell me the factors that helped to facilitate your care of patients with delirium in the Intensive Care Unit?
- Can you tell me the factors that impede your care of patients with delirium in the Intensive Care Unit?
- How do you communicate, establish and maintain interaction with these patients?

ADDITIONAL PROMPTS THAT WILL BE USED

- Tell me more about…?
- What do you mean when you said …?
- What was it like when…?
- Can you give me an example of …?
- Is there anything else you would like to share with me?

Thank you for your time.

The proceeds of this discussion will be brought to you for validation after transcription of this interview of your experiences of caring for patients with delirium.

APPENDIX F

AN EXAMPLE OF A TRANSCRIPTION FROM AN INTERVIEW WITH ONE OF THE NURSES

VERBATIM TRANSCRIPT OF INTERVIEW WITH SAMSON,

INTERVIEWER: Hello, Samson, how are you?

PARTICIPANT: I'm good and you?

INTERVIEWER: **I'm fine. THANK YOU.**

INTERVIEWER: **How was your day?**

PARTICIPANT: It's tiring, but I took time to rest.

INTERVIEWER: **Thank you for taking time to speak with me today, I hope that this interview will be interesting for both of us**.

PARTICIPANT: Okay

INTERVIEWER: As you know from the information sheet the aim of this research is to describe the experience of the Intensive Care nurses caring for patients with delirium

PARTICIPANT: okay

INTERVIEWER: **So, as I explained in the information letter, the reason I have asked you is because you are an Intensive Care nurse, Yeah! This interview will not take much of your time, and I want to check out a few things with you before we start**

PARTICIPANT: Okay

INTERVIEWER: So, I know when we spoke earlier you agreed to take part in this interview and you signed the consent form. Is that still fine with you?

PARTICIPANT: Yeah, it's fine with me.

INTERVIEWER: And you agreed that this interview could be tape recorded. Is that also fine with you?

PARTICIPANT: Yeah, of course [clears throat].

INTERVIEWER: Okay, I want you to know that at any stage in the process of this interview, if you want to take a break, you're free to do so; if you feel you don't want to answer the question I ask, we can stop; if you feel you are not comfortable with the question asked we can stop.

PARTICIPANT: Yeah! Yeah.

INTERVIEWER: Do you have any questions for me?

PARTICIPANT: No question.

INTERVIEWER: So, can we start?

PARTICIPANT: Yes, you can go ahead

INTERVIEWER: **So, just a reminder of what delirium is, Delirium is an acute confused state that signifies a decline in health. It is characterised by fluctuating cause of altered level of consciousness, inattention, disorganised thinking and perceptual disturbance. Symptoms range from hallucinations, restlessness, confusion and agitation for hyperactive delirium. Symptoms of hypoactive delirium include withdrawal, inattention, and lethargy. Now, based on your experience and expertise as an Intensive Care nurse, can you tell me what it is like, caring patients with delirium?**

PARTICIPANT: Eh, it's, it's quite challenging ne? Because nmmm, they can change from time to time. Emm…The one minute you think your service is good, and then the next minute they are confused, they are pulling out lines, they are extubating themselves and all that, you understand. you feel helpless, it's not something that you [nam?], you just give a dose of Panadol and doom! the delirium is gone. Basically, you have to deal with the, with the initial problem, the initial condition, Whatever the cause of delirium, so it's quite challenging and difficult emotionally

INTERVIEWER: Okay, so, can you think back and narrate an experience you've had while nursing a patient with delirium. Can you give me an example of any?

PARTICIPANT: [laughing aloud], I have a long list of those patients. So, we do have one patient, I had this young lady ne? She was a gynae patient, so she went for emm, hysterectomy, vaginal hysterectomy, so she complicated. She came to us, fortunately she was not intubated, she coming from gynae theatre she just had lines, you know, central lines, peripheral and A- lines and [nam, nam], we were just talking and GCS was 15/15. She knew what was wrong with her and how she came to the hospital and now she is here, then I explained to her where she was I did my required, I recorded my vitals and everything, my assessment and everything were done. . I said okay, me [nam] let me get all the medication.

