NURSES' ATTITUDES TOWARDS FAMILY PRESENCE DURING THE MANAGEMENT OF AN ACUTELY DETERIORATING PATIENT IN THE EMERGENCY DEPARTMENT

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DECLARATION

I, Lindokuhle Mabetshe, declare that this research report is my own work. It is being submitted for the degree of Master of Science (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  ……

……14……day of ……August…… 2020

Protocol number: M180403

DEDICATION

This is devoted to all the emergency department nurses who contributed to making this study possible. It is your tireless and relentless effort that makes a difference to our communities and the nursing profession. It is because of you that the lamp will forever stay burning.

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Like a lighthouse guiding ships to safe harbours, I too had exceptional people that helped me get through all the hardships I faced in compiling this report.

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ABSTRACT

Background: Families are essential to the holistic wellbeing for many hospitalized patients. Patient care is mostly done by nurses in the emergency department. Research over the last three decades has focused on family presence during resuscitation and yet little is known about the presence of family during the management of an acutely deteriorating patient.

Objectives: To describe Nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department.

Methods: A descriptive quantitative study was done in the emergency departments of three tertiary hospitals in Eastern Cape. Professional nurses (n=57) in three emergency departments in Eastern Cape, South Africa completed a 13-item Emergency Department Family Presence survey that was published in Emergency Nursing Journal. Data was analysed using univariable and multivariable logistic regression for these outcomes; Effect on patient care, Effect on the patient, Effect on the family and Effect on the individual healthcare provider.

Results: Most nurses believed that family presence during the management of an acutely deteriorating patient has negative effects on the patient, on the family and on the healthcare providers. Significance was only seen with increased years of experience.

Conclusions: family presence during the management of an acutely deteriorating patient is a new concept in South Africa. Therefore, nurses do not hold strong views about it yet, hence, the negative attitudes towards it.

Keywords: Family presence, Acute deterioration, Cardiopulmonary Resuscitation, Emergency department.

TABLE OF CONTENTS

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION OF RESULTS

CHAPTER FIVE: SUMMARY AND CONCLUSION

LIST OF TABLES

LIST OF ABBREVIATIONS

AACN	The American Association of Critical Care Nurses
AHA	American Heart Association
CPR	Cardiopulmonary Resuscitation
ED	Emergency Department
EDFP	Emergency Department Family Presence
ENA	Emergency Nurses Association
FWR	Family Witnessed Resuscitation
HCP’s	Health Care Providers

CHAPTER ONE
OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This is an introductory segment which lays out the orientation of this research report, it details the background, problem statement, purpose, objectives, and significance of the study. This is followed by the definition of the key variables commonly used throughout the report. This segment also outlines the methods used to conduct the study and the ethical considerations followed by the researcher.

1.2 BACKGROUND

The emergency department (ED) is a fast-paced, often stressful and unpredictable environment with varying day to day workloads (Hosking, Considine, & Sands, 2014). Often in this setting, families are side-lined because historically the focus of care has been solely on the patient, particularly in emergencies. Research shows that this exclusion of family members from the centre of care is most apparent during times of resuscitation as more focus is geared towards saving the life of the patient. Normally, family members are asked to wait in the waiting area while lifesaving interventions are being carried out. While the patient is being resuscitated, family members are waiting anxiously in the waiting room as they do not know the status of their relative (patient) and sometimes they have questions and concerns that no one is available to address and reassure them at that point in time. This separation of family members and the patient happens very quickly and sometimes in an inappropriate manner that distances family members from the patient, causing distress and emotional breakdown.

Families are essential to the holistic wellbeing for many individuals. Every patient belongs to a family and family is crucial in fulfilling the holistic wellness of the patient during times of illness (Bhalla, Suri, Kaur, & Kaur, 2014). The traditional meaning for family defines family as a group of people related either by birth, marriage, adoption or other relationship, or co-residence (Stevenson, 2010). However, the fitting definition of family for this report is that defined by Bellou and Gerogianni (2007), they define family as a group of individuals sharing the same goals and values, having a long-term connection and reside generally in the same

environment. Illness of a family member poses a threat to the whole family. This threat causes anxiety, suffering, a feeling of helplessness, and loss of hope, which can result in physical and emotional fatigue. For this purpose, any intervention that reduces the consequence of these pressures benefits the family (Hsiao et al., 2017). In times of illness, family members play an integral role in providing care to the sick member of the family whilst still at home (Bhalla et al., 2014). However, during hospitalization due to a health-related crisis, the role of providing care is taken over by the health care providers (HCP's). This forms a barrier between family members and their sick relative resulting in family members feeling physically and emotionally detached from the patient and therefore worsening emotional pain and suffering (Hsiao et al., 2017).

To overcome this barrier HCP's need to provide family members with truthful, consistent, and efficient communication about the patient's wellbeing. Family members also need to be able to have access to the patient such that they feel physically and emotionally close to the patient. Therefore, they need constant reassurance from the HCP's about the condition of the patient, and what has been done for the patient (Perrin & Kazanowski, 2015). These needs are often not met by the HCP's, and this is a common practice in the ED especially during the management of an acutely deteriorating patient. Having family members present during acute patient deterioration may help to fulfil the needs of the family and it also establishes a significant source of mental and emotional stability for the sick individual as well as a source of support for better rehabilitation post-hospitalization (Yildirim & Özlü, 2018). Due to lack of policies supporting the exclusion of family members during the management of an acutely deteriorating patient, research has recently focused on the inclusion of family members during patient deterioration to shift the paradigm of family involvement and accommodate the needs of the family in the ED.

Research focusing on the inclusion of the family during the management of an acutely deteriorating patient in the ED is still new and represents a major shift from the widely researched family witnessed cardiopulmonary resuscitation. Therefore, it is imperative to explore the history of family witnessed resuscitation as it serves as a reference point for this new topic. The research on family witnessed cardiopulmonary resuscitation dates to 1982 when the emergency department (ED) HCP's at Foote hospital in the United States of America began to question the policy of managing family members of patients with cardiac arrest (Doyle et al., 1987). This was due to family members requesting to be present during cardiopulmonary resuscitation (CPR) of their dying relative and also after an incidence where

a family member refused to leave the resuscitation room during an active CPR (Doyle et al., 1987). This prompted Doyle et al. (1987) to investigate the attitudes of staff and family members of patients who received CPR towards family witnessed CPR through mailed surveys to families and distributed surveys to staff members (Halm, 2005). The results favoured the family witnessed CPR initiative as 94% of family members reported that they would want to be present; 76% reported that they would adjust to the death of their relative easier; 64% reported that family witnessed CPR would benefit the dying patient when the family is present; 71% of staff members supported family witnessed CPR even though they reported that it would be stressful for them if the family members are present during CPR (Halm, 2005).

Since then numerous studies on family witnessed cardiopulmonary resuscitation (CPR) have investigated the phenomenon using different approaches and methodologies. Different organizations also showed support for family witnessed CPR. After reviewing research focusing on family witnessed CPR, the American Heart Association (AHA) found that research on family witnessed CPR has positive results and encouraged hospitals to develop policies that support family witnessed CPR (Kleinman et al., 2015). The Emergency Nurses Association (ENA) responded to the rising demands of family witnessed CPR by publishing a position statement supporting the presence of family members during invasive procedures and resuscitation in 1995, and in 2009 they produced a clinical practice guideline which was updated in 2012 and 2019. In their 2019 update of the clinical practice guideline, ENA firmly suggested that every hospital should create policies and standard operating procedures to address the requirements of relatives when they are available amid invasive and resuscitative procedures (Vanhoy et al., 2019). The American Association of Critical Care Nurses (AACN) outlined expected practice in support of family presence during invasive and resuscitative procedures and also outlined specific actions to be taken by nurses when implementing family presence (Guzzetta, 2016).

Although the concept of family witnessed CPR has been researched for over 3 decades and different organizations have shown support for the concept, it still faces resistance regarding its implementation. This is because HCP’s remain concerned about their emotional wellbeing and the wellbeing of the family during family witnessed resuscitation (FWR) as seen in multiple studies done in different countries including South Africa (Gordon, Kramer, Couper, & Brysiewicz, 2011; Oczkowski, Mazzetti, Cupido, & Fox-Robichaud, 2015; Youngson, Currey,

& Considine, 2016). Also, new research has not produced meaningful results that would encourage widespread implementation of FWR (Waldemar & Thylen, 2019).

With the development of research, new ways of reducing the number of in-hospital cardiac arrests have been implemented in different settings. The rise of rapid response teams and new and improved tools that aid in identifying early patient deterioration have resulted in reduced incidents of cardiac arrests on hospitalized patients (Youngson, Considine, & Currey, 2015). An acutely deteriorating patient can be defined as a patient in the ED that changes condition from a stable physiological state to a progressively worse physiological state which increases the patient's risk of morbidity, including organ dysfunction, an extended period of hospitalization, disability, or even death (Jones, Mitchell, Hillman, & Story, 2013). This means that acute deterioration in most instances is a precursor for cardiac arrest. Since prevention is better than cure, practice has changed from the management of cardiorespiratory arrest to early detection of an acutely deteriorating state and this has brought about a decline in the amount cardiac arrests in hospitalized patients and an improved manner of managing an acutely deteriorating state (Youngson et al., 2016). Yet research still focuses on the care of the family during CPR rather than during acute deterioration (Mallett, Albarran, & Richardson, 2013).

Nurses are the HCP's most likely to detect and intervene when the physiological state of the patient deteriorates as they are the HCP's who spend more time with the patient due to bedside nursing. They are also the HCP's who monitor the patient's condition periodically and sometimes continuously, contingent upon the state of the patient. Nurses are the HCP's with an in-depth knowledge of the patient's history, including the patient's family history. Nurses have the capability, experience, information and aptitudes that are basic to fortify health care delivery and the wellbeing of the population (Joy et al., 2010). They are also the advocates for the family and the patient and therefore, their attitudes are a great reflection of what is happening in practice, which is why they need to be explored.

Research on family witnessed cardiopulmonary resuscitation (CPR) comes a long way but remains a complex and a highly debated phenomenon. Research showed us that as clinicians become more aware of family witnessed CPR, they do not have a problem with allowing family members to be present during CPR. Likewise, in South Africa, as clinicians become more and more mindful of the phenomenon, it could be incorporated in clinical practice guidelines.

Family presence during the management of an acutely deteriorating patient is still a new concept and provides opportunities for future research. It also provides new information that can aid in evidence-based practice.

1.3 PROBLEM STATEMENT

Practice has changed, focus has shifted away from the rigorous management of cardiac arrest to early detection of an acutely deteriorating state that may lead to cardiac arrest if not intervened promptly. Despite this change in practice, research associated with family presence remains focused on family witnessed resuscitation rather than focusing on family presence during acute patient deterioration (Youngson et al., 2016). This has contributed to the lack of published data in South Africa regarding family presence during acute patient deterioration. Published data is vital for the development and comprehension of new ways of rendering nursing care and determining effective practice for rendering care to the family during acute patient deterioration. Evidence-based data has shown the benefits of family presence during CPR for both the family and the patient (Toronto & LaRocco, 2019). Nurses are the HCP's most likely to detect and intervene during early patient deterioration due to bedside nursing. Nurses are the HCP's who monitor the patient's condition and draw up care plans (Joy et al., 2010). Nurses are the advocates for the family and the patient, and this study seeks to describe their attitudes towards the presence of family members during the management of an acutely deteriorating patient in the ED.

1.4 PURPOSE OF THE STUDY

The purpose of the study was to describe Nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department of three public hospitals in Eastern Cape.

1.5 OBJECTIVES

The objective of the study was to describe nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department.

1.6 SIGNIFICANCE OF THE STUDY

With increasing awareness and early detection of a deteriorating state that may lead to a cardiac arrest on a patient, the prevalence of cardiac arrests in the ED is decreasing. However, more emphasis has been put on family presence during CPR, while research on family presence during the management of an acutely deteriorating patient is being overlooked. This study intends to describe nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the ED. This will increase awareness and understanding of how to best provide lifesaving interventions without compromising the family component of the patient. Lastly, the study intends to also provide baseline knowledge for future research on the presence of family during the management of an acutely deteriorating patient in the ED.

1.7 KEY DEFINITIONS

The following are the definitions of key variables commonly used throughout the study.

Professional nurse

Is a nurse who has met the recommended education necessities for enrolment and placement as a professional nurse in the emergency department, who has procured and keeps up the skills to practice within the ED as a professional nurse and is enlisted as a professional nurse in terms of section 31(1)(a) of the nursing Act, 2005 (Act No. 33 of 2005) (Minister of Health, 2013).

Acute deterioration

Is a physiological process that occurs on a patient admitted in the ED which causes the patient's physiological state to shift from a normal physiological state to a progressively worse physiological state which increases the patient's risk of morbidity, including organ dysfunction, prolonged hospital stay, disability, or death (Jones et al., 2013).

Attitude

An expression expressed by ED nurses about what they perceive as normal, appropriate, practical, and sustainable for their profession. Through their training and experience within the ED, nurses develop attitudes that may be considered as positive or negative about different practices in the ED (Price, 2015).

Cardiopulmonary resuscitation (CPR)

It is an emergency procedure performed on cardiac arrest patients in the ED. In this procedure, the heart is manually pumped by means of chest compressions often coupled with artificial ventilation in an attempt to manually circulate blood to preserve intact brain function until further measures are taken to restore spontaneous blood circulation and breathing. (Atkins et al., 2015).

Family members

Traditionally family members are defined as a group of people related either by birth, marriage or other relationship, or co-residence (Stevenson, 2010). For the purpose of this study family members are people who share a valued relationship with the patient admitted in the ED and whom the patient identifies them as his/her family or are defined by the patient's surrogates when the patient has no decisional capacity (Guzzetta, 2016).

Emergency department (ED)

Is a ward within a public hospital which specializes in emergency medicine, trauma, the acute care of patients who present without a prior appointment; either by their means or by that of an ambulance and where acutely deteriorating patients are cared for (Martin, 2016).