INTERVIEWER: Yeah

PARTICIPANT: When I came back, she had the central lines on her hand and she is giving it to me [laughing].

INTERVIEWER: [Laugh]

PARTICIPANT: [Laugh] My goodness, I'm like, "What the hell happened? And she was like "no, it was just sitting here so I thought maybe [nam] you left it here," [laugh] Oh, my GOD! So okay, obviously, I was just sitting there and like "but just a second ago, you and I were cool, you understood everything, you knew everything." That was not my best though but that's just how quickly it changed. It was just amazing.

INTERVIEWER: Okay, So, can I ask you how you care for your patients that have delirium?

PARTICIPANT: So, firstly [nam] is safety, you understand that everything else will come [nam] will come after, cos if they harm themselves, I mean they are not responsible for that, they have no idea of what they are doing, you might think they do know what they are doing but the truth is they don't. They may be restless and confused,

INTERVIEWER: Okay

PARTICIPANT: They may be restless so I think, one, is you restrain if you need to restrain; if they are so much confused and everything, put your cot sides up, cos they might jump and everything right?

INTERVIEWER: Okay

PARTICIPANT: And try to consider that [nam], they have that degree of fear, they are scared, they are nursed by different people, they have lines everywhere so try and keep them calm, by talking to them, explain the situation, you know they may [nam] consider what you are saying, they may not understand but try.

INTERVIEWER: Okay

PARTICIPANT: You understand, so talk to them, calm them, before resorting to any other form of calming them down, if it doesn't work, in extreme cases, where they pose harm to themselves. Ammm, you know, speak to the doctors, they might prescribe something that is mild sedatives.

INTERVIEWER: Okay

PARTICIPANT: Once you get those, obviously, you know once you've got those, you need to look at the cause. If it's something acute, something that is chronic. If it is something that is chronic, its gonna take a while before you sort it out but if its acute, you gonna find the reason for that.

INTERVIEWER: okay, so what feelings, does all this evoke in you as a nurse?

PARTICIPANT: what does?

INTERVIEWER: I mean, what feelings, emotions or thoughts does all this evoke in you as a nurse?

PARTICIPANT: [deep breath] Mixed feelings darling. Mixed feelings, cos, here's the [nam], here's the [nam], the frustrating thing. Right? For example, the example I gave you about this patient, right?

INTERVIEWER: okay

PARTICIPANT: The one minute she understood everything, and she answered when she was asked relevant question. You leave her for two seconds, or two minutes, when you come back, you get a totally different person, you understand that?

INTERVIEWER: Yeah

PARTICIPANT: You are going form [nam], I am doing the restraints, okay good, talking, the second minute you are sedating the patient, having to run around.

INTERVIEWER: Okay

PARTICIPANT: It's frustrating, Cos they may seem like [nam], they understand, they do not understand, it's tiring, it's frustrating. Cos you keep doing the same thing over and over again, [nam] you may have to do things you really do not approve of, as much as they do not…

INTERVIEWER: Yeah

PARTICIPANT: A person like me, I hate restraints. Try scratching your nose [laugh]

INTERVIEWER: oh

PARTICIPANT: And someone prevents you from doing so. I really hate it, for me it's frustrating [nam], 'cos you want to help them, you want to get them to understand the situation. As much as you explain everything and as much as they agree, 'It's okay I understand everything', they do no not. They do the opposite of what they agree to do and do the opposite of what you want them to do, that's really quite frustrating.

INTERVIEWER: Okay, wow. So, what are those factors that facilitate your care and makes it easy for you to care for these patients with delirium?

PARTICIPANT: It's…, first and foremost is support from the multidisciplinary team, right? Okay for example I come and assist the patient, and the patient is fine, you come and assist the patient, two minute later, the patient [nam] is delirious, you understand that. If I am a supportive co-worker, I'm able to say it can change that quickly, so do what we can.

INTERVIEWER: Hmmm

PARTICIPANT: So, its support from your co-workers, available equipment, available medications when you need it. It's very frustrating to have a patient who is very confused and threatening to pull out every other line on himself, and we have no restrain, you have expired medications, you have medications that is out of stock,

INTERVIEWER: Hmmm

PARTICIPANT: How do you then deal with that? You have several other things to be done, you need to be giving the patient medication, you need to sunction the patient, you need to attend to a lot of other things. You need to be assisting your partner as well. So, you can't be holding a patient down, you can't sit down and be calming a patient down. You know, you need everything that is required, available when you need it. That makes it so much easier.

INTERVIEWER: So, having support from multidisciplinary team, what does that mean?

PARTICIPANT: It means for example emm, if I need doctor to prescribe certain medication or to come and assess the patient, I may go to them and say, you know, I've dealt with this patient from 7am till now, maybe 11 or 12, i.e. I tried calming then down, I've tried talking to them, I restrained them, explained to them, but they are still running over the bed and trying to extubate themselves. So please come and assess and find something that we can do about it. So, if the supportive team will be like, "I'm too busy to deal with delirious people, it's what you nam, do as a nurse, I'm putting life lines." It doesn't take time. It doesn't take more than a minute. Just come and assess and prescribe what is required, that's the support I'm talking about.

INTERVIEWER: Okay, on the other hand, what are those things that makes it difficult for you?

NURSES; The things that make it difficult for me [thinking]. I'll say, its emm, mostly its, its personal feelings one, and secondly the families

INTERVIEWER: Okay
PARTICIPANT: All the family. Some will never understand. Some will never understand. So, fine. If emm, you've restrained the patient, right? Family, they come and the first thing they do is "are you in pain?" The patient is confused, right?

INTERVIEWER: Yes

PARTICIPANT: They may and may not have pain, and you come in and assess and say nothing can be given, "Okay I gave tramadol pain killer about an hour ago, and nothing can be given." They make it so much difficult. "No, you, we can't have our father tied up like a dog." No regardless of what you explain to them, they just won't understand, some are very understanding.

INTERVIEWER: Okay

PARTICIPANT: The other thing that makes it difficult is unavailable support. You understand that, emm, you may need to take another five minutes break, you know just for some fresh air you know, cos you've just been running around with nam, you've been everything you know. So you've been restraining, you've been explaining, so can you just look at this person for some minutes so I can have a break,

INTERVIEWER: Okay

PARTICIPANT: So, if you've not having support, not having the equipment at the time you need it, So, if you don't have support at the time you need it, having families that would not understand, that really think they can do your job more than you do it, it makes it 10 times difficult.

INTERVIEWER: Okay, so, Samson

PARTICIPANT: PI99, yes [LAUGHING]

INTERVIEWER: So, all you've been talking about seems to be about hyperactive delirious patients, what about the hypoactive ones, what do you experience caring for those who are overly calm, withdrawn, lethargic?

PARTICIPANT: Those are the most challenging to deal with. 'cos [nam], at first glance, you'll like, okay, no, she's am, the patient is good, she's a right, you understand that. But as the day progresses and now, the more you assess the patients with these, you understand that this is a form of delirium.

INTERVIEWER: Hmmm

PARTICIPANT: So now with these patients, here is the thing, what do you then do to make them a bit more active?

INTERVIEWER: Hmmm

PARTICIPANT: 'Cos like you may try and motivate them, you need to be more active, like you need to sing to like, you need to, you need to be like, you know, be alive, try and fight, you know, we are trying to help you but you need to try and be active, try to help us as well.

INTERVIEWER: Yeah

PARTICIPANT: They'll look at you like you are the crazy one. And there's absolutely no medication that you can give them, to make them better.

INTERVIEWER: Yes

PARTICIPANT: That [nam], that is more frustrating, that is more frustrating, cos regardless of a number of what you do, immediately after you've done it, it's still like you haven't done anything 'cos they are still the same

INTERVIEWER: Yeah

PARTICIPANT: They are just still the same. You mobilise them to change to the chair, thinking okay, you know, after a while, they look a bit more alive, more attentive, emm, you know, more cooperative, more involved, you know what I mean

INTERVIEWER: Yeah

PARTICIPANT: And guess what? No. no [laughing] it's very much more frustrating.