1.8 OVERVIEW OF THE RESEARCH METHODOLOGY

A descriptive quantitative research design was used to ascertain the study's objective. The participants of the study were Professional Nurses working at the emergency departments of three tertiary level teaching hospitals in Eastern Cape with 570, 910 and 512 beds respectively. All Professional Nurses (N=56) who met the inclusion criteria were sampled by

using a total population sampling method. Data of the study was gathered with the use of a questionnaire that was developed by Youngson et al. (2015) in the study “Development, reliability and validity of a tool, to measure ED clinicians’ attitudes towards family presence during acute deterioration in adult patients”. Permission to use the tool was granted by the developers (**Annexure F**).

Ethical approval and authorization to conduct the study were obtained from relevant University and Department of Health Research Committees (**Annexure A**), and the relevant managers from the selected hospitals (**Annexure C, D & E**). Participation was voluntary and participants had the freedom of withdrawing from the study should they feel the need to.

Data was assembled into a statistical software, STATA version 15. Descriptive and comparative statistics were used to summarize the study data with the assistance of a biomedical statistician.

1.9 LAYOUT OF THE STUDY

The following is the layout of the study.

Chapter one	Overview of the study
Chapter two	Literature review
Chapter three	Research design and methods
Chapter four	Data analysis and discussion of findings
Chapter five	Summary of the study, main findings, recommendations, and conclusions

1.10 SUMMARY

This section covered an overview of the study about family presence during the management of an acutely deteriorating patient in the ED. The study originated from the widely researched phenomenon of family witnessed resuscitation. Change in practice and the quality of care influenced the change from the wildly researched family witnessed resuscitation phenomena to family presence during the management of an acutely deteriorating patient. Since Nurses are responsible for the immediate care for the patient, the study seeks to describe their attitudes towards family presence during the management of an acutely deteriorating patient. This topic is still in its infancy and will provide baseline knowledge for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

A literature review provides insight on what is known, unknown and how the concept of family presence during the management of an acutely deteriorating patient in the emergency department (ED) developed by reviewing published material about the concept. Grove, Burns and Gray (2014) described the literature review as a process that provides information that is crucial to apprehending a situation or problem being studied by:

- Describing the current knowledge of a practice problem,
- Identifying information that the current knowledge lacks and
- Explaining how the study being reported contributed to building new knowledge in this area.

In this literature review, the researcher describes the current knowledge base and explains how family witnessed resuscitation phenomenon contributed to building baseline knowledge about the concept of family presence during the management of an acutely deteriorating patient in the ED.

This chapter begins by addressing the needs of the family as they are the main subjects of the topic. This is followed by an overview of previous literature gathered about the concept of family witnessed cardiopulmonary resuscitation (CPR) in the ED as it is the reference point for the concept of family presence during acute deterioration. Information found in the literature about the concept of family witnessed CPR will be divided into three subtopics focusing on the attitudes and/or perceptions by clinicians, by patients and by family members. This information about the concept of family witnessed CPR will then be reviewed. Information found from different organizations supporting family witnessed CPR will also be reviewed. Lastly, a review done on published literature about the presence of family members during the management of an acutely deteriorating patient will be reported.

To conduct this literature review two electronic resources found on the Witwatersrand University online Library, namely Google Scholar and electronic databases were consulted. A time frame of 5 years (2014 – 2018) was used, however, important studies outside that time were also referenced. Electronic databases included the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and MEDLINE which are both found through the EBSCO Host, PubMed, Science Direct, SCOPUS, The Cochrane Library and various articles were found through searching reliable journals and eBooks found online.

2.3 NEEDS OF THE FAMILY

The main objective in the ED is to save lives by stabilizing patients who are physiologically deteriorating due to trauma or medical emergencies, which is often carried out with success (Yildirim & Özlü, 2018). However, in developing countries such as South Africa, nurses are faced with several challenges of having to address a surge of new patients while managing existing admissions of medical or surgical emergencies, with poorly maintained or lack of equipment, few qualified nurses, staff shortages and an overabundance of patient admissions (Botes & Langley, 2016). Sometimes patients deteriorate into cardiac arrest and may require cardiopulmonary resuscitation (CPR) which takes time and needs at least five health care professionals managing one patient for an extended period (Bon, Berzon, & Schechter, 2018). This makes it difficult for nurses to be able to address family needs while at the same time having to manage severely sick patients (Botes & Langley, 2016). Due to the fear of the unknown (not knowing the patient outcome) the patient's relatives go through a plethora of physiological, psychological and emotional effects (e.g. anxiety, stress, hysteria) when presenting to the ED with a severely sick or injured patient (Botes & Langley, 2016).

The needs of the family are heavily influenced by their cultural background and the type of service they receive from the ED personnel. Health care providers (HCP's) need to understand these needs in order to provide effective patient and family centred care delivery (Hsiao et al., 2017). A study by Bellou and Gerogianni (2007) grouped the needs of family members of hospitalized patients to three categories; needs of knowledge, emotional needs of family and personal needs of family which are further detailed below:

Need for knowledge

- Regular information on the patient's condition
- Information about the prognosis of the patient
- Communication about the nursing care plan
- Getting to know the staff taking care of the patient
- Assurance that the patient is receiving the best treatment

Emotional needs of a family

- To be physically close to the patient
- To express their feelings to HCP's
- Feeling that there is hope in the patient's recuperation
- To feel that HCP's are concerned about the patient
- To receive proper health education for them to aid in the care of the patient

Personal needs of a family

Personal needs are unique to every individual. HCP's are not directly involved in fulfilling personal needs of each family member. Such needs may include other services the hospital has to offer to make the environment more conducive to clients and may defer from hospital to hospital.

The study by Bellou and Gerogianni (2007) gave a good general overview of what are the needs of family members of a hospitalized patient as detailed above. However, those needs were not entirely specific to the ED. A study that was conducted by Yildirim and Özlü (2018) in Turkey on 202 relatives of patients in the ED revealed that the most important need required by the family members in the ED is communication followed by emotional support, being able to partake in the care of their sick relative and being comforted by the HCP's in the ED. The study further elaborated that the need for communication had a plethora of benefits, which included reduced tension or worry, problem-solving, providing important information, building and strengthening relationships, freely sharing feelings without prejudice, convincing, and effective decision making.

A study done in South Africa by Botes and Langley (2016) looked at five themes of family needs in the ED namely; meaning, communication, proximity, comfort and support. The meaning theme refers to the family's need for receiving reliable and reassuring information about the patient's condition from the HCP's so that family members may be able to cope with the current emergency. Communication theme can be explained as family's need of receiving information on demand, sensitively and sensibly that enables family members to understand and be given a chance to ask questions or voice out their opinions regarding the patient's care plan. Proximity theme refers to the family's ability to access and be physically and emotionally close to the patient, while comfort alludes to the passionate and physical solace offered by HCP's and services accessible within the hospital. The support theme considers moral or psychological help offered by HCP's and allowing family members to utilize their social help structures (Botes & Langley, 2016).

Botes and Langley (2016) found that the needs under the meaning category were the most popular amongst family members presenting with an injured patient to the ED. Family members perceived that if these needs could be met by the HCP's, it would enable them (family members) to cope with the current critical situation they are facing, therefore, reducing stress and anxiety. The second favoured theme was communication and surprisingly family members preferred communicating with nurses more than communicating with doctors about the patient's condition. Following communication was the proximity theme, as family members wanted to be by the patient's bedside whenever possible. Needs belonging to comfort, and support themes were the least favoured amongst the five themes.

The norm in the ED when the HCP's are providing lifesaving interventions to the patient is to ask family members to wait in the waiting room. In most cases, this causes neglect of some of the needs required by family members which belong to proximity and comfort themes. To fulfil some of the above-mentioned needs, HCP's may have to go back and forth to the waiting room after every intervention to explain the condition of the patient and what has been done for the patient. This can be difficult to fulfil due to the varying workload and the unpredictability of the emergency unit as well as the responsibility of providing care to multiple critically ill patients. This causes emotional distress for the relatives who are anxiously waiting in the waiting room as they may feel neglected and unwelcomed by the staff in the ED. However, having family members present during lifesaving interventions may remedy this since information will be provided to the family members as lifesaving interventions take place and the family can witness the care provided to the patient, thereby reducing the number of

questions or concerns they may have (Tennyson, 2019). Having family members present to observe what the patient has gone through will help family members to provide effective psychological and emotional support once the patient's condition stabilizes. The concept of family witnessed CPR has been widely researched and provides a good reference point on the benefits of having family members present during lifesaving interventions. Research found that for family witnessed CPR to be successful and beneficial it is recommended that one health care provider amongst the resuscitation team be delegated the responsibility of remaining with the family, explaining to them the procedures as they occur and answering questions that the family may have (Brasel, Entwistle, & Sade, 2016).

2.4 CARDIOPULMONARY RESUSCITATION (CPR)

Cardiopulmonary resuscitation (CPR) is a lifesaving emergency technique comprising of the use of artificial ventilation (mouth to mouth respiration or bag valve mask) and external cardiac massage (chest compressions) to maintain blood flow and tissue oxygenation on a person with cardiac arrest (Atkins et al., 2015). Cardiac arrest is associated with poor neurological outcomes and small chances of survival (Bon et al., 2018). Therefore, rapid recognition of cardiac arrest and early effective CPR with efficient post-cardiac arrest care improves survival and neurological outcomes (James & Weston, 2018). CPR with artificial ventilation and chest compressions permits oxygen-rich blood to flow to major organs, for example, the heart and the brain (Shaw, 2018).

In the ED a more robust approach to the management of cardiac arrest is required, an electric shock, which is regarded as defibrillation, may be delivered to the victim's heart through the surface of the chest to restore a reliable heart rhythm (Bon et al., 2018). However, the administration of an electric shock is dependent on two shockable rhythms, which are ventricular fibrillation and pulseless ventricular tachycardia (Mistovich & Karren, 2014). Other adjuncts to this robust approach include drug administration, ECG monitoring and invasive airway techniques (James & Weston, 2018). Artificial ventilation, drug administration and chest compressions may help in inducing a shockable rhythm (Bon et al., 2018). CPR may sometimes have complications such as fractured ribs or sternum due to chest compressions (although not common) and gastric insufflation due to artificial ventilation by using non-invasive ventilation techniques. Gastric insufflation can result in vomiting which further compromises the airway hence the need of invasive airway techniques (Bon et al., 2018). In

most instances, CPR is stopped when the victim has a return of spontaneous circulation or when the medical team regard CPR as futile due lack of return of spontaneous circulation (Mistovich & Karren, 2014). Recent reports show that a return of spontaneous circulation can occur after 38 minutes of CPR (Shaw, 2018).

CPR may seem like a modern-day practice, but it has been practiced since the mid-1700s. In 1740 the French Academy of Sciences made recommendations regarding the use of mouth to mouth resuscitation on victims of drowning. However, it was until 1891 when Dr Fridrich Maass encouraged the use of external cardiac massage to resuscitate patients with cardiac arrest and the first successful external chest compression was reported in 1903 by Dr George Crile. In 1960 cardiopulmonary resuscitation (CPR) was established and the American Heart Association (AHA) made a program to inform clinicians with external cardiac resuscitation and in that year AHA became the precursor of CPR training for the general public. AHA formerly endorsed CPR in 1963. In 2008 external chest compression-only CPR (without ventilation) was introduced to bystanders who had witnessed an arrest. New guidelines on CPR are produced every few years in an effort to perfect the technique and preserve life (American Heart Association, 2018).

2.5 FAMILY WITNESSED CPR IN THE EMERGENCY DEPARTMENT

Even with the rise of research promoting the presence of family witnessed CPR, this lifesaving intervention has been perceived by most clinicians as psychologically distressing for the public to witness (Porter, 2019). Gordon et al. (2011) found that in most cases the decision made by clinicians to exclude family members during CPR seemed to be a norm based on assumptions that CPR would be an unbearable experience for the relatives. The study by Gordon et al. (2011) was conducted in South Africa where a survey about family witnessed resuscitation was conducted on 13 medical officers. Survey results showed that 65% of the medical officers indicated that they were not aware of the concept of family witnessed CPR and assumed that it was the right decision to exclude family members during CPR due to the nature of the procedure. However, now that they are aware of the concept, they are highly likely to consider allowing the family members to be present during CPR. 42.6% of the medical officers who were aware of family witnessed resuscitation indicated that they had never attempted to offer family members the opportunity to observe CPR.

A study done in Iran by Hassankhani et al. (2017) found that CPR can worsen the emotions of relatives and at times make the patient's relatives to be aggressive, which in turn can affect the clinician's capacity to continue executing the required interventions. Additionally, the study reported that CPR can be visually disturbing, especially when several lifesaving manoeuvres are performed simultaneously and with HCP's moving quickly around the bedside to perform the required tasks. This at times can cause horrific memories amongst patient's relatives resulting in post-traumatic stress disorder related problems in the future, especially in cases where CPR was unsuccessful and being experienced by relatives with limited knowledge of what they are observing in the resuscitation room. Other common themes or reasons found in the literature for HCP's to exclude relatives from witnessing CPR include:

- Fear of litigations,
- Increased stress and anxiety levels on the relatives,
- Fear that family may interfere with CPR,
- Fear that the staff will be distracted from the process by distressed relatives,
- And they also feel that CPR is a traumatic and emotional experience for the family (Oczkowski et al., 2015; Othman, Al Omar, Abualruz, & Safadi, 2020; Porter, Cooper, & Sellick, 2014; Youngson et al., 2016).

In contrast, family members support the notion of family witnessed resuscitation as they consider it as their fundamental right to present during CPR and also believe that they can offer comfort for the patient and crucial information about the patient (Toronto & LaRocco, 2019)). The concept of including family members during CPR is also supported by major organizations and policies and guidelines have been implemented in other settings to give family members the option of witnessing CPR. However, it is advisable that when developing clinical practise guidelines that support the inclusion of family members during invasive and resuscitative procedures, the concerns raised by HCP's should not be overlooked. This will ensure that the patient also benefits by receiving high-quality care from the concerned HCP's.

The following subheadings will expand on the literature found about the mixed (positive and negative) attitudes and perceptions shown by clinicians, patients and family members towards family witnessed resuscitation in the ED

2.5.1 Attitudes and perceptions by Health Care Providers

Most of the research on family presence has been cantered more on attitudes and perceptions of HCP's. This has resulted in HCP's being the ones who display most of the mixed attitudes towards family witnessed resuscitation. Some HCP's showed an extreme dislike of the concept and some supported it. It is evident that the delay in the implementation of the guidelines supporting family witnessed resuscitation has been heavily influenced by the resistance amongst HCP's.

2.5.1.1 *Positive attitudes and perceptions*

A survey conducted by Porter, Cooper, and Taylor (2015) on ED Nurses in Australia ascertained that family members were not offered the chance to witness CPR as often as they should be offered, as 55% of the nurses reported that family witnessed CPR was only implemented less than 20% of the time of which they (48%) believed that it should be a standardized practice that's practised 80 – 100% of the time. On the same study, 79% of the nurses believed that family members have the right to be present when the patient is being resuscitated. 62% (nurses) felt that it helps with the grieving process and 65% (nurses) indicated that they would like to be present if it were their relative being resuscitated. 55% of the nurses thought that family members must be present during CPR of their relative (patient) so that they get to observe all the efforts done by the ED personnel during CPR. Most nurses (93%) highlighted that family witnessed CPR will also facilitate the opportunity for the family members to say their final goodbyes to a dying relative (patient).

In a study by Tudor, Berger, Polivka, Chlebowy, and Thomas (2014) clinicians stated that family presence during CPR stimulates and preserves the dignity of the patient. Furthermore, the study reported that the utmost benefit is a reassurance to the patient's relatives that all interventions were done to help the patient and that helps to provide closure when CPR is unsuccessful. In Iran, Hassankhani et al. (2017) interviewed clinicians who had an experience with family members present during CPR of their relative and the results were congruent with recent studies that support family presence during CPR. In the study, clinicians reported that allowing family members to be present during CPR helps to build trust amongst family members and the HCP's. This reduces anxiety and restores confidence amongst family members. Family members also get to witness all the efforts made by the HCP's during

resuscitation regardless of the outcome. The study added that other family members even offered to help HCP's with basic tasks like holding the patient's hand, passing equipment over and putting it back during CPR. HCP's further explained that having family members present during CPR appears to relax their (family members) nerves, reduces their stress levels, decreases their concerns and prevents their need to dispute with the HCP's. This in turn helps HCP's to gain confidence and decreases medical errors during CPR (Youngson, Currey, & Considine, 2017). In a study by Waldemar and Thylen (2019), a doctor who is passionate about family witnessed resuscitation verbalized that he does not think that HCP's would act differently when relatives are present or not and he can easily have a dialogue with relatives while he is performing CPR.

2.5.1.2 *Negative attitudes and perceptions*

A study conducted in Ireland by Madden and Condon (2007) looked at emergency nurses' current practices and apprehension of family witnessed cardiopulmonary resuscitation found that emergency nurses believed that disputes with the doctors were a big obstacle when allowing family members to be present during CPR as doctors were against the notion of having family members present during CPR. Also, 50% of participants believed that family presence during CPR would cause anxiety and stress amongst the emergency team which may lead to avoidable medical errors that can negatively impact the life of the patient. Fear of lawful litigations was reported by 39% of the participants as an obstacle to offering relatives to be present during cardiopulmonary resuscitation. 27% of emergency nurses reported that family members may interfere with HCP's during CPR. Tudor et al. (2014) and Porter et al. (2014) also found similar results when studying the perceptions of nurses towards family witnessed CPR. In both studies, nurses reported that family presence during CPR may result in fear that relatives may interfere with the resuscitation, deficient space in the emergency room, fear that relatives may be traumatized by the experience, and pressure to perform by the resuscitation team.

Hassankhani et al. (2017) detailed lived experiences by clinicians. Clinicians who participated in the study stated that having relatives present during cardiopulmonary resuscitation (CPR) affected the CPR procedure, further saying that family witnessed CPR is awkward and sometimes family members interfere with CPR especially when the patient's relative is knowledgeable about CPR or working in the medical field. In a study by Waldemar and Thylen (2019) a nurse reported that some relatives may disturb the medical team during CPR by

attempting to save the patient's life themselves which may hinder the medical team from providing effective CPR. A participant from a study by Hassankhani et al. (2017) had an experience with relatives who refused HCP's from initiating CPR, requesting HCP's to cease all interventions. Some participants reported that sometimes they lost focus on the task at hand when the patient's relatives were present and further stated that the resuscitation team became more nervous and anxious. Another participant said that family witnessed CPR is psychologically draining for novice clinicians as the pressure of being watched by the patient's relatives reduces confidence and increases anxiety resulting in medical errors and ineffective CPR (Hassankhani et al., 2017).

Waldemar and Thylen (2019) reported that due to staff shortages, HCP's are overworked as one doctor in the study reported to not having time to interact with the relatives as he had three cardiac arrests in one hour resulting in him focusing only to the patient. In the same study HCP's reported that the room was cramped, resulting in relatives being pushed to the corner in an immoral manner. One physician raised the fact that due to different cultural backgrounds; language can cause a big misunderstanding between the HCP's and the family members. This is especially true in South Africa due to its cultural diversity and many foreign internationals living in South Africa.

It is evident that even after 30 years since the first study on family witnessed resuscitation was conducted the concept is still facing resistance and criticism amongst the HCP's resulting in further delay in widespread implementation. Also, because of these concerns, HCP's may be unwilling to change their behaviour or the way they feel about family witnessed resuscitation and therefore their concerns must be taken into consideration when implementing policies that support family presence. It is also equally imperative that during CPR HCP's display a caring and conscious relationship with the relatives and avoid projecting their conclusions and cultural bias to the patient and the relatives (Jordahl, Hyde, & Kautz, 2015).

2.5.2 Attitudes and perceptions by patients

Research reporting attitudes and perceptions by patients is scanty and both negative and positive attitudes and perceptions will be incorporated together in the following paragraphs.

A study that was done by Eichhorn et al. (2001) which was centred on patients undergoing surgical operations discovered that patients feel comfortable when family members are beside them and acknowledges the clinicians as being humane in recognizing that the patient belongs to a family. The study also reports that patients feel that it is their right to have their relatives present. Patients also believed that the benefits of allowing family members to be present outweighed the potential problems that might arise. These results indicated that although family presence during CPR can be challenging, the benefits for patients and family members outweighed the likelihood of adverse effects. However, of the nine patients questioned in the study by Eichhorn et al. (2001), only one required CPR. Interestingly, this participant did not recall the presence of his wife during CPR, which suggests that family witnessed CPR did not benefit the patient as the patient was not aware of what was happening during CPR.

Mcmahon-Parkes, Moule, Benger, and Albarran (2009) explored the attitudes and perceptions of patients who have been resuscitated (n=12) and those coming in as emergency cases (n=40) who have never been resuscitated before, on whether a relative should be allowed to witness CPR of their dying relative (patient). Although several participants supported the family witnessed CPR, their intentions were different and often related to the needs of relatives instead of the needs of themselves (patients). Participants recognized that sometimes HCP's had to use discretional decisions to manage the CPR process, which could include protecting family members from visually disturbing scenes and handling issues of confidentiality. The study also found that patients upon regaining consciousness, are usually more comfortable, have a feeling of belonging when the family is at the bedside and they also reported that it is their right to have their families present during CPR which is congruent with the study done by Eichhorn et al. (2001).

This is evident that research focused more on prospective attitudes and perceptions of patients rather than on lived experiences due to low rate of survival of patients with cardiac arrest needing CPR (Eichhorn et al., 2001; Mcmahon-Parkes et al., 2009; Twibell et al., 2015). Data found on patient's attitudes is also similar with the data found on clinicians as patients also feared that CPR would be traumatic and visually disturbing for the family members to watch and creates a lasting disturbing memory that patients would not want to be remembered of. Some patients also raised concerns that their family members would interfere with resuscitation and get in the way of the HCP's during CPR. Those in favour of family witnessed CPR believed that their family members would be able to see that everything possible was

done, get information during the CPR procedure, experience closure and cope better should the outcome be undesirable (Twibell et al., 2015).

2.5.3 Attitudes and perceptions by family members

Family members are central to the family witnessed resuscitation phenomenon, the past few paragraphs have depicted the strong emotions and concerns that clinicians and patients have towards family witnessed cardiopulmonary resuscitation (CPR), however, studies done on family members seem to not share the same concerns (Niemczyk, Ozga, & Przybylski, 2020). In a randomized controlled trial by Jabre et al. (2013), study participants were randomly assigned to one of two groups; those normally interacting with the HCP's during CPR (control group) and those specifically invited to observe CPR of their relative (intervention group). In the study, 79% of 266 family members in the intervention group witnessed CPR of their relative while only 43% of 304 family members witnessed CPR in the control group. Due to the study involving out of hospital cardiac arrests, the nature of this environment was unpredictable resulting in some of the relatives (43%) in the control group witnessing CPR spontaneously. After three months the results showed that the prevalence of post-traumatic stress disorder related signs (i.e. anxiety, stress, depression, and complicated grief) was significantly more in the control group than in the intervention group. These signs were mostly noted among relatives who did not observe CPR than those who witnessed CPR regardless of whether they were invited to witness, or they witnessed CPR spontaneously. Family members who did not observe CPR showed signs of anxiety and depression more regularly than those who witnessed CPR. Family witnessed resuscitation did not have a negative impact on the CPR procedure, patient survival, or cause distress amongst HCP's and did not result in medico-legal claims as perceived by clinicians in several research studies. To ensure that these benefits were not transitory, relatives were surveyed again one year after the original study and the results were similar. Families who observed CPR being done on their relative had less frequent anxiety, stress, depressive disorder, and complicated grief (Jordahl et al., 2015). This is a remarkably interesting revelation as it reveals that family witnessed CPR carries more benefits than when relatives are not present during CPR.

Literature also reveals that family witnessed CPR is more supported by family members as they are the ones emotionally and physically connected to the patient and mostly want to show their love and support for their relative by being there for the patient. Relatives feel that it is their right to be present when their relative is being resuscitated (Toronto & LaRocco, 2019;

Zali et al., 2017). Two phenomenological studies revealed that patient's relatives reported that regardless of being horrified by the number of clinicians touching the patient at the same time and with machines beeping horrifyingly, they were grateful for seeing so many clinicians making an effort to help the patient (Leske, McAndrew, & Brasel, 2013; O'Connell et al., 2017). The studies also highlighted that relatives were able to provide useful information about the medical history of the patient. In both studies, the relatives did not interfere with the resuscitation further disproving the concerns of HCP's that patient's relatives would be disruptive during active CPR.

2.5.4 Organizations supporting family witnessed CPR

Different organizations have shown support for family witnessed resuscitation and some have published guidelines regarding different ways of implementing the concept into practice. Some of the prominent organizations are discussed below.

American Heart Association

The American Heart Association (AHA) supports family witnessed resuscitation and encourages hospitals to develop policies that allow families to be present during resuscitation. AHA reports that studies have shown no impact on survival or the processes of attempted resuscitations. In their 2015 guidelines, the American Heart Association reported that evidence shows that family witnessed resuscitation has positive outcomes for the family's psychological function and has no negative impact on the hospital functions (Kleinman et al., 2015). These findings validate that the American Heart Association supports the family witnessed resuscitation in hospitals.

Emergency Nurses Association

Emergency Nurses Association (ENA) responded to the rising demands by producing a position statement supporting the presence of patient's relatives during invasive procedures and resuscitation in 1995 and in 2009 they produced clinical practice guidelines which were updated in 2012 (Wolf et al., 2012). These guidelines were updated again in 2019 which shows progressive support of the family witnessed resuscitation initiative by the ENA. Family witnessed resuscitation has been noted by the Emergency Nurses Association (ENA) as a need for all the family members. On the 2019 update, the ENA emphasized that family

members should be approached differently when considering their preferences (Vanhoy et al., 2019). If family members want to be present, they should be allowed to witness invasive procedures and resuscitation. However, they should not be demanded to be present if they do not want to. The ENA recommends that there should be policies regarding the family witnessed resuscitation and these policies should be specific to each institution. The policy should also state the strategies to address family needs during resuscitation (Vanhoy et al., 2019).

The American Association of Critical Care Nurses (AACN)

The American Association of Critical Care Nurses (AACN) also supports the movement of family involvement during invasive procedures and cardiopulmonary resuscitation. In their practice alert article, the AACN suggested that the emergency unit should have an approved policy on family presence and that relatives of all patients being managed in the emergency unit should be given a chance to be present during all procedures done on the patient (Guzzetta, 2016). The AACN also included recommendations that will enhance the involvement of relatives when an acutely deteriorating patient is being treated inside the emergency room. AACN recommended the following actions for the nursing practice as adapted from Guzzetta (2016):

- The institution ensures written policies in supporting families witnessing resuscitation.
- Create proficiency standards for all HCP's involved in family witnessed resuscitation
- There should be regular follow-ups that look at the compliance of involving families during patient care

2.6 ACUTE DETERIORATION

In most cases, life-threatening events like cardiorespiratory arrest and unforeseen death come after observable changes in both the physiological and the clinical status of the patient (Australian Commission on Safety and Quality in Health Care, 2017b). This change from a stable physiological state to a progressively worse physiological or clinical state is called acute deterioration and it puts the patient at risk of morbidity, multiple organ dysfunction, an extended period of hospitalization, disability, or death (Jones et al., 2013). The pathophysiological clinical manifestations of deterioration are common for most patients in the ED regardless of their surgical or medical condition, and early recognition of a deteriorating state reduces the rate at which cardiac arrest or unforeseen death occur in the ED. Observable

and measurable clinical and physiological abnormalities occur before life-threatening events such as heart arrest, unintended admission to critical care unit and unforeseen death can ensue**,** In the deterioration process, these signs can occur both early and late depending on the condition of the patient. Therefore, regular monitoring of the patient is a crucial requirement for detecting acute deterioration (Australian Commission on Safety and Quality in Health Care, 2017a). Observable and measurable variables that indicate patient deterioration as adapted from Elliot et al. (2011) are illustrated below:

- Heart rate <50 or >120 beats/min
- Respiratory rate <10 or >29 breaths/min
- Systolic blood pressure <90 mmHg or >199 mmHg
- Glasgow Coma Scale Score <10
- Skin pale, cool, or moist
- Paralysis

The Australian Commission on Safety and Quality in Health Care (2017a) recommended the following activities to be done when monitoring the patient to ensure early detection of an acutely deteriorating state:

- Vital signs must be measured as a component of a systematic physical examination of all patients in the ED
- Vital signs must be monitored during patient admission or during initial patient examination and when the patient moves between different areas of the ED
- Every patient should have a clear care plan that outlines the frequency at which vital signs and other relevant physiological assessments should be monitored and recorded on a dedicated patient chart, taking into consideration the patient's condition and proposed treatment plan
- The rate at which vital signs are observed should be re-evaluated and altered as the patient's condition changes. The physician who records any changes to patient care plan must also notify the nurses or nurse in charge of taking care of the patient about the modifications.