INTERVIEWER: Hmmm [laughing]

PARTICIPANT: Yeah, and they are very much frustrating cos at some point you know with the hyperactive form of delirium, you have so much that you could do.

INTERVIEWER: Okay,

PARTICIPANT: Yeah so much you could do but for the hypoactive delirium they are just calm.

INTERVIEWER: Hmmm

PARTICIPANT: You understand that?

INTERVIEWER: Yeah cos you have less to do

PARTICIPANT: Absolutely, just so little that you can do for such patient and that's the frustrating part cos. not being able to do something, that's very very frustrating, it's very frustrating. That's why most do prefer such a patient, cos they are not trying to extubate themselves, you know are not trying to run to the shop, you know [laughing].
So, but I find them much more frustrating. Cos nam, you don't know what is happening, your like, your vitals are good but I think you are dying. You just look like you're going to die. I hate it, I rather nurse the patient that wants to run to the shops [laugh].

INTERVIEWER: [Laugh]

PARTICIPANT: Calm down. [laugh], well go to the shops tomorrow. Just calm down.

INTERVIEWER: Okay Samson. How do you communicate and maintain interactions with these patients considering some of them are intubated and then?

PARTICIPANT: So, it's a bit challenging, especially the ones that are a bit intubated, so if they are calm, here's the thing, they look at you and don't respond. So, you are not sure they understand what you are saying, is language a barrier? Or they are not comprehending your sign language.

INTERVIEWER: Hmmm

PARTICIPANT: So, you absolutely have no idea what is happening. So obviously you try and use every other means. It depends on what you want to know at the time. So, for example, you want to [maturate?] their pain.

INTERVIEWER: You want to what?

PARTICIPANT: If you want to now, to rate their pain.

INTERVIEWER: Okay

PARTICIPANT: Right? So 'are you in pain? And they look at you "okay that may be a yes or a no'. Okay let's try and say it's a yes". "Ahh, how much is the pain" and you absolutely have no idea now, if it's a yes or a no.

INTERVIEWER: hmmm

PARTICIPANT: So, and then you get the hyperactive ones, [inaudible segment], oh my God, whatever you do, whatever you say, I mean, they just wanna do what they normally do.

INTERVIEWER: Hmmm

PARTICIPANT: So, obviously you try to use sign language. You'll try to talk and help them use sign language. Simplest form is nod yes, nod no. For instance are you in pain, nod for yes, and nod this way for no [nods head].

INTERVIEWER: Okay

PARTICIPANT: So, to rate you'll say five, is the highest and then one is just okay. So, I keep touching my fingers look here, nod no and when you get to four, nod yes.

INTERVIEWER: OKAY

PARTICIPANT: Okay? You'll try and use that, you know.

INTERVIEWER: Yeah

PARTICIPANT: Hmmmm, trying to find out where the pain is very difficult with medical patients unlike surgical patients. With surgical patients, at least you know the site of the operation but with medical patients, when they say they are in pain, it's quite challenging to figure out where the pain is

PARTICIPANT: So, communication, use anything you can think of, language, sign language, you know, ammm…[smiling] chats, fingers, whatever you can use, whatever works.

INTERVIEWER: Okay, whatever works.

PARTICIPANT: Whatever works. If your fingers don't work, use the charts, if the charts are not working, work, use sign language, if your sign language is not working, then try all the languages my darling.

INTERVIEWER: So, thank you Samson, I just want to check out a few things with you. Yeah, you said in nursing these patients that are hyperactive you feel sad, helpless, emotionally down, yeah. You gave me the example of the gynae patient you had and with everything you experienced with the patient made you sad…

PARTICIPANT: Absolutely because, I mean, imagine, you think that the patient doesn't understand, and some actually pose their lives in much more danger, right?

INTERVIEWER: Yeah

PARTICIPANT: What do you do when you think they understand, you take some of the safety measures like your restraints and everything else, you're like, "no doctor, no sedation is needed here, she is cool, she is okay" and then boom! Turns out they need all of that. You look like the dumb one.