Although the Australian Commission on Safety and Quality in Health Care (2017a) recommended the above activities, it also identified the following organizational factors that hinder the execution of the recommended activities to be carried out successfully on daily basis. These factors include:

- Failure to consistently monitor clinical and physiological observations or being unable to comprehend observed clinical physiological changes
- Poor knowledge of clinical and physiological manifestations that could indicate a change in condition
- Deficient awareness of the probability for a patient's mental state to deteriorate
- Deficient awareness of mental confusion and emotional disruption, and the benefits of early detection and management
- Absence of proper systems or guidelines of responding to deterioration
- Lack of skilled personnel to detect and manage patients who are acutely deteriorating
- Failure to report observed or anticipated concerns to a senior person or during clinical rounds or handover

The above factors are also a factor in South Africa as the emergency departments are constantly flooded by critically ill patients with a high risk of deterioration progressing to cardiac arrest unnoticed. Any patient in the ED, whether in a normal physiological state or severely ill has a potential risk of deteriorating (Schmidt, Lassen, & Wiil, 2016). However, the risk is high in South African emergency departments due to the above organizational factors.

To mitigate some of the organizational factors like overcrowding, many of the tertiary hospitals in South Africa have long divided the ED into multiple specialized units focusing on specific patient population, e.g. trauma unit, paediatric emergency unit and medical emergency unit. This has to some extent helped to reduce overcrowding of one combined unit resulting in reduced waiting time, length of stay, and mortality rates (Henriksen, Brabrand, & Lassen, 2014). Although this does not reduce the rate of deterioration, however, it allows for improved monitoring of patients as recommended by the Australian Commission on Safety and Quality in Health Care (2017a).

In a study by Henriksen et al. (2014), it has been shown that acute deterioration is an independent factor of mortality and early identification results in better patient outcomes. Changes in vital signs have been proven to be related to adverse reactions and therefore observing and registering patient's vital data is of utmost importance during patient care (Schmidt et al., 2016). According to Schmidt et al. (2016), several patient monitoring and Early Warning Score systems have increased exponentially in the last 10 years and a review done by Smith, Prytherch, Schmidt, and Featherstone (2008) in Denmark discovered that there are

more than 72 different types of early warning score systems that are used. In 2006 South Africa developed its first nationally implemented early warning score system called the South African Triage Score (SATS) which has been widely utilized to sort patients according to their physiological state resulting in early identification and prompt management of critically ill patients (Rosedale, Smith, Davies, & Wood, 2011). However, this system is not adapted to be used in detecting acute deterioration for patients who have already been triaged and admitted for observations. This group of patients in most instances is connected to a bedside monitoring system that is automated to continuously capture vital signs through dedicated sensors and displays them on a screen for each patient (Schmidt et al., 2016). These monitors have alarms that can be triggered when the condition changes leading to prompt detection and timely management before the condition deteriorates further (Schmidt et al., 2016). Subbe and Welch (2013) details five steps of survival for early recognition and effective management of deteriorating patients which are illustrated below:

- Effective transcription of vital signs,
- Recognition of familiar pattern of deterioration,
- Reporting of abnormal findings,
- An accurate and immediate response, and
- Repeating the cycle.

When properly followed these five steps can detect early deterioration in a patient's condition.

In the likelihood of severe acute deterioration, it is crucial to guarantee that rapid emergency aid or guidance can be attained before the patient progresses to cardiac arrest. This kind of emergency aid is regarded as a rapid response system and it gives additional support to the care rendered by the ED team during times of acute deterioration (Australian Commission on Safety and Quality in Health Care, 2017a). In South Africa, some of the emergency departments in the tertiary institutions, the academic sub-specialist Trauma Centres and some hospitals in the private sector have large emergency rapid response teams led by a consultant trauma surgeon, with registrars from several disciplines and highly skilled nurses (Hardcastle & Brysiewicz, 2013). However, this is still a growing area of practice which means not all facilities in the public sector have rapid response teams and management of an acutely deteriorating patient is carried out by the HCP's working in the emergency unit of which most of the times lack the required expertise to manage critically ill patients.

According to a literature review done by Tirkkonen, Tamminen, and Skrifvars (2017), rapid response teams complement the rapid response systems in providing effective clinical assessment and efficient interventions for deteriorating patients and transferring them to definitive care. The study also reports that rapid response teams have been proven to be effective in reducing the number of cardiac arrests. A study by Offner, Heit, and Roberts (2007) showed more than 55% decrease in the number of cardiac arrests after a successful implementation of a rapid response team system that was well received by the medical staff in an urban Level I trauma centre. This proves that the number of cardiac arrests can be reduced when observable physiological changes are detected early and managed promptly. In the three selected hospitals family members are asked to wait in the waiting room during this prompt management of an acutely deteriorating patient. In South Africa, there is no data found that supports the exclusion of family members during the management of an acutely deteriorating patient in the ED.

2.7 FAMILY PRESENCE DURING ACUTE DETERIORATION

After doing a literature review, Youngson et al. (2015) discovered that despite the overabundance of research on family witnessed CPR there were no written papers on the presence of relatives while an acutely deteriorating patient is being managed and no validated tools that can aid in determining the attitudes of clinicians towards family presence during episodes of acute patient deterioration. Youngson et al. (2015) then conducted a pilot study and developed a valid and reliable tool that can help to determine attitudes of clinicians about the presence of relatives during acute patient deterioration in the ED. The tool contained 13 questions divided into 4 sections consisting of a 5-point Likert Scale rating method (**Chapter 3 and Annexure H**). The tool was used to collect data for this study. This marked the first effort to give family presence a fresh perspective and a new direction.

The first study on family presence during the management of an acutely deteriorating patient was conducted in Australia by Youngson et al. (2016), investigating clinician's attitudes, beliefs and perceptions of current practices. After 156 clinicians had completed the questionnaire that was developed by Youngson et al. (2015), the results were positive; showing support for family presence during the management of an acutely deteriorating patient. 59% of clinicians opposed the notion that relatives may interrupt or interfere (61.5%) with patient care during the management of an acutely deteriorating patient. 77.6% of clinicians reported that they did

not exclude or chase away relatives during episodes of deterioration. Although the results were mostly positive, some clinicians raised the same concerns about the wellbeing of the family which are congruent with the findings on family witnessed CPR.

A nonparticipatory observational study looking at “current practices related to family presence during acute deterioration in adult ED patients” was done in Australia by Youngson et al. (2017). Five acutely deteriorating patients were observed within a 50 bed, urban, Australian ED. The study discovered that experienced clinicians could offer a good quality family presence experience than clinicians who lacked experience or who are still new to the field. The study also identified that on some occasions whereby family members were removed during an episode of deterioration, family members were stressed and anxious due to not knowing what was happening (Youngson et al., 2017). Family presence during the management of an acutely deteriorating patient is still a new concept and is still yet to gain momentum. This will be the first study being done about this concept in South Africa.

2.8 SUMMARY

It has been more than 30 years of research on the concept family witnessed CPR and yet there are still major concerns about the wellbeing of the family members. These concerns are mostly displayed by the HCP’s as they fear that the concept of family witnessed CPR can have a negative impact on the wellbeing of the family and the management of the patient. Those confident and competent enough have no problem allowing family members to be present during CPR and have reported having positive experiences with family members being present. During CPR, the patient is unconscious, therefore cannot benefit directly from family witnessed CPR. However, patient’s relatives can benefit from family witnessed CPR as it will give them the satisfaction of seeing that every effort has been made to help the patient. It will also give them closure and the opportunity of saying their final goodbye should the resuscitation efforts be unsuccessful. There is no policy that prevents patient’s relatives from being present during the management of a physiologically deteriorating patient or during CPR yet during these interventions they are in most cases denied access to the patient. Although research on family presence during the management of an acutely deteriorating patient is in its infancy, it still seems to face the same concerns of the minority of HCP’s as seen with family witnessed CPR.

The following chapter will look at the research design and methodology used in the study.

CHAPTER THREE

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

This chapter provides detailed information on how the researcher conducted the study. It focuses on the research design, study setting, research methods, pilot study, and ethical considerations of the study.

3.2 RESEARCH DESIGN

A research design is a general pattern that outlines the facets of sample collection and analysis based on specific research questions (Fain, 2017). It is a type of query that supplies a specific way for procedures to be followed in order to answer a research question (Creswell & Creswell, 2017). It can also be defined as a construct of an investigation that delineates the events and the nature of both the conditions participants are exposed to and the observations taken on those participants (Edmonds & Kennedy, 2016). This means that during the planning phase, the researcher must specify the procedures or strategies, such as site selection, selection of essential instruments, timing and types of observations, sampling techniques, and data analysis (Fain, 2017).

The study utilizes a descriptive quantitative research design.

3.2.1 Quantitative

A quantitative report is a formal, objective, thorough, and efficient procedure for generating numerical information about the world (Grove et al., 2014). It focuses on methods that emphasize the explanation of variables, verification of data, measuring variables, use of instruments for data collection, statistical significance, and internal validity (Fain, 2017). Grove et al. (2014) explained that quantitative research helps to depict new circumstances, occasions, or ideas. This study describes and measures the attitudes of nurses towards family

presence during the management of an acutely deteriorating patient in the emergency department (ED) by gathering numeric data with a validated data collection tool developed by Youngson et al. (2015).

3.2.2 Descriptive

A descriptive design delineates precisely the features of an individual, a situation, or a group and then may ascertain the frequency with which the event occurs or the frequency with which one event is related with another (Brink, Van Der Walt, & Van Rensburg, 2018). It gathers data about conditions, attitudes, or characteristics of individuals with the purpose of describing the meaning of existing phenomena (Fain, 2017).

In this study, a researcher administered data collection tool was utilized to gather data about the nurse's attitudes towards the management of an acutely deteriorating patient in the ED. A correlation between nurses' attitudes and the demographic characteristics was also ascertained.

3.3 STUDY SETTING

A study setting is considered to be a physical, social, and cultural site where research is conducted (Grove et al., 2014). The study was conducted in the emergency departments of three government-funded hospitals in the Eastern Cape. All three hospitals are tertiary teaching hospitals with 570, 910 and 512 beds respectively and are part of the largest hospitals in the province. These institutions are referral hospitals with a high influx of trauma patients utilizing the emergency departments.

These hospitals are situated in the poorest province (Eastern Cape) of South Africa (Lehohla, 2017). The healthcare system of this province (Eastern Cape) has been regarded by the Treatment Action Campaign (2018) as "teetering on the edge of complete collapse". This means that the emergency departments of these hospitals are mostly flooded by poor and unemployed patients who do not have health insurance which results in high incidents of readmissions due to poor access to quality public healthcare accompanied by a "dire state of

emergency medical services and planned patient transport" (Treatment Action Campaign, 2018). These hospitals also suffer from resource shortages, poor nurse-patient ratios due to staff shortages, lack of highly trained nurses, poor working conditions, poor institutional infrastructure and lack of equipment (Treatment Action Campaign, 2018).

3.4 RESEARCH METHODS

3.4.1 Population

Population is the complete set of subjects, objects, events, or elements to be studied. It is a clearly defined group with members that have specific characteristics to be studied. It consists of individuals of interest that meet the criteria which the researcher intends to study (Fain, 2017). The population of the study consisted of all professional nurses (N=56) working in the emergency departments of the three selected hospitals in the Eastern Cape Province.

3.4.2 Sample and Sampling

Sometimes it is not possible to study every individual in a certain population, so a small fraction or subset of the population which is called a sample may be chosen by the researcher to take part in a research study through a process called sampling (Fain, 2017). Sampling is referred to as a process of choosing certain individuals from a population of interest for a study in such a manner that those individuals are representative of the population being studied (Fain, 2017; Grove et al., 2014).

Due to the population of the study being small, total population sampling was used. Total population sampling is whereby the entire population that meets a specified criterion (e.g. specific skill set, experience, knowledge, exposure to an event, etc.) is studied (Etikan, Musa, & Alkassim, 2016). This is considered a census method which is defined as a well-coordinated process of collecting, transcribing, and analysing data about each member of the population. It is a prescribed and full enumeration of the population, in which each person of the study population is considered during data collection. It is also regarded as the quantitative research method, wherein every individual of the population is counted (Australian Bureau of Statistics, 2013).

The criteria for this study included permanently employed Professional nurses with more than one year of experience in the ED who are registered with the South African Nursing Council and who gave consent to partake in the study. Professional nurses with less than one year of experience, Professional nurse on special leave (e.g. maternity leave) during the data collection period and non-permanent Professional nurses (e.g. agency nurses) were excluded from the study.

3.4.3 Data Collection

According to Grove at al. (2014), data collection is the process of obtaining the required information from the study sample or participants. It is the precise, orderly collection of data pertinent to the research purpose or the specific objectives, questions, or hypothesis of a study. In this process, the researcher recruits the participants of the study, implement the study intervention (if applicable), consistently gathers information, and safeguards the integrity (or validity) of the study.

3.4.3.1 *Instrument*

This study utilized a validated tool (questionnaire) called the Emergency Department Family Presence (EDFP) survey (**Annexure H**) to describe the attitudes of nurses towards family presence during the management of an acutely deteriorating patient in the ED. The questionnaire was created by Youngson et al. (2015) in the study "Development, reliability and validity of a tool, to measure ED clinicians' attitudes towards family presence during acute deterioration in adult patients". A questionnaire is a self-administered form designed to collect data through written, verbal, or electronic responses from the study sample (Grove et al., 2014). Consent to utilize the tool was obtained from the creators of the tool (**Annexure F**).

The original survey questionnaire consists of 13 questions which are divided into four sections. The first section assesses the effects on patient care. The second section looks at the effects on the patient. The third section focuses on the effects on the family. Section four investigates effects on the individual health care provider. The questions utilize a 5-point Likert scale scaling method. A Likert scale is defined as "a composite measure of an attribute involving the summation of scores on a set of items that the respondents typically rate for their degree of

agreement or disagreement" (Warmbrod, 2014). The original questionnaire did not contain a demographic data section, therefore the researcher had to add this section which included gender, age group, place of appointment, level of education, years of experience with the current qualification and years of experience as a professional nurse.

3.4.3.2 *Validity and Reliability of the instrument*

Instrument or tool validity seeks to determine whether a tool precisely evaluates what it is purported to evaluate, given the context in which it is applied (Brink et al., 2018). During the development of the tool, the developers assessed the tool for face and content validity through a pilot study that was intended to ensure the validity of the tool. Content validity is a valuation of how good the tool signifies all the factors of the variable to be measured (Brink et al., 2018). Face validity is whether the tool seems to measure what is required to measure (Brink et al., 2018).

Reliability can be described as the degree to which a tool can be relied on to produce similar outcomes if utilized repetitively overtime on the same subject, or if utilized by different researchers (Brink et al., 2018). Reliability was achieved by utilizing tests of unidimensionality, exploratory factor analysis and internal consistency. The tool was published in Emergency Nursing Journal and was used in a study by Youngson et al. (2016) published by the same journal, proving it to be reliable and valid. In the study by Youngson et al. (2016) each of the four factors on the tool was tested using a Cronbach's coefficient alpha test. The Cronbach's coefficient alpha of each factor was greater than 0.7 signifying good internal consistency and thus a reliable measurement tool. A pilot study with the tool was conducted on 5 nurses to ensure the adaptability of the data collection tool into the South African context.

3.4.3.3 *Procedure*

Ethical approval to conduct the research was attained from the Eastern Cape Department of Health Research Committee. Approval to conduct the study within the three selected hospitals was granted by the Eastern Cape Department of Health (**Annexure B**) and thereafter the Chief Executive Officers of the selected hospitals also granted the researcher permission for the study to be conducted in their facilities(**Annexure C, D & E**). Once written permission was

obtained, verbal permission was granted by the nursing service managers and the unit managers from each hospital.

The researcher visited the ED of each hospital during the day and nightshift to recruit participants. All the participants who agreed to partake in the study were given information leaflets outlining the details of the study. An overview of the study and the questionnaire was discussed with each participant. To ensure confidentiality and anonymity, the questionnaire did not require identification from the participants, and completed questionnaires were deposited in a sealed box that was placed in a safe area in each ED. The researcher, supervisor, statistician who analysed the data and the Research Ethics Committee had access to the completed questionnaires. Demographic data was obtained from the participants through the questionnaire and no names were required from the participants.

3.4.4 Data analysis

Data received was inspected for completeness and consistency. Complete and consistent data was assembled on a spreadsheet using Microsoft excel 2019 and subsequently imported into a data analysis and statistical software (STATA version 14). To prepare the data for analysis, the data was checked for errors in recording, missing values, and duplicates. Frequencies and proportions were utilized to present the general summary and description of the demographical data (age, gender, category, level of education, years of experience in the current field, and years of experience as a nurse).

A Shapiro Wilk test of normality was used to determine the distribution of the items on the EDFP survey. A Shapiro Wilk test is used to examine if the studied sample is derived from a normally distributed population (Lewis, 2013). To describe the nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the ED, medians and interquartile ranges were reported in cases where data were skewed (a Shapiro Wilk test with p-value<0.05); means and standard deviations (SD) were reported in cases where the data were normal (i.e. a Shapiro Wilk test with p-value >0.05) (Royston, 1992).

To report response frequencies on nurses’ attitudes towards family presence during the management of an acutely deteriorating patient in the ED, three categories were created that

denote: agreement (by combining strongly agree and agree), neutral (using 'not sure') and disagreement (by combining strongly disagree and disagree). This was done to facilitate the presentation of the data due to a small sample size.

The internal consistency reliability of the items that make up the four factors in the EDFP survey was calculated using a Cronbach alpha test. Cronbach alpha test is a measure of internal consistency which demonstrates the degree to which answers to items within a survey, or a portion of a survey, correlate to one another. This was done to ensure that the data collection tool was adaptable in the South African context. The test ranges from 0, which suggests no internal consistency, to 1.00, which indicates high internal consistency (Cunningham, Weathington, & Pittenger, 2013). An alpha coefficient of 0.70 is regarded as acceptable (Fain, 2017). The four factors of the EDFP survey are as follows: (i) Effect on patient care (item 1-6), (ii) Effect on the patient (item 7-9), (iii) Effect on the family (item 10-11) and (iv) Effect on the individual healthcare provider (item 12-13). The Cronbach's coefficient alpha of each factor was above the accepted threshold of ≥0.70 (0.85) indicating good internal consistency and thus a reliable measurement tool (Table 4.3).

To determine the relationship between nurses demographic characteristics and their attitudes towards family presence during the management of an acutely deteriorating patient in the ED, univariable and multivariable logistic regression models were fitted for the following outcomes (factors of the EDFP survey): (i) Effect on patient care, (ii) Effect on the patient, (iii) Effect on the family and (iv) Effect on the individual healthcare provider. Logistic regression is considered as a process of examining the association between a single (univariable) or multiple (multivariable) independent variable of a dichotomous dependent or outcome variable. Univariable logistic regression uses a single independent variable and was used in this study to see if each demographic characteristic was independently associated with one of the items in the survey. Multivariable logistic regression focuses on multiple predictors (independent variables) to predict an outcome variable (Gray, Grove, & Sutherland, 2017) and was used in this study to predict if there was a statistical relationship between the demographic characteristics and the survey items. One or more factors can influence nurses' attitudes. Hence the use of both univariable and multivariable regression models. However, in practice nurses' attitudes are mostly influenced by numerous factors. Therefore, the multivariate model is considered as a reflection of reality as it utilizes multiple factors.

In logistic regression the dependent variable is binary and therefore factor analysis was used to reduce each of the outcomes into a binary measure of the listed items in each factor. Factor analysis is a variable reduction technique that reduces variables into factor constructs, e.g. in this case reducing items 1-6 (**Annexure H**) into the *effect on patient care* factor. To create a binary outcome measure, the 'not sure' responses were dropped from this analysis leaving a binary measure of: 'agree' (a combination of responses 'strongly agree' and 'agree') and 'disagree' (a combination of responses 'strongly disagree' and 'disagree').

All analysis was conducted at the 5% significance level using Stata version 14.0 as the analysis software.

3.5 PILOT STUDY

To test the practicality of the study, a pilot study was conducted. This refers to a small study carried before the primary study on a small number of participants from the study population (Brink et al., 2018). A pilot study was conducted on five (n=5) Professional nurses who met the inclusion criteria from one of the selected hospitals to improve validity and ensure that the questionnaire is adaptable in the South African context. Also, to examine the feasibility of the intended study and to discover probable errors in the data collection tool (questionnaire), such as vague instructions or wording and insufficient time frames (Brink et al., 2018).

After the pilot study was done, the tool was not altered as the participants in the pilot study did not experience problems in comprehending the data collection tool. Due to a small sample size, the results from the pilot study were incorporated in the primary study.

3.6 ETHICAL CONSIDERATIONS

According to Brink at al. (2018), the researcher is accountable for conducting research in an ethical manner and failure to do so counteracts the scientific process and may have undesirable consequences. Ethical considerations in health science research are very crucial. Ethics is a process of investigating moral standards and analysing how we ought to understand and implement them in different circumstances (Cunningham et al., 2013).

According to Cunningham et al. (2013), health science research impacts the investigator, study participants, research sponsors, and the people who will eventually be consuming the research. Since the study involves human participants, The Nuremberg Code of Principles Governing research Using Humans had to be adhered to. The researcher also adhered to the Declaration of Helsinki as per the university's requirements.

3.6.1 Permission to conduct the study

The study attained ethical approval from The Medical Human Research Ethics Committee of the University of Witwatersrand by means of submitting a research proposal containing an ethical approval application. Permission to conduct the study was also obtained from the appropriate stakeholders of the selected hospitals in Eastern Cape. Ethical principles such as confidentiality and anonymity were adhered to.

3.6.2 Voluntary Informed Consent

Informed consent is the voluntary participants' agreement to partake in the research study of which they fully understand the information and implications of participating in the study (Grove et al., 2014). No signatures were required from the participants as the study was voluntary, and participation meant that participants gave permission to partake in the study. Participants were informed through an information leaflet that there are no risks involved in participating in the study. They will not benefit directly from the study. They will be given relevant information about the study while involved in the project and after the results are available. Participants were also informed that their participation is voluntary, and no compensation will be given for their participation. They were also informed that refusal to participate will involve no penalty or loss of benefits that they are entitled to. Lastly, the information leaflet informed them that they may discontinue their participation at any time and no penalties or loss of benefits that they are entitled to.

3.6.3 Anonymity and Confidentiality

Confidentiality entails that the personal identity of the study participant is kept private (Cunningham et al., 2013). According to Cunningham et al. (2013) researchers ought to be concerned about the confidentiality of all the individuals who participated in the research study, this includes the study participants, the organization commissioning the research study and any third parties who may be involved in the research study. The questionnaires issued to the participants did not require identifying information, this means that once the questionnaires were returned, the researcher was unable to identify the participant who filed the questionnaire. However, questionnaires were allocated numbers after the data collection period had elapsed so that they may be incorporated into the statistical software easily. The researcher also could not unveil if how participants performed on the research study as data was only reported as averages.

Anonymity refers to keeping participants anonymous and restricting access to data that is collected about each participant (Fain, 2017). Again, due to the questionnaires not requiring participants to identify themselves, the researcher was unable to link the names of the participants with the collected data. Completed questionnaires were deposited in a sealed box that was placed in a safe area in each ED. The information that was incorporated to the excel spreadsheet and on a statistical software was kept safe on my computer which is password protected. Raw data was kept on my a safety box and will be kept safe until it is destroyed after five years as per university's' requirements. The researcher, supervisor, statistician who analysed the data and the Research Ethics Committee had access to the collected data.

3.7 SUMMARY

This chapter provided definitions, step by step explanations, rationales of the research design and methodology. It focused on how the researcher conducted the study based on the research design, study setting, research methods, pilot study, and ethical considerations of the study.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

This chapter focuses on data analysis and the description of findings by utilizing a descriptive quantitative research design. The population comprised of all professional nurses working in the emergency departments of the three selected hospitals in the Eastern Cape Province. Total population sampling method was utilized to sample 56 (n=56) professional nurses from the study setting. Data was collected with a validated data collecting tool called the Emergency Department Family Presence (EDFP) survey. The tool was also checked for internal reliability by reporting Cronbach's alpha. Descriptive and inferential statistics were utilized to analyse the collected data. Correlation between survey responses and characteristics of participants were determined using univariable and multivariable logistic regression models. A statistician from the Medical Research Council helped to analyse the data. The level of statistical testing was set at the significance level of $p < 0.05$.

4.2 RESULTS AND FINDINGS

4.2.1 Demographic characteristics

This section presents the demographic information about the study participants based on six (6) categories. Categories comprise of gender, age group, place of appointment, level of education, years of experience as a professional nurse and years of experience with the current qualification. This following demographic information was collected with permission from the study participants using a self-administered questionnaire.

Table 4.1 shows the demographic characteristics of the study sample (N=56). The response rate of the study was 100% as all nurses who were given the survey completed it. Majority of the sample were female (83.93%; n=47)) and in the age group 41-60 years (64.29%, n=36). All study participants were from the Accident and emergency unit, more than half the sample

had no postgraduate qualification (57.14%, n=32) and more than half of the study sample had 0-10 years of experience as a professional nurse (53.57%, n=30).

Table 4.1: Demographic characteristics of the study sample (N=56)

Demographic data	Frequency	Percentage
Gender		
Male	9	16.07
Female	47	83.93
Age group		
21 – 40 years	20	35.71
41 – 60 years	36	64.29
Place of appointment		
Accident and emergency unit	56	100
Level of education		
Registered nurse with no postgraduate qualification	32	57.14
Registered nurse with Trauma and Emergency qualification	20	35.71
Registered nurse with Critical Care qualification	1	1.79
Other	3	5.36
Years of experience as a Registered Nurse		
0 – 10	30	53.57
11 – ≥21	26	46.43
Years of experience with the current qualification		
0 – 5	24	42.86
6 – 10	19	33.93
11 – 15	5	8.93
16 – 20	6	10.71
≥21	2	3.57

4.2.2 Attitudes towards family presence during acute deterioration

Table 4.2 shows the distribution of nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department. For all four factors, the majority of the nurses were in agreement with items in the EDFP survey. Nurses agreed that family presence during the management of an acutely deteriorating patient had negative effects on patient care (see Table 4.2 below, item 1-6), negative effects on the patient (see Table 4.2 below, item 7-9), negative effects on family (see Table 4.2 below, item 10-11) and negative effects on the individual healthcare provider (see Table 4.2 below, item 12-13).

Table 4.2: Distribution of nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department.