INTERVIEWER: Yeah, and then talking about safety, you said Safety first and everything comes after,

PARTICIPANT: Yeah

INTERVIEWER: You said you restrain the patients, put up your cot sides if the patients are restless, sometimes it's because of the environment so, you keep them calm, explain the environment to them, explain why they are in the ICU, and in extreme cases, you can speak to the doctor to prescribe more sedation

PARTICIPANT: yeah

INTERVIEWER: okay, and then about your feelings you said, you get mixed feelings. I didn't get that part; can you tell me more about it?

PARTICIPANT: So, with the mixed feelings, here [nam], here's the thing. For example, you are [nam], you have hyperactive and the overly calm patients, right,

INTERVIEWER: okay

PARTICIPANT: As much as with the hyperactive patients you have tools to calm the patients. Here's the problem, it's going to work for the patient cos you're going to restrain, they won't be able to self-extubate, but every time you look at them trying to get down and free themselves from the restrain, it feels its distressing. I do not like it, I really hate it, but considering their safety, no choice, it has to be done [quiet and sad], it has to be done.

INTERVIEWER: Yeah

PARTICIPANT: You know that the patient has been here for about 7, 8 days, but you know what, they get so delirious that some sedation has to be prescribed. They take them up and back. Cases where they are over sedated, they battle to be reintubated and everything, and you'll like you know what? You go from "okay, good you're happy, patient is calm boom! The patient is over sedated, the patient is reintubated,

INTERVIEWER: Hmmm
PARTICIPANT: It's just a roller coaster. The whole thing is a roller coaster.

INTERVIEWER: Yeah, so how do you even know that the patient is having delirium?

PARTICIPANT: The whole thing is based on your assessment. It is based on your assessment so, one. It's your objective, your subjective, collaborate all the information that you'll see from the history, the diagnosis, and everything that you see, it will give you a clear picture. It will give you a clear picture.

INTERVIEWER: One more thing, how does delirium affect your job?

PARTICIPANT: Its, here's the thing. It doesn't really, really affect it, delirium is a form of sickness. You understand that. As much as you make diagnosis of confusion on its own, as much as you can get sepsis. It just something that you need to identify, try and manage it. It shouldn't have to affect. It's just something that you have to identify. If we, emotionally, if you are a nurse, everything you do involves emotion.

INTERVIEWER: Hmmm

PARTICIPANT: If the patient is septic, try and identify the source. Is the source the multidisciplinary team? If yes, I mean, boom! That means there's something we are doing and there's something we are not doing. So, it doesn't involve emotion. Patient is getting better and then suddenly starts to get worse.

INTERVIEWER: hmmm

PARTICIPANT: Any form of delirium the patient may have, seeing the family trying to make sense of the relative in a delirious state. It's actually quite saddening cos they don't understand, they just don't understand.

INTERVIEWER: Hmmmm

PARTICIPANT: So, it really doesn't affect my job cos it's just a form of sickness. As long as you are able to identify it, and mange it. same as you do with other sickness. As much as a patient will get hypotension, you try and identify and manage it, same can be done with delirium. Identify it and mange it. No biggie.

INTERVIEWER: Okay, so Samson, thank you very much. Do you have anything else to add about delirium and your experience of caring for patients with delirium?

PARTICIPANT: [thinking aloud] Not much, no.

INTERVIEWER: Thank you for your time. The proceeds of this discussion will be brought back to you for validation of your experience of caring for patients with delirium.

INTERVIEWER: Thank you very much Samson. Can I turn off the recorder now?

PARTICIPANT: yes

INTERVIEWER: Thank you.

END OF INTERVIEW.