	Disagree		Not sure		Agree	
	n	%	n	%	n	%
EFFECTS ON PATIENT CARE						
1. The presence of family members during a deterioration episode interrupts patient care.	9	16.07	4	7.14	43	76.79
2. The presence of family members during a deterioration episode interferes with patient care.	4	7.14	5	8.93	47	83.93
3. The presence of family members during a patient's episode of deterioration would inhibit the team from communicating freely.	4	7.14	7	12.50	45	80.36
4. The presence of family members during a patient's episode of deterioration makes it more difficult for the team to do their job.	5	8.93	2	3.57	49	87.50
5. Family may misinterpret the activities of the healthcare professionals if present during patient's episode of deterioration.	3	5.36	1	1.79	52	92.85
6. Family presence during a patient's episode of deterioration may result in complaints about quality of care.	5	8.93	0	0.00	51	91.07
EFFECTS ON THE PATIENT						
7. Patients may not feel able to voice their true feelings (re: care plans) with their family present.	6	10.71	6	10.71	44	78.57
8. Having their family present during an episode of deterioration will cause increased levels of anxiety for the patient.	13	23.21	9	16.07	34	60.72
9. Having their family present during an episode of deterioration will cause increased levels of stress for the patient.	16	28.57	10	17.86	30	53.57
EFFECTS ON THE FAMILY						
10. Witnessing deterioration is emotionally traumatic for the patient's family.	3	5.36	1	1.79	52	92.85
11. Witnessing deterioration of the patient is stressful for the patient's family.	3	5.36	1	1.79	52	92.85
EFFECTS ON THE INDIVIDUAL HEALTHCARE PROVIDER						
12. I would feel an increased level of anxiety having the family members present during an episode of deterioration.	17	30.36	3	5.36	36	64.29
13. I would feel an increased level of stress having family members present during an episode of deterioration.	17	30.36	4	7.14	35	62.50

4.2.3 Reliability testing of the items in the EDFP survey

The scale reliability coefficients for all the factors: effects on patient care, effects on the patient, effects on the family and effects on individual healthcare provider were above the accepted threshold of ≥0.70 (0.85) showing good internal consistency and thus a consistent measuring tool (Bland & Altman, 1997). This finding is similar to the findings in the study by Youngson et al. (2016). The Cronbach alpha test to evaluate the internal consistency of the factor items for the EDFP survey revealed the following scale reliability coefficients for each factor:

Table 4.3: Cronbach Alpha test

Factor	**Scale reliability coefficient**
Effects on patient care	0.85
Effects on the patient	0.71
Effects on the family	0.95
Effects on individual healthcare provider	0.91

4.2.4 The association between demographic characteristics and nurses' attitudes

Table 4.4-4.7 below shows the association between the demographic characteristics of nurses and their attitude towards family presence during the management of an acutely deteriorating patient in the ED for each factor outcome.

Table 4.4 shows that years of experience as a professional nurse was independently associated with ($p<0.05$) nurses' attitudes towards family presence during the management of an acutely deteriorating patient regarding effects on patient care. Nurses with more years of experience (11-21 years) were more likely to disagree to statements on family presence having negative effects on patient care than nurses with fewer years of experience (0-10 years) (OR:6.92; 95%CI: 1.29-37.28).

Table 4.5-4.7 show that there was no significant association ($p>0.05$) between the nurses' demographic characteristics and nurses' attitudes towards family presence during the management of an acutely deteriorating patient regarding effects on the patient, effects on the family and effects on the individual healthcare provider.

Table 4.4: Univariable and multivariable logistic regression analysis results showing the association between demographic characteristics of nurses and their attitude regarding the effects of family presence on patient care

Outcome 1: Effects on patient care				
	Univariable analysis		**Multivariable analysis**	
Characteristics	**OR (95% confidence interval)**	**p-value**	**OR (95% confidence interval)**	**p-value**
Gender				
Male	1.61 (0.25-10.29)	0.614	2.85 (0.32-25.12)	0.346
Female	1	1	1	1
Age				
21-40 years	0.34 (0.06-1.84)	0.212	0.97 (0.12-8.18)	0.981
41-60 years	1	1	1	1
Years of experience as registered nurse				
0-10 years	1	1	1	1
11-21 years	6.92 (1.28-37.28)	**0.024***	8.07 (0.99-65.29)	0.050

Key: *=statistical significance

Table 4.5: Univariable and multivariable logistic regression analysis results showing the association between demographic characteristics of nurses and their attitude regarding the effects of family presence on the patient

Outcome 1: Effects on the patient				
	Univariable analysis		**Multivariable analysis**	
Characteristics	**OR (95% confidence interval)**	**p-value**	**OR (95% confidence interval)**	**p-value**
Gender				
Male	0.56 (0.10-3.28)	0.521	0.67 (0.11-4.29)	0.676
Female	1	1	1	1
Age				
21-40 years	0.36 (0.09-1.40)	0.140	0.54 (0.10-2.74)	0.461
41-60 years	1	1	1	1
Years of experience as registered nurse				
0-10 years	1	1	1	1
11-21 years	2.93 (0.82-10.45)	0.097	0.59 (0.15-2.39)	0.459

Table 4.6: Univariable and multivariable logistic regression analysis results showing the association between demographic characteristics of nurses and their attitude regarding the effects of family presence on the family

Outcome 1: Effects on the family				
	Univariable analysis		**Multivariable analysis**	
Characteristics	**OR (95% confidence interval)**	**p-value**	**OR (95% confidence interval)**	**p-value**
Gender				
Male	2.75 (0.22-34.03)	0.431	2.67 (0.18-40.09)	0.478
Female	1	1	1	1
Age				
21-40 years *	-	-	-	-
41-60 years	1	1	1	1
Years of experience as registered nurse				
0-10 years	1	1	1	1
11-21 years	0.58 (0.05-6.84)	0.668	0.31 (0.02-3.99)	0.366

*Not enough responses per category for logistic regression to be computed

Table 4.7: Univariable and multivariable logistic regression analysis results showing the association between demographic characteristics of nurses and their attitude regarding the effects of family presence on the individual healthcare provider

Outcome 1: Effects on the individual healthcare provider				
	Univariable analysis		**Multivariable analysis**	
Characteristics	**OR (95% confidence interval)**	**p-value**	**OR (95% confidence interval)**	**p-value**
Gender				
Male	1.12 (0.23-5.34)	0.887	1.25 (00.24-6.35)	0.792
Female	1	1	1	1
Age				
21-40 years	0.44 (0.12-1.63)	0.220	0.50 (0.11-2.21)	0.360
41-60 years	1	1	1	1
Years of experience as registered nurse				
0-10 years	1	1	1	1
11-21 years	1.7 (0.53-5.40)	0.371	1.29 (0.33-4.98)	0.716

4.3 DISCUSSION OF FINDINGS

The family presence during the management of an acutely deteriorating patient concept might appear straightforward at face value due to the implementation of family-centred approach strategy. However, the implementation of the family presence phenomenon is far more convoluted and difficult due to several impeders discovered from previous research studies that were highlighted in the literature review (Chapter 2) of this study. This is further supported by the findings from this study which showed that nurses had mostly negative attitudes towards family presence during the management of an acutely deteriorating patient in the ED. The study findings confirmed that some of these obstacles are also prominent in the failure of the family presence concept in South Africa. This section provides a discussion of the main findings from the research and where applicable, links relevant literature to the research outcomes.

The study was intended to determine nurses' attitudes towards the presence of family members during the management of an acutely deteriorating patient in the ED.

4.3.1 Demographic characteristics

All nurses that were given the questionnaire agreed to participate in the study. The demographic characteristics of the study sample (N=56) revealed that a substantial portion (83.93%; n=47) of the participants were female. This supports the notion that the nursing profession is predominately female as approximately 90% of Professional nurses in South Africa are female (South African Nursing Council, 2019). Literature revealed that the disproportion between the two genders may have an influence on the attitudes of nurses towards family presence during the management of an acutely deteriorating patient. This was seen in the study by Youngson et al. (2016) as the sample of the study was predominately female (82%). The study noticed gender influence from the nurses as female nurses were more likely than male nurses to invite relatives during the management of an acutely deteriorating patient due to nurses being predisposed to research about family witnessed resuscitation and the predominance of females to males in the nursing profession (Youngson et al., 2016). However, in this study, there was no statistical significance between attitudes of male and female nurses regarding family presence during the management of an acutely

deteriorating patient. One probable explanation for this is that both genders in this study have no previous exposure to research or practice of including relatives during resuscitation or acute deterioration hence the negative attitudes towards family presence.

All the participants (100%; n=56) were appointed in the ED during the data collection period. However, only 35.71% (n=20) of the Professional nurses had a trauma and emergency postgraduate qualification with more than half (57.14%; n=32) of the participants having no postgraduate qualification. Having a post-basic nursing qualification and experience enhances nurses' self-esteem, leadership skills, analytical decisiveness and the ability to integrate scientific knowledge in the workplace of which lack thereof has been found to have a negative influence on the nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the ED (Youngson et al., 2016). This was evident in this study as nurses with more years (11 – ≥21 years) of experience were more likely to agree to statements regarding patient care than nurses with fewer years (0 – 10 years) of experience. However, no positive significance was found on nurses with a post-basic education. In the nursing profession having post-basic education without experience is futile because the acquired knowledge and skills need to be mastered through experience and experience is accumulative and contributes to a set of traits that are usually identifiable on experienced nurses and which adds positively to their practice (Arbon, 2004). Hence the difference in attitudes between nurses with more years of experience and nurses with fewer years of experience.

4.3.2 Association between demographic characteristics of nurses and their attitudes

The overall attitude regarding family presence during the management of an acutely deteriorating patient in this study was mostly negative across all four items of the survey. Years of experience was the only predictor that was independently correlated with nurses' attitudes regarding patient care. The results indicate that most nurses in this study were also not willing to consider this practice which may indicate that they are comfortable with the practice of excluding the relatives from witnessing the management of an acutely deteriorating patient in the ED. A possible reason for this is that the family presence phenomenon is still new and nurses in this study do not have prior exposure or experience to this practice. Therefore, they do not hold strong views about it yet and are sceptical about its importance to the nursing profession. Despite not finding a positive relationship between the different categories when using multivariable logistic regression, a conclusion can be made from the research results

presented in this study which addresses the objective of this report. Although the sample size from which the information was collected is small, the researcher believes that the results still provide important findings and insights that could aid in expanding research in this area.

A positive correlation between years of experience and effects on patient care was found using univariate logistic regression. Univariate logistic regression which looked at only one variable found that years of experience as a professional nurse was independently correlated ($p<0.05$) with nurses' attitudes towards family presence during the management of an acutely deteriorating patient regarding effects on patient care. It was found that nurses with 11-21 years of experience were positive that family presence does not have a negative effect on patient care while nurses with 0-10 years of experience believed that family presence would affect patient care (OR:6.92; 95%CI: 1.29-37.28). This is a similar finding with the study by Youngson et al. (2016) as they found that nurses with fewer years of experience had more negative attitudes towards family presence during patient deterioration than nurses with more years of experience which is also a common finding among family witnessed resuscitation studies (Gordon et al., 2011). This shows that nurses with fewer years of experience are not comfortable in managing patients in the ED while relatives are present. This is true considering that managing an acutely deteriorating patient in the ED is a fast-paced and often a stressful process for nurses with fewer years of experience (0-10 years) and they may be easily distracted in providing effective patient care when relatives are present (Chapman, Watkins, Bushby, & Combs, 2013). Providing emergency care while relatives are present is not a skill that newly qualified nurses are exposed to during their basic training as professional nurses and requires an experienced nurse who has acquired more autonomy and confidence in delivering patient care whilst also dealing with concerned relatives. In a study by Hassankhani et al. (2017) a participant who was involved in family witnessed resuscitation reported that family witnessed resuscitation is psychologically draining for novice clinicians as the pressure of being watched by the patient's relatives reduces confidence and increases anxiety resulting in medical errors and ineffective CPR. This may be because nurses with fewer years of experience (0-10 years) require some form of guidance or supervision from the experienced nurses before they can be autonomous and be confident enough to manage an acutely deteriorating patients in presence of the family.

When using multivariate logistic regression in an effort of looking at different variables in order to find a relationship between the different categories no significance (all p-values were greater than 0.05) was found between the demographic characteristics of nurses and their attitude

regarding the effects of family presence on the patient, on the family and on the individual healthcare provider. A possible reason for this finding is that nurses in this study were not yet accustomed to the practice of family presence, hence the lack of disparity in their attitudes as most of them learned about family presence during the data collection period of this study. Based on their responses to the survey it seemed that their reaction towards family presence was more negative than positive because to them (nurses) it is a norm and a rightful practice to rid of relatives during the management of an acutely deteriorating patient in the ED. Nurses in this study selected various attitudes from the study survey to react to the family presence during the management of an acutely deteriorating patient in the ED

4.3.3 Descriptive data on the nurse's attitudes towards family presence

Regarding the patient care item on the survey, nurses were of the view that it would be difficult for the team to communicate (80.36%; n=45) and execute the required interventions (87.50%; n=49) effectively when the relatives are present when the condition of the patient is abruptly deteriorating. This will have a negative impact on patient care and result in delayed or ineffective patient care. This was reported in the study by Hassankhani et al. (2017) whereby a participant with a lived experience of family witnessed resuscitation witnessed relatives interrupting healthcare providers from commencing CPR, requesting HCP's to stop all interventions. Due to lack of data supporting that family presence can negatively impact patient care during the management of an acutely deteriorating patient, one may argue that this may not be the case with an acutely deteriorating patient due to the difference in the physiological presentation and management of an acutely deteriorating patient and a patient that requires CPR. However, lack of adequate space to accommodate relatives in the ED would make it difficult for the staff to move freely around the patient while rendering lifesaving interventions. This would result in the interruption of effective and timely care for the patient (Waldemar & Thylen, 2019). Also, it would be difficult for nurses to communicate freely about the condition or current status of the patient as relatives might misinterpret or not understand what is being communicated since there would be no one who can explain or reassure the relatives due to major staff shortages facing these emergency departments. Nonetheless, research focusing on the impact of family presence during the management of an acutely deteriorating still needs to be explored.

Not only does family presence affect patient care, but it also has a negative impact on the patient's emotional wellbeing. This further impacts the quality of care rendered to the patient.

Nurses in this study believed that patients would experience an increased level of anxiety (60.72%; n=34) and level of stress (53.57%; n=30) and therefore be unable (78.57%; n=44) to effectively communicate their true feelings when the family is present during CPR. However, patients do not share the same concerns as studies conducted with patients found that upon regaining consciousness from the resuscitation, patients are usually more comfortable, have a feeling of belonging when the family is present and they also reported that it is their right to have their families present during CPR and surgery (Eichhorn et al., 2001; Mcmahon-Parkes et al., 2009). These findings suggest that although family presence may be viewed as challenging by nurses, it is more beneficial for the patient and the relatives than the likelihood of a harmful effect that nurses assume may ensue. However, these concerns were consistent across all nurses' demographical characteristics and therefore making them valid within this study's population. Also, considering that the study setting is in the province where the influx of patients is mostly of Xhosa culture where culturally privacy is of utmost importance and being sick is viewed as being weak especially for males. Also, due to the stigma surrounding HIV, TB and AIDS, people still fear disclosing their status to their families and that would make it difficult to establish a transparent conversation with the patient when the family is present and unaware of the patients' status. This may explain the concerns raised by the nurses in this study. However, further research from the patient's point of view in this type of a setting is required due to the difference in the cultural aspect and the way being sick is viewed from an international perspective and from a South African perspective.

Family is central to this family presence phenomenon and nurses in this study also showed concerns about the emotional wellbeing of the family. 92.86% (n=52) of nurses were concerned that the experience of witnessing the management of an acutely deteriorating patient may cause emotional trauma and stress for the patient's family. Multiple studies done on family presence share a similar concern as participants in those studies also showed concern about the emotional wellbeing of relatives witnessing the management of an acutely deteriorating patient or resuscitation (Chapman et al., 2013; Oczkowski et al., 2015; Porter et al., 2014; Youngson et al., 2016). However, in a randomized controlled trial by Jabre et al. (2013), signs of post-traumatic stress disorder (i.e. anxiety, stress, depression and complicated grief) were substantial amongst relatives who did not observe cardiopulmonary resuscitation than those who witnessed CPR. This disproves the concerns raised by the nurses. Nevertheless, it is a basic human instinct to show concern about the emotional trauma a relative would go through due to the nature of conditions or injuries that are treated within the ED. For the successful implementation of this practice HCP's need to be reassured about

the emotional wellbeing of relatives through constant education about new developments in research concerning family presence.

Furthermore, nurses were concerned that family presence during patient deterioration may affect their performance. Most nurses feared that bringing the family in the emergency room while they are managing a deteriorating patient might increase their level of stress (62.50%; n=35) and anxiety (64.29%; n=36) due to pressure of being watched. This concern is also cited in the study by Youngson et al. (2016) and Madden and Condon (2007) regarding family presence. This finding is also supported by objective data in a study by Hassankhani et al. (2017) where a participant who experienced family presence during resuscitation found family witnessed CPR to be psychologically draining, reduces confidence and increases anxiety due to pressure of being watched by the patient's relatives which may result in medical errors and ineffective CPR. Objective data to support this concern by nurses is scanty and the study by Hassankhani et al. (2017) is the only one that seems to be contextually relevant to this study and has appeared repeatedly in this study to support nurses' concerns. Nevertheless, most of the nurses in the study are still novices (0-10 years) and the margin of medical error for them is still large and having the family present during the management of an acutely deteriorating patient may make them feel like their performance is under scrutiny and therefore cause medico-legal hazards. Also, the public's view of nurses does not make the situation easy for nurses as 91.07% (51) of nurses feared that the number of complaints would increase when the relatives are present when the patient's condition deteriorates and therefore increase the number of litigations against nurses.

4.4 SUMMARY

This section detailed the descriptive and inferential statistics that were used to describe and analyse data obtained from the study sample. Data was presented in descriptive tables and discussed to facilitate the comprehension of the results. The following chapter will provide a summary of the study, discuss the limitations of the study, and provide recommendations of the study.

CHAPTER FIVE

SUMMARY OF THE STUDY, MAIN FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this concluding chapter, based on the findings presented in the previous chapters of this research report, the researcher provides a summary of the study and summary of the main research findings. The researcher also identifies limitations of the study and makes recommendations to the nursing practice, nursing education, the institution and further research in this area.

5.2 SUMMARY OF THE STUDY

5.2.1 Purpose of the study

The purpose of the study is to describe Nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department of three public hospitals in Eastern Cape.

5.2.2 Objectives

The objective of the study was to describe nurses' attitudes towards the presence of family members during the management of an acutely deteriorating patient in the emergency department.

5.2.3 Methodology

A research proposal was submitted to the Witwatersrand University (Faculty of Health Sciences) Postgraduate Committee. After careful consideration, the committee gave permission for the study to be conducted. Ethical approval was then obtained from The

Medical Human Research Ethics Committee of the University of Witwatersrand (**Annexure A**). Before conducting the study in the selected hospitals, ethical approval was granted by the Eastern Cape Department of Health Research Committee (**Annexure B**). Thereafter, permission to conduct the research was obtained from the Eastern Cape Department of Health and relevant managers from the three selected hospitals (**Annexure C, D, E**). Permission to use the data collection tool was granted by the creators (Youngson et al., 2015) (**Annexure F**).

A pilot study was conducted on five (n=5) Professional nurses who met the inclusion criteria from one of the selected hospitals. This was done to ensure that the data collection tool was adaptable in the South African context. The results of the pilot study were integrated into the main study. To meet the research objective, the study utilized a descriptive quantitative research design. Total population sampling method was utilized to sample 56 (n=56) Professional nurses from the study setting. The study setting comprised of emergency departments of three government-funded hospitals in the Eastern Cape. Each participant received a questionnaire and an information leaflet detailing the study. Data was collected from January 2019 to May 2019. Descriptive and comparative statistics were utilized to analyse the collected data with the help of a biomedical statistician.

5.3 SUMMARY OF THE MAIN RESEARCH FINDINGS

The purpose of the study was to describe the Nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department (ED) of three public hospitals in Eastern Cape. This was established through a researcher administered questionnaire.

A total of 56 nurses from three different emergency departments were recruited and they all completed the questionnaire. Of the 56 nurses, the majority were female (n=47; 83.93%) compared to 9 (16.07%) males. Most of the nurses were in the age group of 41-60 years (n=36; 64.29%). All nurses were appointed in the ED during the data collection period and most nurses (n=32; 57.14%) had no postgraduate qualification. More than half of the nurses (n=30; 53.57%) had 0-10 years of experience as professional nurses with the majority having 0-10 years of experience with the current qualification.

The overall negative attitude towards family presence was largely contributed to by nurses with fewer years of experience (0-10 years). This was more apparent in comparative data as years of experience was the only predictor that was independently correlated with ($p<0.05$) nurses' attitudes towards family presence during the management of an acutely deteriorating patient. This finding showed that nurses with more years of experience (11-21 years) were more likely to disagree with statements on family presence having negatives effects on patient care than nurses with fewer years of experience (0-10 years) (OR:6.92; 95%CI: 1.29-37.28). No significant correlation ($p>0.05$) between the nurses' demographic characteristics and nurses' attitudes on other items of the questionnaire. This is because the overall attitude of the study was negative across all items of the questionnaire as detailed in descriptive data.

Descriptive data showed that the majority (96.4%; n=54) of the nurses agreed that the presence of family members during patient deterioration had a negative effect on patient care. In this item (effect on patient care), approximately three out of every four of the respondents (76.79%; n=43) agreed that the presence of family during a deterioration episode interrupts patient care. About 83.93% (n=47) of participants indicated that the presence of family members during a deterioration episode interferes with patient care.

Furthermore, nurses agreed that family presence might disrupt effective communication (80.36%; n=45) and interventions made by the HCP's during patient deterioration. Only less than 5.36% (n=3) of the nurses agreed that family members would understand the interventions made by the medical team and not raise complaints (8.93%; n=5) about the quality of care.

However, according to most nurses, family presence would also affect the patient's emotional wellbeing which can compromise the quality of care. Nurses believed that patients would experience an increased level of anxiety (60.72%; n=34) and level of stress (53.57%; n=30) and therefore be unable (78.57%; n=44) to voice out their true feelings when the family is present. Only a small portion (10.71%; n=6) of the nurses were against this notion as they felt that the presence of family members will not influence the patient's emotional wellbeing. However, this did not have an impact on the overall attitude of the study as it remained negative.

Nurses also believed that family presence during acute patient deterioration also has a negative effect on the family and themselves (nurses). This is because 92.86% (n=52) of nurses indicated that family presence would cause emotional trauma and stress for the patient's family. 62.50% (n=35) of nurses felt that they would be distressed when working on the patient in the presence of the family. Similarly, 64.29% (n=36) of nurses felt such environment may frighten them due to having the pressure to perform as the family would be expecting a good outcome. The proportion of nurses who felt that family presence during patient deterioration would have a negative effect on the family and on nurses was high and consistent across all the nurse's demographic characteristics.

5.4 LIMITATIONS OF THE STUDY

The study encountered the following limitations:

- The sample size of n=56 was small and only focused on professional nurses appointed at the emergency departments of three different hospitals in one province and therefore the results cannot be generalised to the whole population of nurses in South Africa.

- Due to limited time for data collection and budget, the study was only centralised to professional nurses of which they are not the only healthcare providers (e.g. Doctors, Physiotherapists, Paramedics and Radiographers) involved in the management of an acutely deteriorating patient in the ED.

5.5 CONCLUSIONS

It can be concluded that the majority of the professional nurses from the emergency departments of the three selected hospitals were not in favour of family presence during the management of an acutely deteriorating patient in the ED. This was evidenced by the overall negative attitudes displayed by nurses across all items of the questionnaire. A probable reason for this is that this study represents one of the first studies done in South Africa concerning family presence during acute patient deterioration. This meant that nurses in this study have not been exposed to this new practice. Therefore, they do not hold strong views about it yet, hence, the negative attitudes.

Based on their responses to the survey, it can be said that this practice is well beyond their comfort zone and that nurses are still comfortable with excluding family members during the management of an acutely deteriorating patient in the ED. The findings are consistent with the study done in South Africa by Gordan et al. (2011) which also reported negative doctor's attitudes towards family witnessed resuscitation. However, these findings are inconsistent with the study on family presence during acute deterioration by Youngson et al. (2016) and other international studies which reported positive clinician attitudes towards family witnessed resuscitation.

In South Africa, this practice is still new and there are currently no policies or organizations that support the notion of family presence during patient deterioration like in the studies done outside of South Africa. Although there may be observed inconsistencies between the studies done in South Africa and studies done in other countries, these studies do share similar concerns about the negative emotional impact that family presence during the management of an acutely deteriorating patient may have on the family members. However, further investigation needs to be done to provide objective data about these concerns.

5.6 RECOMMENDATIONS OF THE STUDY

Although the findings on this study cannot be generalized to the nursing population outside of the study sample, the researcher feels that there are recommendations that can be made to influence nurses' attitudes towards the presence of an acutely deteriorating patient in the emergency department. Recommendations based on the findings from this study are made to the nursing practice, nursing education and the institutions involved in this study.

5.6.1 Recommendations for Nursing Practice

- In this study, only 35.71% (n=20) of the Professional nurses had a trauma and emergency postgraduate qualification with more than half (57.14%; n=32) of the participants having no postgraduate qualification. The researcher recommends more training for the emergency department nurses as it is imperative to have periodical training and a post-basic qualification, especially in the trauma. This will help nurses gain confidence when

managing the patient. It will conduce them to the concept of family presence. It will also facilitate the practice of family presence.

- There is a need for emergency department nurses to acknowledge the significant role that family members play in the care of the patient and understand that relatives are becoming knowledgeable of what is happening in the medical field so that their participation can be incorporated in the care of the patient. Therefore, family members should be given a choice to be present during the management of an acutely deteriorating patient.

- Nurses should be educated on how to develop, implement, and evaluate a policy concerning family presence as it will, in turn, provide structure and support for the nurses involved such a practice.

- Nurses should introduce and educate family members and patients about the concept of family presence. This will help raise awareness about the concept. It will prepare the family members emotionally should they experience the negative effects of the concept as indicated by the nurses.

- Nurses should identify family needs of patients admitted in the emergency department. So that they may know how to best incorporate family presence in their care.

5.6.2 Recommendations for the Nursing Education

- Periodical in-service training should be implemented in each ED to equip newly employed nurses about family presence during the management of an acutely deteriorating patient.

- Family presence during acute patient deterioration should be incorporated in the nursing curriculum of both undergraduate and postgraduate courses. This will ensure that nurses become exposed, skilled, and knowledgeable about the dynamics of family presence. This will ensure that families are given the option to be present. It will also change nurses' attitudes and thereby improve support for family presence

- For the successful adoption of the family presence program, the researcher recommends that nurses or students should be equipped with evidence-based information and ethical rationales that addresses common nurses' negative attitudes towards family presence during the management of an acutely deteriorating patient.

5.6.3 Recommendations for the policy (institution or management)

- The researcher recommends that each institution develops a policy on family presence that is specific to the region of the institution. This is because institutions are different in infrastructure and the type of population they cater for. When developing this policy, the institutions should follow a multidisciplinary approach to ensure an organized policy development that is multifaceted. Prior to the implementation of the policy, the institutions need to consider an inclusion or exclusion criteria for family members, an organized long-term plan to periodically educate staff members about family presence and lastly a legal audit of the policy prior to implementation. This will ensure that the policy is specific to the needs of the family and considers nurses' concerns for that institution.

- Institutions should facilitate support for family presence during the management of an acutely deteriorating patient, the researcher recommends that managers evaluate possible staff-based factors or attitudes that may hinder family presence.