APPENDIX G

Examples of significant statements, codes, categories and themes

Number	Significant statement	codes
1	Its, its, it's very much, eh… tiring on the side of the nurse, if the patient is restless, agitated, and everything, Sarah	It's exhausting
2	it is exhausting when working with a difficult patient, you get tired… you get tired of repeating information, you get frustrated and tired of not able to do other work you are required to do. Mary	
3	When working with a difficult patient, you get tired…, tired of repeating information, tired of not able to do other work they are required to do". Mary	
4	the reason it is frustrating is because you keep doing the same thing over and over again, you explain to the patients many times and it gets tiring. Samson	It's frustrating
5	they can turn against you at any given time". And sometimes you feel frustrated because you don't know how to help this person you tried to explain but this person is not understanding..." Samuel and Esther	
6	So, it's challenging, especially the ones that are intubated, so if they are calm, here's the thing, they look at you and don't respond. So, you are not sure they understand what you are saying, is language a barrier? or they are not comprehending your sign language. So, you absolutely have no idea what is happening... Samson	It's challenging
7	Now caring for a patient with delirium, it is challenging because they are confused, that patient is not working together with you but against you… You must be there at the bed side 12 hours if you are working with a difficult patient, you get also get tired of repeating information" Mary	
8	Because of the delirium, there is often mixed messages, so if you are for example attempting to make the patient comfortable, the patient may be confused and fight back, and that's a confusing situation, because you are wishing to care for the patient and make the patient comfortable".	It leads to mixed feelings

	Deborah	
9	"… it leads to mixed feelings…for example, with the hyperactive patients…you're going to restrain, they won't be able to self-extubate, but every time you look at them trying to get down and free themselves from the restrain, it feels distressing. I do not like it, I really hate it, but considering their safety, no choice, it has to be done". Samson	
10	here in ICU, we don't use scale … whatever the patient is saying, whatever the patient is doing, to me, it shows me that the patient is unconscious, is having delirium…" Dorcas	Assessment of patients' mental status
11	We do not use the CAM-ICU because many of us don't know how to use it. Some of us don't even know what the CAM-ICU is." Joshua	
12	Give patients full orientation about the unit "you are in ICU, the big machine that you see is the ventilator which helps you to breath, by yourself you cannot be able to breath. This machine helps to monitor the Haemodynamic, the blood pressure, the saturation and everything, So, don't be surprised when you see all these big machines around you. Me Mr. who, who, who will be looking after you for the whole day." Jude	Maintaining communication
13	we can go closer to the patient, holding their hands, trying to give them a pen and board so they can write, some they can use the sign language of which we can be able to understand". "you can also read the lips of what he is trying to say". Samuel	
14	but we communicated with the patient, we read to the patient, we played music with the patient. We tried to get some idea of music preferences for the patient and we played that music and ehhh… put the television on and explained to the patient was what happening on the television". Deborah	
15	So, for communication, use anything you can think of, sign language, you know, ammm…[smiling] chats, fingers, whatever you can use, whatever works. If your fingers don't work, use the charts, if the charts are not working, use sign language, if your sign language is not working, then try all the languages my darling. Samson	

16	**c**aring will be to make sure that the patient is comfortable, so, in making them comfortable, you want them clean, Mary	Ensuring comfort
17	… you want them to know what is going on, you want to reassure them, the that everything is okay, or you know, if something alarms in the ICU, you want to tell the patient why its alarming but they don't need to worry cos you right there, your presence is helping them." Joshua the caring things for me, is the presence of the nurses at the bed side, being an advocate of the patient, taking care of all the activities that the patient can't take care of, having empathy for the patients and for the family circumstances. "…Having empathy for the patients and for the family circumstances." Mary	
18	Any form of delirium the patient may have, seeing the family trying to make sense of the relative in a delirious state. It's actually quite saddening cos they don't understand, they just don't understand…" Samson	
19	for me, the family presence is extremely important.... I find in my experience; the family actually help me to nurse the patient because the family are very important part of the patient and the patient knows the family voice and know the things that the patient wants." Mary	Family involvement
20	Or even the relatives, we encourage them when they come to visit you know, to touch the patient so that way, you'll establish communication with the patient even though he has lost touch with the environment." Sarah	
21	and another thing, you work as a team in ICU, and using your colleagues is important, 'cos it's human to get tired, its heavy work in ICU. It's not, emm, you know its stinking work. If you feel that you're starting to lose patient, it's better to ask a colleague to come and to give you a short break, so you can refocus, recuperate and come back…" Mary	Team work/ support from colleagues
22	when you have <u>support of colleagues</u>, because of the reactions in their confused state, sometimes you just need a hand, for somebody to help to turn the patient or sit the patient up for that sort of things, so it becomes difficult nursing when you are doing it on your own, particularly if it's a bigger patient, so, I do think that team work really does play a role." Deborah	
23	I think my <u>experience is a big factor</u>, and I think your <u>training and experience</u> does play a role, because you can put yourself	Education and