5.6.4 Recommendations for further research

- The researcher recommends that the study should be repeated with a larger study sample as results of this study could not be generalized to the entire population. A mixed-method approach could be undertaken to provide depth and explore the views of nurses about family presence. Since doctors also form part of the team that is involved in the bedside management of an acutely deteriorating patient, their attitudes need to be also explored.
- Further research on patients' and family's attitudes need to be explored to provide an evidence base that may be vital to policy development and understanding the view of the patient and the family member.
- Further research is also recommended on numerous factors that may influence nurses' attitudes and their confidence in allowing family members to be present during the

management of an acutely deteriorating patient. This can help in creating more detailed and specific recommendations on nursing practice and nursing education (Niemczyk & Ozga, 2019).

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ANNEXURE A

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R14/49 Mr L Mabetshe

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M180403

NAME: (Principal Investigator)	Mr L Mabetshe
DEPARTMENT:	School of Therapeutic Sciences Department of Nursing Education Medical School University
PROJECT TITLE:	Nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department
DATE CONSIDERED:	04/05/2018
DECISION:	Approved unconditionally
CONDITIONS:	Evidence of approval from 3 study sites in Eastern Cape presented to HREC and unconditional approval issued on 19/11/2019
SUPERVISOR:	Ms M Botes
APPROVED BY:	CB Penny Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	23/11/2018

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 3rd Floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.
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 submit details to the Committee. **I agree to submit a yearly progress report**. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in **April** and will therefore reports and re-certification will be due early in the month of **April** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Mabetshe
Principal Investigator Signature

26/11/2018
Date

PLEASE QUOTE THE CLEARANCE CERTIFICATE NUMBER IN ALL ENQUIRIES

ANNEXURE B

Province of the
EASTERN CAPE
HEALTH

Enquiries: Zonwabele Merile Tel no: 083 378 1202

Email: zonwabele.merile@echealth.gov.za Fax no: 043 642 1409

Date: 05 February 2019

RE: NURSES' ATTITUDES TOWARDS FAMILY PRESENCE DURING THE MANAGEMENT OF AN ACUTELY DETERIORATING PATIENT IN THE EMERGENCY DEPARTMENT. (EC_201808_012)

Dear Mr L. Mabetshe

The department would like to inform you that your application for the abovementioned research topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.

2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.

3. The Department of Health expects you to provide a progress update on your study every 3 months (from date you received this letter) in writing.

4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Eastern Cape Health Research Committee secretariat. You may also be invited to the department to come and present your research findings with your implementable recommendations.

5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

SECRETARIAT: EASTERN CAPE HEALTH RESEARCH COMMITTEE

ANNEXURE C

Province of the
EASTERN CAPE
HEALTH

Office of the CEO• Dora Nginza Hospital • Room DG25 • 1st Floor • Administration Building • Port Elizabeth • Eastern Cape
Private Bag X11951 •Port Elizabeth • 6005 • REPUBLIC OF SOUTH AFRICA
Tel.: +27 (0)41 406 4211 • Fax: +27 (0)41 464 4551• email: cathleen.davids@echealth.gov.za

MEMORANDUM

To:	Mr L. Mabetshe
CC:	
From:	Mr M.P. Tsibolane CEO: Dora Nginza Hospital
Subject:	**PERMISSION TO CONDUCT RESEARCH**
Date:	28 November 2018

Dear Mr L Mabetshe

Your e-mail dated the 27th November 2018 on the above-mentioned subject refers.

You are hereby granted permission to conduct the research as per approval by the Eastern Cape Department of Health and University of the Witwatersrand.

Please make arrangement with my Personal Assistant so that we can facilitate a meeting with nursing management for your subsequent visits.

Yours faithfully

MR M.P. TSIBOLANE
CHIEF EXECUTIVE OFFICER

ANNEXURE D

Province of the
EASTERN CAPE
HEALTH

EAST LONDON HOSPITAL COMPLEX
Frere Hospital, Amalinda, Private Bag/Ingxowa Eyodwa X 9047, East London, 5200
South Africa • Tel: (043) 709 2135 • Fax: (043) 709 2443 • Website: www.ecdoh.gov.za

INTERNAL MEMORANDUM

To:	Mr. L. Mabetshe, Student, University of Witwatersrand
From:	Dr. J. Thomas; Director Clinical Governance, Frere Hospital
CC:	Mrs J. Scholl; Acting Hospital Manager, Frere Hospital Dr L. Taljaard; Acting HOD Accident & Emergency, Frere Hospital Mrs. V. Lujiza; Deputy Director Nursing services, Frere Hospital Mrs. F. Mtsaka; Area Manager Accident & Emergency, Frere Hospital
Subject:	Research Request: "Nurses attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department."
Date:	07 February 2019

Your correspondence for the above Research Request refers. Your request to access Frere Hospital has been approved.

It is requested that a copy of the completed analysis be submitted to this office for record purposes.

You can liaise with the following persons to coordinate the research:

1. Dr L. Taljaard Tel: (043) 709 2670
2. Mrs Lujiza, Tel: (043) 709 2781
3. Mrs F. Mtsaka, Tel: (043) 709 2387

Regards,

Dr. J. Thomas
Clinical Governance Director: Frere Hospital

ANNEXURE E

Province of the
EASTERN CAPE
HEALTH

Clinical Governance Office• Administration Block• Nelson Mandela Academic Hospital• Private Bag X 5152•
Mthatha•5099•Tel: 047 502 4446• Fax 047 502 4968• Enq: H. Mgudlwa Ext: 4469

TO	MRS. NP. MAKWEDINI – CHIEF EXECUTIVE OFFICER
FROM	DR. M. NODIKIDA – MANAGER: CLINICAL GOVERNANCE
SUBJECT	PERMISSION TO CONDUCT RESEARCH AT NMAH BY MR. L. MABETSHE
DATE	15/03/2019

This communiqué bears reference a request and the subsequent approval by the Research Ethics Committee.

A letter (dated 25th February 2019) approving Mr. Lindokuhle Mabetshe to conduct his academic research on, "Nurses' attitude towards family presence during the management of an acutely deteriorating patient in the Emergency Department" in Eastern Cape Nelson Mandela Academic Hospital, "(herein attached) confirms that the research does meet the hospital standards and does not pose a threat to patients safety and the well-being of the institution.

In line with the herein attached approval, the areas of interest to the study should made accessible to the researcher including nursing personnel and services, doctors and specialists, administrative personnel and where possible Information Management Office led by Mr. Mhlaba should provide required information to assist Mr. Mabetshe with relevant data/statistics.

DR M. MODIKIDA
Ethics Committee has Approved this Request. Candidate upon Completion of Research should Present the Findings to the Clinical Mgt Group and Quality Assurance.

Manager - Clinical Governance
Nelson Mandela Academic Hospital
Dr. M. Nodikida
Date: 18/03/2019

Approved/not Approved

Chief Executive Officer
Nelson Mandela Academic Hospital
Mrs. NP. Makwedini
Date: 19.03.2019

NELSON MANDELA ACADEMIC HOSPITAL
CHIEF MEDICAL SUPERINTENDENT
2019 -03- 19
Eastern Cape Government
Private Bag X 5152 Umtata

...ces, moving the health system forward
...evention line: 0800 701 701
...Centre: 0800 032 364

2030 NDP

ANNEXURE F

PERMISSION TO USE INSTRUMENT

Dear Megan,
We are so delighted to receive your email. Thank you so much for agreeing to useing the instrument. Our student is highly motivated and passionate about the topic so we do anticipate that he will produce a good body of work. We will most certainly keep you posted on our findings.

Kind regards

From: Megan Youngson [mailto:Megan.Youngson@bhs.org.au]
Sent: 06 February 2018 04:22 AM
To: Shelley Schmollgruber
Subject: Re: interest in emergency department family presence survey

Hi Shelley,
Sorry for the delayed reply - I have been away. I am more than happy for you to use the survey so long as there is acknowledgement of myself. I would also love to hear about your findings too.
The full instrument is available in the article you have cited - you would just have to add any demographic data that you wanted to collect.
I do not need to see a copy of the students' proposal.
Thank you,
Megan Youngson

From: Shelley Schmollgruber <Shelley.Schmollgruber@wits.ac.za>
Sent: Friday, 2 February 2018 5:12:38 PM
To: Megan Youngson
Subject: interest in emergency department family presence survey

Dear Megan,
Allow me to introduce myself. I am Shelley Schmollgruber I am the postgraduate research coordinator in the department of Nursing Education, Faculty of health Sciences of the University of the Witwatersrand in Johannesburg, South Africa. I am currently supervising a student who is conducting a research study on family presence during deteriorating situations in the emergency department. We were delighted to come across your work in Australia and would like to request your permission to use your instrument in our study. The work appeared in the Australasian Emergency Nursing Journal, 18(2): 106-114. Entitled: "Development, reliability and validity off a tool, to measure emergency department clinicians attitudes towards family presence during acute deterioration in adult patients.

Our university does require students to get written permission from the developing author if instruments are used in a study directed towards a degree. On behalf of my student I hereby request your permission to use your instrument in our South African study. If you are in agreement a short note on the return email will suffice. Can we also ask you to send us a copy of the full instrument.

Our students are required to publish 1 article from their research study. I anticipate that the student will complete the study before year end. You will be acknowledged as the developing author of the instrument in the students work. This is our university ethical requirements. Should you wish to see a copy of the students proposal I would be happy to send it to you once the study has obtained ethical clearance.

I look forward to your response

Kind regards

ANNEXURE G

INFORMATION DOCUMENT

TITLE OF THE STUDY

Nurses' attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department of three public hospitals in South Africa.

Dear Colleague

My name is Lindokuhle Mabetshe, I am a master's student in nursing at the University of the Witwatersrand. I am conducting a research study about the attitudes of nurses towards family presence during the management of an acutely deteriorating patient in the emergency department. I would like to invite you to take part in this study as this would help to determine your attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department. The aim is to understand current practices and determine best practice in caring for families during the management of an acutely deteriorating patient.

An estimated number of 97 registered nurses working in the emergency department of the selected hospitals is required to achieve validity of the research. Therefore, your contribution to this study is important. I would like for you to complete a questionnaire consisting of 13 questions divided into 5 sections about family presence during the management of an acutely deteriorating patient. If you find question 12 and 13 (effects on the individual healthcare provider) stressful, you need not complete the questions and consider accessing counselling available to nurses within your institution. For this study healthcare provider refers to nurses. The demographic details will be correlated to your answers in the family presence section. The questionnaire will take approximately 20 minutes of your time.

There are no risks involved in participating in the study. You will not benefit directly from the study. You will be given relevant information on the study while involved in the project and after the results are available. Your participation is voluntary, and no compensation will be given for your participation. Refusal to participate will involve no penalty or loss of benefits that you are entitled to. You may discontinue your participation at any time, and you will incur no penalties or loss of benefits that you are entitled to.

To ensure confidentiality and anonymity, the questionnaire does not require identifying particulars, and completed questionnaires will be deposited in a sealed box that will be placed in a safe area in your unit. The researcher, supervisor, statistician who will be analysing the data and the Research Ethics Committee will have access to the completed questionnaires.

For further information or reporting of study related problems please contact the Researcher Mr Lindokuhle Mabetshe: Mabetshe.l@gmail.com – 081 555 8185.

For ethical issues or if you have complaints please contact the chairperson of the Human Research Ethics Committee (Medical) Prof. Clement Penny at 011 717 2301 or 011 717 1234.

ANNEXURE H

QUESTIONNAIRE

SECTION A: DEMOGRAPHIC DATA

Please tick on the circles next to the answer that applies to you.

1. **Gender**

Male ○ Female ○

2. **Age group**

21-25 ○ 26-30 ○ 31-35 ○ 36-40 ○

41-45 ○ 46-50 ○ 51-55 ○ 56-60 ○

3. **Place of appointment**

Accident and emergency unit ○

Operating room ○

Recovery room ○

Other (please specify) …….

4. **Level of education**

Registered Nurse with no postgraduate qualification ○

Registered Nurse with Trauma and Emergency qualification ○

Registered Nurse with Critical Care qualification ○

Other (please specify) ……

5. **Years of experience as a Registered Nurse**

0-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ ≥21 ○

6. **Years of experience with the current qualification**

0-5 ○ 6-10 ○ 11-15 ○ 16-20 ○ ≥21 ○

SECTION 2: NURSES ATTITUDES TOWARDS FAMILY PRESENCE

- **This section is about your attitudes towards family presence during the management of an acutely deteriorating patient in the emergency department.**
- **Please tick only one circle per question.**

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
EFFECTS ON PATIENT CARE					
1. The presence of family members during a deterioration episode interrupts patient care.	○	○	○	○	○
2. The presence of family members during a deterioration episode interferes with patient care.	○	○	○	○	○
3. The presence of family members during a patient's episode of deterioration would inhibit the team from communicating freely.	○	○	○	○	○
4. The presence of family members during a patient's episode of deterioration makes it more difficult for the team to do their job.	○	○	○	○	○
5. Family may misinterpret the activities of the healthcare professionals if present during patient's episode of deterioration.	○	○	○	○	○
6. Family presence during a patient's episode of deterioration may result in complaints about quality of care.	○	○	○	○	○
EFFECTS ON THE PATIENT					
7. Patients may not feel able to voice their true feelings (re: care plans) with their family present.	○	○	○	○	○
8. Having their family present during an episode of deterioration will cause increased levels of anxiety for the patient.	○	○	○	○	○
9. Having their family present during an episode of deterioration will cause increased level s of stress for the patient.	○	○	○	○	○
EFFECTS ON THE FAMILY					
10. Witnessing deterioration is emotionally traumatic for the patient's family.	○	○	○	○	○
11. Witnessing deterioration of the patient is stressful for the patient's family.	○	○	○	○	○
EFFECTS ON THE INDIVIDUAL HEALTHCARE PROVIDER					
12. I would feel an increased level of anxiety having the family members present during an episode of deterioration.	○	○	○	○	○
13. I would feel an increased level of stress having family members present during an episode of deterioration.	○	○	○	○	○