	into the patient's situation a lot easier than not having the training and the background". Mary	experience of the nurse
24	our ICU is, it's a closed type … environment ne? you are not there around the patient, you know like 24 hours round the clock, you must go and prepare the treatment and all, you are always worried what will happen if I go out of the cubicle." Sarah	Context of ICU
25	you know ICU is a busy area, you've got a lot to do. The (pause), besides the caring, you also have the monitoring and the drugs. You have those other things you have to do for the patient. Besides the caring, you have the availability of the relatives" Mary	
26	You have several other things to be done, you need to be giving the patient medication, you need to sunction the patient, you need to attend to a lot of other things. You need to be assisting your partner as well. So, you can't be holding a patient down, you can't sit down and be calming a patient down. you know…" Samson	
27	I think that (pause**),** time is always an issue. Because in ICU, we work very much to time, and sometimes when you are on your own, if you are having difficulty with the patient, then you run overtime and your next vital data are not on the hour when they should be, or you haven't been able to give patients injection on time, or medications" Deborah	Time

CODES	CATEGORIES	THEMES
It's frustrating	It's Exhausting	It's exhausting
It's challenging		
It is leads to mixed feeling		
	Ensuring safety	
Assessment of patient's mental status		
Maintaining communication		Caring
Respect for patients' rights/ feelings and culture		
Concern for the patient: compassionate care and advocacy.	Ensuring comfort	
Concern for the family circumstance.		
Dignifying the Patient		
Family involvement in caring		What makes it easy
Support from colleagues		
Knowledge and education of the nurse		
Context of the ICU	Patients characteristics	What makes it difficult
• Patient's incomprehension • Not to be trusted(unpredictable) • Antagonistic behaviour • Uniqueness • Vulnerability • Paranoid(fear)		
	Missing out on caring activities	
Doctors' practices		
Time consuming		
Discontinuity of care		
Nurse' safety issues		

APPENDIX H

Ethical Clearance

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R14/49 Mrs Cherry Iyiola

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M180361

NAME: (Principal Investigator)	Mrs Cherry Iyiola
DEPARTMENT:	Nursing Education - School of Therapeutics Charlotte Maxeke Johannesburg Academic Hospital Adult Intensive Care Unit
PROJECT TITLE:	The Experience of Intensive Care Nurses Caring for Patients with Delirium
DATE CONSIDERED:	06/04/2018
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Prof S. Schmollgruber and Prof J. Bruce
APPROVED BY:	Professor CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	06/08/2018

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 on the Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized 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 the application 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 reviewed in **March** and will therefore be due in the month of **March** 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 I

Permission to Conduct the 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
20 August 2018

Ms. Cherry Iyiola
Department of Nursing Education
School of Therapeutics
University of Witwatersrand
NHRD REF: GP_201807_010

Dear. Cherry Iyiola

RE: **"The experience of intensive care nurse caring for critically ill intubated patients with delirium"**

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.

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: 20/8/2018

Approved / not approved
Ms. G. Bogoshi
Chief Executive Officer
21.08.2018

APPENDIX J

Postgraduate Approval of Study

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

16 May 2018
Person No: 1723299
PAG

Mrs C Iyiola
Unit 176
58 Murray Street
Meredale
2091
South Africa

Dear Mrs Iyiola

Master of Science in Nursing: Approval of Title

We have pleasure in advising that your proposal entitled *The experiences of intensive care nurses caring for intubated patients with delirium* 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 K

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	09/12/2018
Subject	The experiences of Intensive Care nurses caring for intubated patients with delirium
Ref	SS/GS/24

I certify that I have edited the following thesis for language, grammar and style,

Chapters 1 to 5, Forward and Appendices: The experiences of Intensive Care nurses caring for intubated patients with delirium, by Cherry E. Iyiola,

to the standard as required by Wits Dept. of Nursing Education.

Gill Smithies